Surveillance Games:

The International Political Economy of Combatting Transnational Market Abuse

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Abstract

Over the last 30 years, globalization and advances in algorithmic trading have created new opportunities to engage in *transnational market abuse*, i.e., insider trading and market manipulation perpetrated across national borders. Regulators use various institutional arrangements to detect these schemes. What explains this variation? Or, more broadly, what determines the form of international cooperation public agencies utilize to detect transnational phenomena?

To answer this question, I present and test the Two-level Cooperation Framework (TLCF). The TLCF's core argument is that public agencies' decision to outsource surveillance to non-state actors (i.e., regulatory intermediaries) in the *past* impacts the form of cooperation they utilize in the *future*. The TLCF conceptualizes this process as a sequential two-level game, in which public agencies must engage their regulatory intermediaries in a strategic interaction (domestic game) before negotiating with their foreign counterparts (international game). The sequential outcomes of these 'surveillance games' will, I contend, determine the form of cooperation public agencies utilize.

A structured-focused comparison of five case studies corroborates the TLCF's theoretical expectations. To perform these case studies, data was collected from numerous archives, a Freedom of Information Act Request, and 86 interviews in six countries. The results contribute to our understanding of International Relations (IR) by challenging a widely held implicit assumption that state and sub-state actors are *able* to share information with their foreign counterparts. By relaxing this assumption, the TLCF unveils novel causal pathways by which public agencies' previous outsourcing decisions impact their future capacity and/or desire to engage in certain forms of cooperation. These observations are potentially generalizable to an increasing number of policy arenas governed by public-private partnerships. Through its analysis of transnational market abuse, this thesis pushes IR to consider the potential consequences of these partnerships for the form and effectiveness of international regulatory cooperation.

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Abbreviations and Special Terms

'$'	All sums refer to U.S. dollars unless otherwise specified
'State'	Refers to a sovereign nation unless otherwise specified
ACAMS	Association of Certified Anti-Money Laundering Specialists
ACER	Agency for the Cooperation of Energy Regulators
ACM	The Netherlands Authority for Consumers and Markets
ALMA	Automated Alarm and Market Monitoring System
AMEX	American Stock Exchange
AMF	French Autorité des Marchés Financiers
AMSC	American Superconductor Corporation
ATS	Alternative Trading System
BNetzA	German Regulatory Authority for Electricity, Gas, Telecommunications, Post and Railway
CAT	Consolidated Audit Trail
CBOE	Chicago Board Options Exchange
CEER	Council of European Energy Regulators
CESR	Committee of European Securities Regulators
CFTC	Commodity Futures Trading Commission
CNS	Consolidated National Surveillance
CONSOB	Commissione Nazionale per le Società e la Borsa
CSMAD	Criminal Sanctions for Insider Dealing and Market Manipulation
DMA	Direct Market Access
Dodd-Frank	Dodd-Frank Wall Street Reform and Consumer Protection Act
EEA	European Economic Area
EMIR	European Market Infrastructure Regulation
ERGEG	The European Regulators Group for Electricity and Gas
ESMA	European Securities and Markets Authority
ETF	Exchange-traded Funds
EU	European Union
EUROPOL	European Union Agency for Law Enforcement Cooperation
EUROSUR	The European Border Surveillance System

FATF	Financial Action Task Force
FCA	U.K. Financial Conduct Authority
FFI	Fidessa Fragmentation Index
FINMA	The Swiss Financial Market Supervisory Authority
FINRA	Financial Industry Regulatory Authority
FIU	Financial Intelligence Unit
FMA	Austrian Financial Market Authority
FRONTEX	The European Border and Coast Guard Agency
FX	Foreign Exchange
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GFC	Global Financial Crisis
GLASS	Global Antimicrobial Resistance Surveillance System
GOARN	Global Outbreak Alert and Response Network
GPHIN	The Global Public Health Intelligence
HFT	High-frequency Trading
ICCA	International Council of Chemical Associations
ICER	International Confederation of Energy Regulators
ICY	"I see why"
IDA	Investment Dealers Association
IEX	Investors Exchange
IIROC	Investment Industry Regulatory Organization of Canada
INTERPOL	The International Criminal Police Organization
IO	International Organization
IOSCO	International Organization of Securities Commissions
IPE	International Political Economy
IPO	Initial Public Offering
IR	International Relations
ISG	Inter-Market Surveillance Group
LDA	Licensed Detection Agent
LSE	London Stock Exchange
MAD	Market Abuse Directive

MAR	EU Market Abuse Regulation
MDP	Market Data Processor
MFA	Managed Funds Association
MiFID	Markets in Financial Instruments Directive
MiFID II	EU Markets in Financial Instruments Directive II
MLAT	Mutual Legal Assistance Treaty
MMoU	Multilateral Memorandum of Understanding
MOSS	Market Oversight Surveillance System
MoU	Memorandum of Understanding
MSE	Midwest Stock Exchange
MTF	Multilateral Trading Facility
NETS	Non-SRO Electronic Trading System
NGO	Non-governmental Organization
NMS	National Market System
NRA	National Regulatory Authority
NSA	U.S. National Security Agency
NYAG	New York Attorney General
NYSE	New York Stock Exchange
Ofgem	U.K. Office of Gas and Electricity Markets
OSC	Ontario Securities Commission
OTC	Over the counter
OTF	Organized Trading Facility
PHLX	Philadelphia Stock Exchange
PSE	Pacific Stock Exchange
REMIT	Regulation on Wholesale Energy Market Integrity and Transparency
RS	Market Regulation Services, Inc.
SARS	Severe Acute Respiratory Syndrome
SEC	U.S. Securities and Exchange Commission
SIFMA	The Securities Industry and Financial Markets Association
SIGINT	Signals Intelligence
SRO	Self-regulatory Organization

STOR	Suspicious Transaction and Order Report
STR	Suspicious Transaction Report
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TFTP	Terrorist Financial Tracking Program Agreement
TLCF	Two-level Cooperation Framework
TSE	Toronto Stock Exchange
TSX	Toronto Stock Exchange Group
UL	Underwriters Laboratories
Virtu	Virtu Financial Europe
VoC	Varieties of Capitalism
WHO	World Health Organization
Windfall	Windfall Oils and Mines Limited

1 Introduction

In January 2015, Canadian citizen Aleksandr Milrud was arrested in Florida for orchestrating a transnational scheme to manipulate U.S. stock prices.[1] The U.S. Securities and Exchange Commission (SEC) alleges that Milrud coordinated with traders in China and South Korea to artificially inflate or deflate stocks' value.[2] To mask this scheme, the group sent their trades through separate brokers in multiple countries. And, once the illicit profits were obtained, the money was wired through a global web of offshore funds and bank accounts, ultimately delivered in suitcases full of cash. Milrud and his co-conspirators subsequently made millions of dollars while avoiding the impression that any one participant was engaging in illicit activity.

This scheme exemplifies a rapidly growing problem in virtually all contemporary capital markets: *transnational market abuse*. Over the last 30 years, markets for trading financial instruments (e.g., stocks, bonds, and derivative products) have become increasingly global.[3] And, due to advances in algorithmic trading, it is now possible for investors to participate in foreign markets at lightning speed.[4] Unfortunately, these developments have also created new opportunities for nefarious actors to engage in transnational forms of market manipulation and insider trading (collectively referred to as 'transnational market abuse' and defined in Chapter 2).[5] Numerous authorities have

[1] DOJ (2015a).
[2] SEC (2015b, 4-7). Milrud and his co-conspirators engaged in two common types of manipulation termed 'spoofing' and 'layering.' For a detailed explanation of these tactics, see Trillium Management (2015).
[3] Eichengreen (2008, ch. 1); Issing (2000); Michie (2006, ch. 9); Portes and Rey (2005, 277).
[4] Goldwasser (1999, 196); Lewis (2014); Mattli (2018, 2019); S. Patterson (2012).
[5] Bergþórsson (2017, 69-72); IOSCO (1993, 1994); Jarrow (1994); Kleit (2019, 97-102); Ko, Kozhanov, and Wilkoff (2016); Langevoort (2000).

recognized these opportunities, and transnational market abuse accounts for an increasing proportion of regulatory investigations.[6]

Identifying these schemes requires international regulatory cooperation. The forms of cooperation regulators utilize, however, vary in a manner unexplained by existing theory. As Section 1.1 details, most regulators engage in an *indirect* form of information-sharing. It is indirect because these regulators rely on private trading venues to perform surveillance, and thus must first request data from those venues before exchanging it with their foreign counterparts. In contrast, some regulators can independently surveil their domestic markets, allowing them to *directly* exchange information. And, finally, yet another observed form is the creation of an international organization (IO) to monitor cross-border trading.

But this variation is not constrained to transnational market abuse. Public agencies cooperate with their foreign counterparts to detect a wide range of transnational phenomena. As Section 3.1 details, the *form* of this cooperation varies substantially. To identify transnational money laundering, for example, national Financial Intelligence Units (FIUs) engage in an indirect, ad-hoc process of information-sharing.[7] In other areas, public agencies have independent surveillance powers and thus can directly exchange data. One example is the Five Eyes Network, composed of national agencies with the independent capacity to collect signals intelligence within their respective states. Through this Network, these agencies exchange intelligence by continuously sending data to shared databases (e.g., the ECHELON system).[8] And, in some areas, public agencies cooperate by empowering an IO to perform cross-border surveillance. The World Health

[6] See, e.g., Draghi (2015); G20 (2009, Recital 13); IOSCO (2010). On regulators' investigations of cross-border abuse, see Austin (2017, 68).
[7] IMF and World Bank (2004, 42-9).
[8] O'Neil (2017, 534); Rudner (2004, 201-3).

Organization (WHO), for example, surveils national news and health data to identity the international spread of infectious diseases.[9] Another example is The European Border and Coast Guard Agency (FRONTEX), which, *inter alia*, surveils the Mediterranean Sea to identify 'anomalous' vessels entering Europe.[10]

Why do national regulatory agencies utilize various institutional arrangements to detect transnational market abuse? Or, more broadly: *what determines the form of international cooperation public agencies utilize to detect transnational phenomena?* This question is fundamental to contemporary debates in International Relations (IR) about the nature of transgovernmentalism and global governance. Further, it is directly relevant to a pressing issue of international securities regulation. There is widespread concern that the most common methods of cooperation used to detect transnational market abuse are ineffective.[11] Such schemes impose direct losses on investors, facilitate market crashes, and can be used to launder the proceeds of crime.[12] It is essential, therefore, that we determine why regulators engage in certain forms of international cooperation that may be inadequate.

To answer this question, I construct and test the Two-Level Cooperation Framework (TLCF). The TLCF's core argument is that public agencies' decision to outsource surveillance to non-state actors (i.e., regulatory intermediaries) in the *past* impacts the form of cooperation they utilize in the *future*.[13] Public agencies outsource tasks to regulatory intermediaries in a wide variety of policy arenas to save costs and take

[9] Dion, AbdelMalik, and Mawudeku (2015); Tanguay (2019).
[10] European Commission (2018, 53-5).
[11] Austin (2017); IOSCO (2009, 2011, 2012); Langevoort (2000); Pitt, Hardison, and Shapiro (1987, 391); Rider (1990, 191).
[12] On negative welfare implications, see Egginton, Van Ness, and Van Ness (2016, 2016); Fox, Glosten, and Rauterberg (2019); Lewis (2014); Mattli (2019); S. Patterson (2012); Van Ness, Van Ness, and Watson (2015); Ye, Yao, and Gai (2014). On crashes, see CFTC and SEC (2010); Johnson et al. (2013); Marcus and Kellerman (2018); Pragma Securities (2017). On money laundering, see FATF (2006, 2009).
[13] The term 'regulatory intermediaries' was created by Abbott, Levi-Faur, and Snidal (2017).

advantage of these intermediaries' expertise.[14] Securities regulators, for example, relied on stock exchanges to detect market abuse for most of the 20th century.[15] These initial outsourcing decisions are driven by domestic priorities. Unforeseen events (e.g., pandemics, global financial crises, or the integration of domestic markets) may, however, create new demand amongst public agencies to engage in what we can refer to as *international detection cooperation*. If these agencies are already cooperating, such events may lead public agencies to consider switching to an alternative, potentially more effective form of cooperation.

The TLCF emphasizes that public agencies' previous decision to outsource surveillance can inadvertently undermine their capacity and/or desire to engage in certain forms of international cooperation in the future. The initial outsourcing decision, though rational at the time, makes the public agency dependent on their regulatory intermediaries for information. Therefore, the agency will have to reverse this dependence if they desire to engage in certain forms of cooperation that require the direct exchange of data. The TLCF conceptualizes this process as a sequential two-level game, in which public agencies must engage their regulatory intermediaries in a strategic interaction (domestic game) before negotiating with their foreign counterparts (international game). The sequential outcomes of these 'surveillance games' will, the TLCF contends, determine the form of cooperation public agencies utilize.

This framework advances our understanding of IR by challenging a widely held assumption. Namely, existing theories of international cooperation implicitly assume that

[14] Abbott et al. (2019); Abbott, Levi-Faur, and Snidal (2017). See also Kellerman (2020, 3).
[15] Austin (2017); Marcus and Kellerman (2018); Mattli (2019); Mattli and Kellerman (2019); Michie (1987, 1999, 2006); Williams (2015). This reliance actually predates most states' formal prohibitions of insider trading, which largely occurred in the late 20th century (D. Bach and Newman 2010). Regulators (and, prior to their existence, governmental offices/departments) relied on stock exchanges to police their own markets to detect manipulation (broadly defined) and protect investors from fraud (Michie 2006).

public agencies are *able* to share information. This assumption is, however, incorrect in many cases because the requisite data remains in the hands of non-state actors to whom public agencies have previously outsourced certain tasks. In other words, public agencies' decision to outsource tasks in time T_0 can inadvertently undermine their capacity to engage in certain forms of cooperation in time T_{1+}. Further, the TLCF will show that the outcome of the (prior) domestic game can impact public agencies' preferences in the (subsequent) international game and, in turn, the ultimate form of cooperation utilized. Thus, following a growing recognition that rational-choice and historical institutionalism can be fruitfully combined to explain political outcomes, this thesis demonstrates how the *sequencing* of events impacts the nature of international cooperation.[16]

To test the TLCF, I undertake a structured-focused comparison of five case studies, supported by process tracing of empirical data to identify the presence and operation of hypothesized causal mechanisms. This data derives from three primary sources. First, evidence was collected from the archives of The New York Stock Exchange and Ontario Securities Commission. Second, documentation was obtained from the SEC via a Freedom of Information Act Request. Third, I conducted 86 elite interviews with practitioners in Oxford, London, Toronto, New York City, Washington, D.C., Paris, Bonn, Frankfurt, Amsterdam, and The Hague.

The empirical results corroborate the framework's expectations, resulting in two key observations. First, public agencies that previously outsourced tasks to regulatory intermediaries do, indeed, need to reverse this process (i.e., 'win' the domestic game) in order to engage in forms of cooperation that require the direct exchange of data. Second, public agencies that *have* won the domestic game are less likely to support endowing an

[16] See, e.g., Farrell and Newman (2010, 611-22); Hall (2010); Kellerman (2019, 111); Pierson (2000a, 2004).

IO with the ability to perform cross-border surveillance. This is because these agencies, after having acquired the independent capacity to conduct national surveillance, have little incentive to sacrifice that exclusive power to an IO they can neither fully control nor prevent from absorbing jobs, expertise, and authority. Together, these observations demonstrate that outsourcing tasks to non-state actors in the past can severely undermine public agencies' capacity and/or willingness to engage in certain, potentially more effective forms of international cooperation in the future.

The TLCF explains why national regulatory agencies engage in one form of cooperation or another to detect transnational market abuse. Further, the framework may be generalizable to numerous additional policy arenas, particularly those governed by public-private partnerships. From banks monitoring transactions for fraud to social media platforms monitoring speech for abusive content, it is increasingly common for private firms to perform public tasks.[17] Such arrangements often involve granting these firms the exclusive capacity to monitor certain types of data, creating an informational asymmetry between public agencies and their regulatory intermediaries. Through its analysis of transnational market abuse, this thesis pushes IPE to consider the potential consequences of this trend for the form and effectiveness of international cooperation.

In addition, this thesis sheds new empirical light on market surveillance, a topic that is severely understudied despite its direct relevance to core debates in IR and International Political Economy (IPE). Although a large literature exists on market abuse (particularly insider trading), few studies have examined market surveillance, the primary method by which such abuse is identified.[18] Those studies that do exist have been limited

[17] See, e.g., Favarel-Garrigues, Godefroy, and Lascoumes (2011); Sutton (2009); Tan (2018); Wu (2015).
[18] For a review of the legal and economic literatures on insider trading, see Chauhan, Chaturvedula, and Iyer (2014); Clacher, Hillier, and Lhaopadchan (2009); Doffou (2007). On the study of market manipulation, particularly in relation to algorithmic trading, see Mattli (2018).

to historical description, legal analysis, and econometric evaluations of how market surveillance impacts the prevalence of abusive trading activity.[19] The TLCF, in contrast, is the first to theorize how political dynamics impact the manner in which market surveillance operates at both the domestic and international levels.

1.1 Mapping the Puzzle: Variation in Cooperation Forms

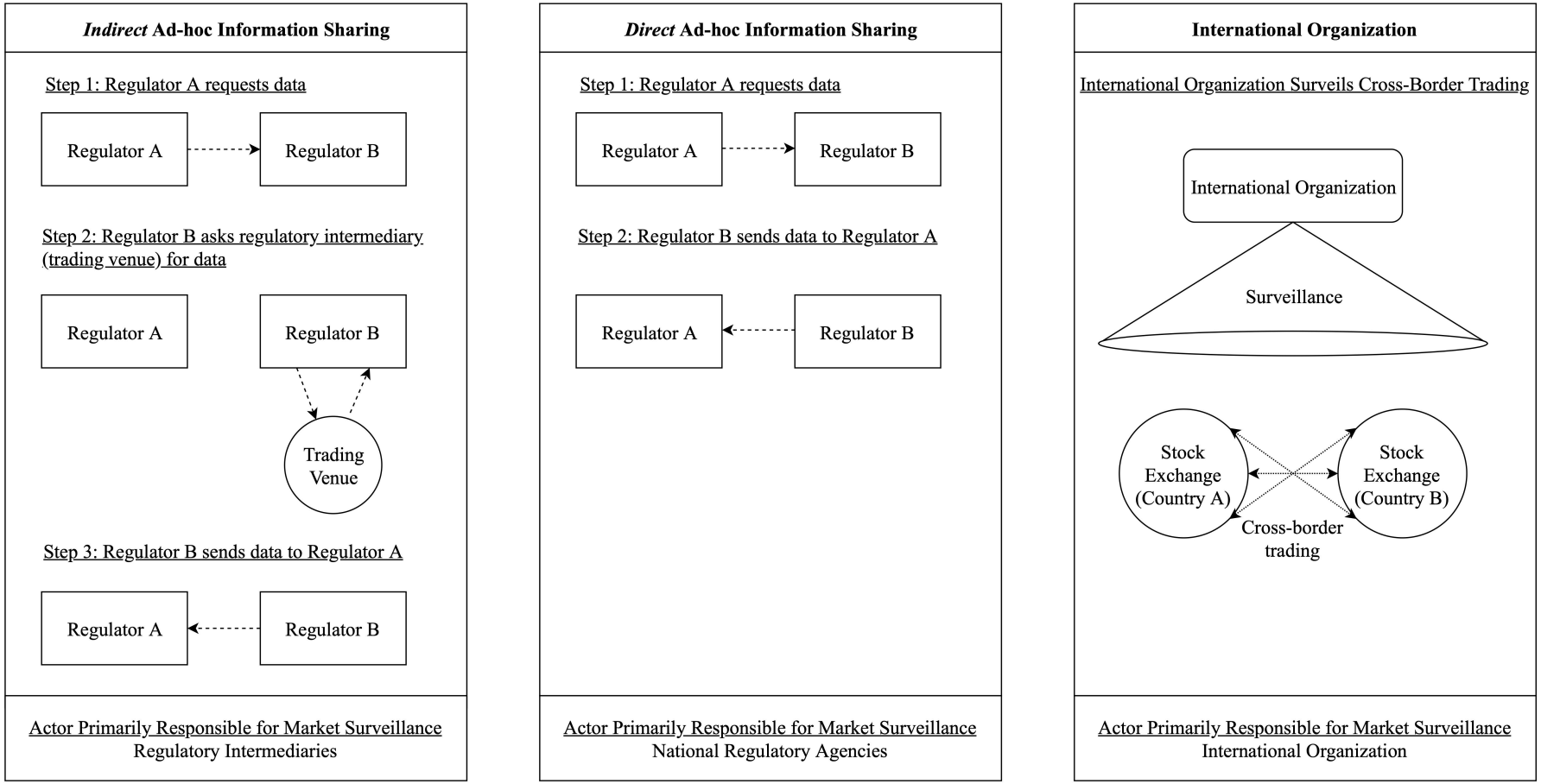
The great majority of the world's states feature independent regulatory agencies with the mandate to oversee domestic capital markets.[20] These include agencies that focus on securities markets (e.g., the U.S. SEC) and energy markets (e.g., France's Commission de Régulation de l'Energie). National securities and energy regulators have engaged in three distinguishable forms of international cooperation to detect transnational market abuse (Figure 1): *Indirect Ad-hoc Information-sharing*, *Direct Ad-hoc Information-sharing*, and the creation of an *International Organization*. These forms vary by the actor with primary responsibility for conducting *market surveillance*, i.e., the direct, continuous monitoring of orders and transactions for suspicious activity.

In the first system, *Indirect Ad-hoc Information-sharing*, regulators share information upon request (ad-hoc). This is normally facilitated via bilateral (MoU) and multilateral (MMoU) memoranda of understanding in which regulators commit to, *inter*

[19] For historical accounts of market surveillance, see Austin (2015a, 2017); Mattli (2019, ch. 5); Shapiro (1984, 60, 181); Williams (2009, 2015). Legal analyses that discuss surveillance include Dolgopolov (2018); Rider (1990); Yadav (2016b, 2016a, 2019). For models and econometric analyses of market surveillance, see Aitken, Cumming, and Zhan (2015); Chen et al. (2017); Comerton-Forde and Rydge (2006); Cumming and Johan (2008); Cumming, Peter Groh, and Johan (2018).

[20] The International Organization of Securities Commissions (IOSCO 2019) has, as of December 2019, 228 regulatory authorities as members covering more than 95% of the world's securities markets. The International Confederation of Energy Regulators has 270 regulatory authority members (ICER 2019).

Figure 1: Forms of International Cooperation to Detect Transnational Market Abuse



alia, exchanging information.[21] When such requests are received, however, the regulators cannot immediately respond. This is because the requisite data remains in the hands of trading venues (e.g., the New York Stock Exchange) that are responsible for, and have the exclusive capacity to perform, market surveillance. Non-state actors that perform such tasks on behalf of public agencies can be referred to as *regulatory intermediaries*.[22] These regulators will, therefore, have to request the data from their regulatory intermediaries before sharing it with their foreign counterparts (indirect).

Direct Ad-hoc Information-sharing is a similar system, but one in which the regulators do have access to the requisite data. In other words, these regulators have achieved the capacity to independently perform surveillance on the markets within their respective jurisdictions. Therefore, they can *directly* respond to one another's requests for information. Regulatory intermediaries may still perform surveillance for other legal and/or commercial purposes. But they do not, in this system, have the exclusive power to monitor their own markets for abuse. Also note that this system does not involve any central coordination by an IO. But, as will be discussed in Section 3.1, public agencies working in other issue areas have enlisted IOs to play such a role by, for example, maintaining a shared database. In so doing, these IOs help facilitate *continuous* methods of Direct Information-sharing.

International Organization refers to a system in which a formal IO is provided with the capacity and mandate to simultaneously surveil trading in multiple national capital markets. The existence of an IO does not preclude regulators from continuing to perform surveillance themselves. But it does mean that these regulators no longer have the exclusive capacity to monitor the markets within their jurisdiction.

[21] Austin (2012); D. Bach and Newman (2010).
[22] Abbott, Levi-Faur, and Snidal (2017).

Each form of international cooperation features costs and risks. Regulators engaging in ad-hoc information-sharing can be slow to respond, increasing the chance that the suspect(s) will discover that they are under investigation and move their assets (and/or themselves) to secrecy-friendly jurisdictions.[23] Further, siloed views of national markets can preclude regulators from detecting transnational abuse. As the International Organization of Securities Commissions (IOSCO) summarized in 1993: "The division of illegal activities among several countries may make [transnational securities fraud] …difficult to detect, particularly since, from a purely domestic point of view, parts of the scheme may appear, or even may be, legal."[24] IOs potentially solve this problem. On the other hand, however, they may mischaracterize activity due to a lack of local knowledge about particular markets. This thesis' primary goal is to understand why public agencies engage in one form of cooperation or another. But I will return to the relative merits of these systems when presenting a preliminary policy proposal in Chapter 10.

The forms of cooperation regulators utilize to detect transnational market abuse vary (Table 1). Indirect Ad-hoc Information-sharing is most prevalent. A small proportion of regulators can perform surveillance on their domestic markets and thus engage in Direct Ad-hoc Information-sharing. Finally, there is one extant IO: the Agency for the Cooperation of Energy Regulators (ACER). European Union (EU) energy regulators supported the allocation of such powers to ACER in the early 2010s. In the same period, EU securities regulators debated allocating similar powers to the European Securities and Markets Authority (ESMA). In contrast to the ACER experience, however, this proposal was ultimately rejected. Chapters 7 and 8 will analyze why these EU regulators, despite operating in the same states, chose different forms of cooperation.

[23] Austin (2017); IOSCO (2011, 2012).
[24] IOSCO (1993, 3).

Table 1: Variation in International Cooperation Forms

Form	*Regulators engaging in each form* or *examples*	*State*	*Asset Class*
Indirect Ad-hoc Information-sharing	Comissão de Valores Mobiliários	Brazil	N/A
	Chinese Securities and Regulatory Commission	China	N/A
	Monetary Authority of Singapore	Singapore	N/A
	Financial Market Supervisory Authority	Switzerland	N/A
	+ All others not listed below (approximately 400)		
Direct Ad-hoc Information-sharing	Securities and Investment Commission	Australia	Equities
	Financial Services and Markets Authority	Belgium	Equities
	Investment Industry Regulatory Organization	Canada	Equities
	Autorité des Marchés Financiers	France	Equities
	Bundesanstalt für Finanzdienstleistungsaufsicht	Germany	Equities
	Securities and Exchange Surveillance Commission	Japan	Equities
	Commissione Nazionale per le Società e la Borsa	Italy	Equities
	Autoriteit Financiële Markten	Netherlands	Equities
	Autoriteit Consument & Markt	Netherlands	Gas, electricity
	Financial Conduct Authority	UK	Equities
	Office of Gas and Electricity Markets	UK	Gas, electricity
	Securities and Exchange Commission	US	Equities
	Federal Energy Regulatory Commission	US	Gas, electricity
International Organization	Agency for the Cooperation of Energy Regulators	EU States	Gas, electricity

Data collected through publicly available information and interviews. The precise scope of asset classes and individual contract types each regulator can surveil varies. The total number of regulators quoted in bold (400) is estimated based on the combined membership sizes of IOSCO (228) and ICER (270).

Scholars of IR have long been interested in understanding the strategic dynamics of international regulatory cooperation. Further, studies of IPE have, particularly over the last two decades, theorized why actors might engage in informal methods of cooperation such as transgovernmental networks rather than formal IOs. But, as discussed in the next sub-section, existing theories are insufficient to explain why public agencies might engage in *various* forms of cooperation to detect transnational phenomena.

1.2 Existing Perspectives on International Regulatory Cooperation

The study of international regulatory cooperation is directly tied to the rise of IPE in the early 1970s.[25] During this period, scholars began paying serious attention to sub-state actors (e.g., regulatory agencies) and their capacity to autonomously engage in 'transgovernmental' cooperation with their foreign counterparts.[26] This was a significant challenge to the predominant theory of IR, Realism, which traditionally treats states as the sole, unitary actors of theoretical interest for explaining world events.[27] The academic study of transgovernmentalism has since expanded, due in large part to economic globalization, the proliferation of public agencies (i.e., the growth of the 'regulatory state'), and the increasingly influential role of sub/non-state actors in both formal and informal institutions of global governance.[28]

One key observation of this sub-field is that public agencies often utilize informal methods of cooperation such as transgovernmental networks.[29] To explain this trend, scholars have theorized that transgovernmental networks are faster, more flexible, and impose fewer sovereignty costs than formal IOs.[30] Such networks can, therefore, 'fill

[25] For a review of IPE's intellectual history, see Cohen (2008, 17-21).
[26] Keohane and Nye (1974). See also (Newman 2011b; Raustiala 2002).
[27] For a detailed review of this assumption (i.e., the 'billiards ball' approach to IR) and its various critics, see James (1989). Related to this shift was a growing recognition that the 'world events' IR theorists should be interested in should include international economic phenomena (Strange 1970).
[28] Abbott and Snidal (2009); Büthe and Mattli (2011); Eberlein (2019); Eberlein and Grande (2005); Eberlein and Newman (2008); Keohane and Victor (2011); Mosley (2009); Raustiala and Victor (2004).
[29] Slaughter (2004).
[30] Ahdieh (2015); Newman and Zaring (2013); Raustiala (2002); Slaughter (2004); Slaughter and Hale (2011); *but also see* Verdier (2009). The theorized benefits of transgovernmental networks are similar to, but cannot be directly conflated with, soft law or informal intergovernmental organizations (Abbott and Snidal 2000; Vabulas and Snidal 2013).

gaps' in global governance, particularly where granting formal rule-making, monitoring, or enforcement powers to international agencies is politically sensitive.[31]

These perspectives do not, however, explain why regulators utilize various forms of cooperation to detect transnational market abuse. The existence of ACER, a formal IO in which unelected bureaucrats have the power to perform consolidated surveillance of EU members' energy markets for transnational abuse, is particularly puzzling. This is precisely the type of task that, according to existing theories, is too politically sensitive to be allocated to an IO. And, indeed, previous scholarship has specifically alluded to EU energy market regulation as a typical case of transgovernmental networks filling the gap in an issue area too controversial for supranational governance.[32]

ACER is not the only IO of its kind. Numerous IOs have been allocated the capacity and mandate to surveil transnational phenomena. As discussed above, the WHO and FRONTEX, for instance, have been invested with the independent capacity to surveil, respectively, health data and illegal migration. Why do some IOs perform cross-border surveillance but not others? And why did the proposal to empower ACER to perform surveillance succeed whereas a similar proposal for ESMA failed?

Some scholars have contended that the form of international cooperation will depend on whether states have incentives to emulate, or diverge from, the 'regulatory innovation' of a hegemonic power.[33] This does not explain, however, the existence of ACER, a regulatory innovation that includes neither the U.S. nor China. Further, these

[31] Eberlein (2019); Raustiala (2002, 6). Scholars have also noted that formal IOs can incorporate transgovernmental networks into their governance processes, and thus the latter can serve as a complement to (rather than a substitute for) the former (Eberlein and Newman 2008; Keohane and Nye 1974).
[32] Eberlein (2003); Eberlein and Grande (2005); Eberlein and Newman (2008).
[33] Simmons (2001). See also D. Bach (2010) and Raustiala (2002, 72-6).

perspectives predict a single mode of cooperation for each issue area, which does not accord with the variation observed in Table 1.

Alternative IR perspectives are also insufficient for explaining the empirical puzzle. The predominant Realist theory of international regulatory cooperation focuses on global rules, emphasizing that the distribution of interests among states with large internal markets will determine the nature of those rules.[34] But this argument assumes that the EU is a single unitary actor, precluding an explanation for why the form of cooperation used to detect transnational market abuse varies *within* the EU by both member state and asset class.[35] Constructivist perspectives, in contrast, contend that norms shape states' conceptualization of their interests and, in turn, the nature of international regulatory cooperation.[36] This may help explain why states view market abuse as unacceptable behavior.[37] But it does not explain the variation in cooperation forms we observe among states sharing this norm.

How might insights from other disciplines interpret this variation? The Varieties of Capitalism (VoC) literature argues that the manner in which a domestic economy is organized determines states' preferences over multilateralism and, in turn, the nature of international cooperation.[38] The empirical variation we observe in market surveillance does not, however, accord with the VoC distinction between 'liberal' and 'coordinated' market economies.[39] Nor does the variation indicate that countries with similar legal

[34] Drezner (2008).
[35] Drezner (2008, 37).
[36] Raustiala (2000, 405-11). It has also been contended that international institutions, by facilitating the continued interaction of policy experts, can shape norms and, in turn, state preferences (Porter 2002).
[37] M. Barnett (2018, 90-2). See also, however, D. Bach and Newman (2010), who find that state ties with the SEC significantly increase the likelihood that they will adopt insider trading regulation.
[38] See Fioretos (2001) and, more generally, Hall and Soskice (2001).
[39] Namely, we observe that both liberal market economies (e.g., U.S., Australia, Canada) and coordinated market economies (e.g., Japan) have achieved the capacity to engage in Direct Ad-hoc Information-sharing. Further, we observe variation within the EU, which features a mixture of both economy types. These trends do not accurately correspond to VoC perspectives on multilateralism.

systems (e.g., common v. civil law) are more or less likely to engage in one form of cooperation than another. Continental European states, for example, utilize various forms of cooperation despite sharing a civil law tradition.[40]

Finally, ACER's status as an EU institution appears, at first glance, to be consistent with neo-functionalism. This theoretical perspective contends that cooperation in one issue area will create functional demands for cooperation on other, related issue areas (i.e., the 'spillover effect').[41] Following this logic, one might interpret ACER as a functional extension of EU states' previous efforts to cooperate on the regulation of European energy markets. But this does not explain why there no equivalent EU organization with the power to surveil cross-border trading of equities, bonds, foreign exchange, indices, and related derivative instruments, where transnational market abuse is equally, if not more, prevalent.[42]

The inability of existing theories to explain the empirical puzzle suggests that a new theoretical approach is necessary. This thesis provides such an approach by theorizing the temporal strategic dynamics of data access. Existing perspectives implicitly assume that public agencies are able to share data as a means of monitoring and/or detecting transnational phenomena. By relaxing this assumption, the TLCF unveils previously unrecognized causal pathways by which regulators' decisions to outsource tasks in the past impacts the form of cooperation they utilize in the future. In so doing, the framework advances our understanding of how domestic regulatory politics and temporal sequencing impact the governance of global capital markets.

[40] On the civil law tradition in Europe, see Merryman and Pérez-Perdomo (2007).
[41] See Börzel and Risse (2016); Burley and Mattli (1993); Haas (1958); Mattli (1999).
[42] On transnational market abuse in these asset classes, see Austin (2017); Ko, Kozhanov, and Wilkoff (2016); Konchar (2014); Marcus and Kellerman (2018); Mattli and Kellerman (2019).

1.3 Plan of the Thesis

This thesis presents the TLCF to explain the form of cooperation public agencies utilize to detect transnational phenomena. To test this Framework, case studies are performed on the manner in which national securities and energy regulators cooperate to detect transnational market abuse. In recognition of the fact that transnational market abuse is a relatively obscure area, Chapter 2 provides a primer on this topic. This includes an overview of insider trading, market manipulation, and the manner in which these schemes are perpetrated across national borders. This chapter also provides an introduction to market surveillance, the primary method by which such schemes are identified. Readers with working familiarity with these topics may desire to skip this chapter.

Chapter 3 outlines this thesis' primary theoretical argument and the method by which it is tested. This chapter begins by outlining the outcome this thesis seeks to explain, namely: the forms of international detection cooperation public agencies utilize to detect transnational phenomena. This is followed by a presentation of the TLCF, including its scope condition, behavioral assumption, and an overview of its theorized causal pathways. The TLCF theorizes that the sequential outcomes of domestic and international 'games' determines the form of cooperation. To anticipate the outcomes of these games, Chapter 3 also presents, respectively, the Market Structure Hypothesis and Bureaucratic Self-interest Hypothesis. The chapter subsequently discusses the theoretical implications of the TLCF before proceeding to a detailed explanation of this thesis' empirical testing strategy.

Chapter 4 examines a case study on the U.S. SEC's attempt to develop surveillance powers in the late 1970s and early 1980s through the creation of the Market

Oversight Surveillance System (MOSS). This case study demonstrates how the domestic politics of market surveillance (domestic game at time T_1) impacts public agencies' subsequent capacity to engage in certain methods of international cooperation (at time T_{2+}). Further, it demonstrates how market structure, i.e., the relative level of competition between regulatory intermediaries, impacts the outcome of this domestic game. In this case, the SEC's monopolistic intermediary, the New York Stock Exchange, fought tooth and nail to prevent the Commission from creating MOSS. These efforts were successful, and, as a result, the SEC was limited to the status quo mode of international cooperation: Indirect Ad-hoc Information-sharing.

Chapter 5 conducts an analysis of the SEC's second attempt to obtain surveillance capabilities in the 2010s via the creation of the Consolidated Audit Trail (CAT). Unlike the MOSS, the CAT case study takes place during a time period in which there was robust competition between the SEC's regulatory intermediaries, which now included not just stock exchanges, but also competing electronic trading venues and internalization services operated by broker-dealers. This competitive environment provided these firms with various cost-saving and cost-imposing incentives to support the SEC's obtainment of surveillance powers. As a result, the CAT succeeded, thereby providing the SEC with the capacity to perform market surveillance and thus engage in Direct Information-sharing with its foreign counterparts. This case exemplifies how market structure impacts the strategic dynamics of the TLCF's domestic game, with downstream consequences for the form of international cooperation public agencies utilize.

Chapter 6 presents yet another case in which public agencies enter the TLCF's 'domestic game' and seek to obtain the independent capacity to surveil the markets within their national jurisdiction. This case involves Canada, which, unlike most countries, does

not have a federal securities regulator. Rather, Canada has 13 separate regulators for each province and territory. Allowing any one regulator to monitor another's provincial turf is politically sensitive. Therefore, Canadian regulators sought to empower a new federal agency to perform nationwide surveillance on their collective behalf: Market Regulation Services (RS), later termed the Investment Industry Regulatory Organization of Canada (IIROC). Like the SEC's CAT project, this took place during a time in which there was competition between Canada's traditional exchanges and new electronic trading venues. And, also like the CAT, this competitive environment provided these regulatory intermediaries with incentives to support the creation of RS/IIROC. The result was the successful creation of RS/IIROC, which now performs nationwide surveillance and thus can engage in Direct Information-sharing with foreign securities regulators, both independently and on behalf of Canada's various provincial authorities.

Chapter 7 turns to a case in which EU energy regulators considered allocating surveillance powers to an IO, ACER. This case demonstrates how regulators' possession or non-possession of data (T_0) impacts the manner in which they proceed through the TLCF, with downstream consequences for the form of cooperation utilized. Specifically, EU energy regulators had access to data on energy market trading, which they used to conduct research and ensure that consumers had consistent access to electricity and gas at affordable prices. These regulators had not, however, invested the time and resources into developing the independent capacity to monitor that data for market abuse. Consistent with the TLCF's expectations, these regulators did not view ACER as a threat to their (non-existent) surveillance powers. Rather, they viewed this as an appropriate functional solution to the problem of transnational market abuse. As a result, these regulators ultimately cooperated by allocating surveillance powers to an IO.

Chapter 8 presents a contrasting case study, in which EU securities regulators considered allocating surveillance powers to ESMA. This debate took place soon after the ACER case study, and involved regulators operating in the same states. Unlike their counterparts in energy, however, various EU securities regulators had obtained the exclusive capacity to surveil their domestic markets. This exclusive capacity provided those regulators with power, material benefits, and ideational benefits. And, as a result, these regulators had bureaucratic incentives to maintain their exclusive capacity to perform national surveillance. In response to these incentives, these regulators rejected the allocation of surveillance powers to ESMA, choosing instead to engage in Direct Information-sharing. This case study demonstrates how temporal sequencing effects can impact not just public agencies' capacity, but also their preference, to engage in one form of cooperation or another. Namely, EU securities regulators that won the domestic game (T_1) by obtaining independent surveillance power inadvertently developed ingrained bureaucratic incentives to maintain that power. This, in turn, impacted their preferences in the international game (T_2). Thus, ironically, winning the domestic game inadvertently undermined these regulators' desire to engage in what may be, from a broader societal perspective, a superior method of cooperation.

Chapter 9 reviews the empirical evidence and conducts a cross-case analysis of this thesis' empirical chapters. This is followed by Chapter 10, which discusses the TLCF's contributions to the literature and outlines avenues for future research. I conclude by contending that, from a public policy perspective, we face a 'Surveillance Dilemma' because existing forms of international cooperation feature relative disadvantages. To address this dilemma, I present a new, preliminary policy proposal which, I contend, may offer a superior method of detecting transnational market abuse.

2 Transnational Market Abuse: A Primer

"…guys the algos are really geared up in here. if you spoof this it really moves... put in selling at 48 in silver. i bid 45 for 200. 46 and 47 for 20 each and got filled."[43]

– *Merrill Lynch trader charged with manipulating commodity futures contracts*

What exactly *is* transnational market abuse? At its broadest, this refers to purposeful, cross-border schemes to engage in two types of white-collar crime: insider trading and market manipulation. Unpacking this definition requires, however, an understanding of both crimes and how they might be perpetrated across national borders. As the above quote exemplifies, this is easier said than done; market abuse is a highly complex area with its own obscure language. It is, therefore, important to explain these concepts in more detail before proceeding to the theoretical framework. This chapter will provide such an explanation by discussing, in order, insider trading, market manipulation, transnational market abuse, and market surveillance.

2.1 Insider Trading

National definitions of insider trading are largely and increasingly consistent.[44] There remain variations between states regarding the standards for prosecuting this crime and the type and/or level of penalty that can be imposed.[45] But, more important for this thesis'

[43] DOJ (2019, 6).
[44] Austin (2012, 2015a); D. Bach and Newman (2010); Karmel and Kelly (2008).
[45] Thompson (2013). In the U.S., for example, cases involving 'tipping' must pass the Personal Benefit Test, which establishes whether "the insider receives a direct or indirect personal benefit from the disclosure, such as a pecuniary gain or a reputational benefit that will translate into future earnings" (Dirks v. SEC 1983, 663). The precise definition of this test has created substantial confusion, arguably

focus on detection, there is widespread agreement on what is considered suspicious activity potentially indicative of insider trading.

Insider trading generally refers to any order or transaction in a financial instrument made on the basis of 'inside information.'[46] Inside information (sometimes referred to as material non-public information) refers to information that is precise, non-public, and, if made public, would likely affect the price of said instrument.[47] One example is the SEC's 2014 case against the "Golfing Group."[48] Allegedly, a group of golfing buddies engaged in an insider trading scheme with a senior executive of American Superconductor Corporation (AMSC), a publicly-listed company. The executive disclosed inside information to his golfing buddies on AMSC's quarterly earnings, contracts, and other major corporate developments likely to move its share price. The golfing buddies subsequently made hundreds of thousands of dollars in profits (and/or avoided losses) by purchasing options contracts on AMSC stock.[49] In return, the AMSC executive received compensation for the tip: "I like Pinot Noir and love steak …. looking forward to getting paid back. Good Luck …. SHHHHHHHHHHHH!!!!!!!!!!!!!!!!!!"[50]

The primary indicator of insider trading is large purchases or sales of relevant financial instruments before or after a major corporate event (e.g., mergers, acquisitions, firings of executives, enforcement actions, and quarterly earnings results).[51] But insider trading can also occur in relation to non-corporate events. There are, for example,

undermining the successful prosecution of certain cases (Bharara et al. 2020, 6-8). This differs from the European Union's Market Abuse Regulation, which defines insider trading as actions based on inside information and does not impose a personal benefit test (Gevurtz 2018, 40).

[46] See (Thompson 2013)

[47] This derives from the European Union's (2014b) Market Abuse Regulation.

[48] SEC (2014c).

[49] Options contracts are derivative instruments that provide the holder with the option to buy or sell securities at some later date. The value of these contracts fluctuates in part based on the value of the underlying security (in this case, AMSC stock).

[50] SEC (2014c, 3).

[51] See, e.g., Hawke (2019).

opportunities to trade on advanced information of utility allocations, such as the public distribution of water rights.[52] Another opportunity is presented by institutions that collect and publish indices of market-relevant information.[53] The University of Michigan, for instance, publishes a highly influential Index of Consumer Sentiment and, from 2007 to 2014, sold traders early access to its findings.[54] The University ceased the practice in response to concerns by the New York Attorney General (NYAG) that this indirectly facilitated opportunities for insider trading.[55]

2.2 Market Manipulation

Market manipulation refers to any action whose purpose is to mislead others about the supply of, and/or demand for, a tradeable financial instrument.[56] Manipulation of capital markets is an ancient practice. In 386 BC, a group of Athenian merchants were tried for colluding to hoard grain supplies in order to manipulate prices.[57] Similar stories have been identified in ancient Rome, China's Zhou dynasty, and medieval England.[58] Over the last 20 years, advances in algorithmic and high-frequency trading (HFT) have created new opportunities to manipulate prices at lightning speed.[59] In the time it takes you to read this sentence, millions of orders and transactions have taken place around the world, creating innumerable opportunities to engage in market manipulation.[60]

[52] de Bonviller, Zuo, and Wheeler (2019).
[53] Verstein (2016, 469-70).
[54] Ibid.
[55] See NYAG (2014).
[56] This definition is based on European Union (2014b, Article 12).
[57] Markham (2014, 9).
[58] Ibid, 9-11.
[59] Bodek and Dolgopolov (2015); Fox, Glosten, and Rauterberg (2019); M. Lewis (2014); Marcus and Kellerman (2018); Mattli (2019); Mattli and Kellerman (2019); S. Patterson (2012).
[60] Sophisticated traders utilizing HFT strategies can place hundreds of thousands of orders within milliseconds. See, e.g., Urstadt (2009).

The common characteristics of any market manipulation scheme is that it involves tricking other participants. One could, for example, disseminate a false rumor about yearly figures on orange production, thereby artificially impacting the price of derivative contracts on frozen orange juice (the 1983 comedy *Trading Places*, starring Eddie Murphy, provides a remarkably realistic example of such a scheme).[61] But this is hardly the only method of manipulation (Table 2). One particularly common strategy, fueled by advances in HFT, is 'spoofing' (explained in Example 1). Another is 'quote stuffing,' in which traders purposefully send an overwhelming number of orders to disrupt data feeds and create delays. The ensuing chaos provides the quote stuffer with opportunities to take advantage of other market participants' confusion.

Market manipulation schemes can be highly complex. They often involve trading the same instrument in multiple different venues, sometimes referred to as *cross-market manipulation*. Nefarious actors can spread their orders across these markets in order to mask their activity.[62] Further, they can use 'order splitters' to give the false impression that their trades represent activity by numerous market participants.[63] Manipulation schemes also often involve multiple asset classes, sometimes referred to as *cross-product manipulation*. This usually involves actors manipulating an asset in order to impact the price of a derivative contract whose value is based on that asset. In one real example, a Ukrainian trading firm bought and sold U.S. stocks at a loss in order to influence options contracts on those stocks.[64] And, indeed, as the next section demonstrates, cross-market and cross-product manipulation are some of the most common methods by which criminals engage in *transnational* market abuse.

[61] For a real-life example, see SEC (2008).
[62] Fragmentation of markets facilitates such activity. See Mattli (2019); Mattli and Kellerman (2019).
[63] See, e.g., McLoughlin (2019).
[64] SEC (2017).

Table 2: Methods of Market Manipulation

Strategy	*Description*
Abusive Squeeze	Taking advantage of the significant influence of a dominant position over the supply of, or demand for, or delivery mechanisms for a financial instrument.
Creating a Floor or Ceiling	Transactions or orders to trade carried out in such a way that obstacles are created to the financial instrument with prices falling below, or rising above a certain level, mainly in order to avoid negative consequences deriving from changes in the price of the financial instrument.
Momentum Ignition	Entering orders to trade or a series of orders to trade, or executing transactions or series of transactions, likely to start or exacerbate a trend and to encourage other participants to accelerate or extend the trend in order to create an opportunity to close out or open a position at a favorable price.
Painting the Tape	Entering into orders to trade or engaging in a transaction or series of transactions which are shown on a public display facility to give the impression of activity or price movement in a financial instrument.
Phishing	Executing orders to trade, or a series of orders to trade, in order to uncover orders of other participants, and then entering an order to trade to take advantage of the information obtained.
Pump and Dump	Taking of a long position in a financial instrument and then undertaking further buying activity and/or disseminating misleading positive information about the financial instrument with a view to increasing the price of the financial instrument by the attraction of other buyers. When the price is at an artificial high level, the long position held is sold out.
Quote Stuffing	Entering large number of orders to trade and/or cancellations and/or updates to orders to trade so as to create uncertainty for other participants, slowing down their process and/or to camouflage their own strategy.
Spoofing/Layering	Submitting multiple or large orders to trade often away from the touch on one side of the order book in order to execute a trade on the other side of the order book.
Trash and Cash	Taking of a short position in a financial instrument and then undertaking further selling activity and/or disseminating misleading negative information about the financial instrument with a view to decreasing the price of the financial instrument. When the price has fallen, the position held is closed.
Wash Trades	Entering into arrangements for the sale or purchase of a financial instrument where there is no change in beneficial interests or market risk or where beneficial interest or market risk is transferred between parties who are acting in concert or collusion.

This non-exhaustive list derives from European Commission (2015).

Example 1: Spoofing Strategy

Spoofing

Spoofing is one of the most common methods of manipulation in contemporary capital markets.[65] Its key characteristic is placing and cancelling orders to trade (often within milliseconds) to alter other market participants' perception of the demand for, and/or supply of, a particular financial instrument. A useful analogy is the classic American cartoon, Charlie Brown's Thanksgiving.[66] Charlie's friend, Lucy, spots the football so that Charlie Brown can kick it. But, right as Charlie is about to make contact, Lucy moves the ball and Charlie falls to the floor in tears. This is, in a nutshell, spoofing. Regulators in Canada, China, Hong Kong, Japan, France, the United Kingdom, and the United States have levied hundreds of millions of dollars in fines over the last ten years in response to such schemes.[67]

Example

Imagine that you are a trader with an existing supply of the E-Mini S&P 500, a futures contract tied to the S&P 500 index.[68] If you were interested in spoofing the market for these futures contracts, you might follow the following three steps:

1. Place a large order to buy E-Mini S&P 500 contracts. Other traders will see this order and conclude that the contract is worth more than its current value. Why? Because your large order to buy implies that you have some type of information that the contract is undervalued and/or will rise in price. As a result, other market participants will jump on the bandwagon and also order the contracts, pushing its value ever higher.

2. Quickly cancel your order before it is 'filled' (i.e., before another trader fulfils your request and sells you the contracts).

3. Sell your existing inventory of E-Mini S&P 500 futures at the now-inflated price.

Each instance of spoofing, which can be completed within milliseconds, normally results in only small profits.[69] But, when repeated hundreds or thousands of times, the illicit proceeds quickly add up. Spoofing is harmful because these gains are obtained at the expense of other traders who have been deceived.

[65] Montgomery (2016).
[66] Spoofing in action: https://www.youtube.com/watch?v=MmFfTJlIvhQ
[67] See Mattli (2019, Tables 5.2 and 5.3). For a real example, see CFTC (2019).
[68] Futures contracts provide the holder with the right to buy or sell some product at a fixed price in the future. These contracts were originally designed to help agricultural producers and buyers mitigate the risk of price fluctuation due to unforeseen events (e.g., extreme weather). Today, futures contracts can be bought and sold in relation to a wide range of instruments, and the majority of trading is now speculative. Indices are measures of a basket of underlying securities. The S&P 500, for example, measures the collective value of the 500 largest U.S. stocks measured by market capitalization. Futures contracts on indices allow the holder to buy or sell these instruments at a set price as a means of speculating on (or hedging against) future movements in the underlying stocks.
[69] This is possible because most traders are utilizing algorithmic strategies. Thus the perpetrator's algorithm is designed to trick other traders' algorithms within extremely short periods of time.

2.3 Transnational Market Abuse

Contemporary capital markets are global. From 2001 to 2016, the average daily value of cross-border transactions in foreign exchange (FX) increased from $713 billion to 3.2 trillion.[70] These cross-border transactions now account for, on average, an astounding 65% of daily global FX turnover.[71] Over the same period, the average value of cross-border transactions in interest rate derivates increased six fold.[72] Further, equities are increasingly 'cross-listed,' meaning that they trade on markets in multiple national jurisdictions. From 1990 to 2005, the number of companies cross listing their stock in the U.S. and U.K. increased by approximately 333% and 70%, respectively.[73]

These trends, in combination with advances in algorithmic trading, have created unprecedented opportunities to engage in transnational forms of insider trading and market manipulation (transnational market abuse).[74] These can be divided into four primary methods (Figure 2). The first method, cross-border insider trading, involves an actor in one jurisdiction trading securities in another jurisdiction on the basis of inside information. Often, the perpetrator will establish offshore bank accounts in order to anonymize the source of the funds used to make the transaction. Perpetrators of cross-border insider trading will also often place their trades through multiple foreign brokers in order to further mask their scheme.

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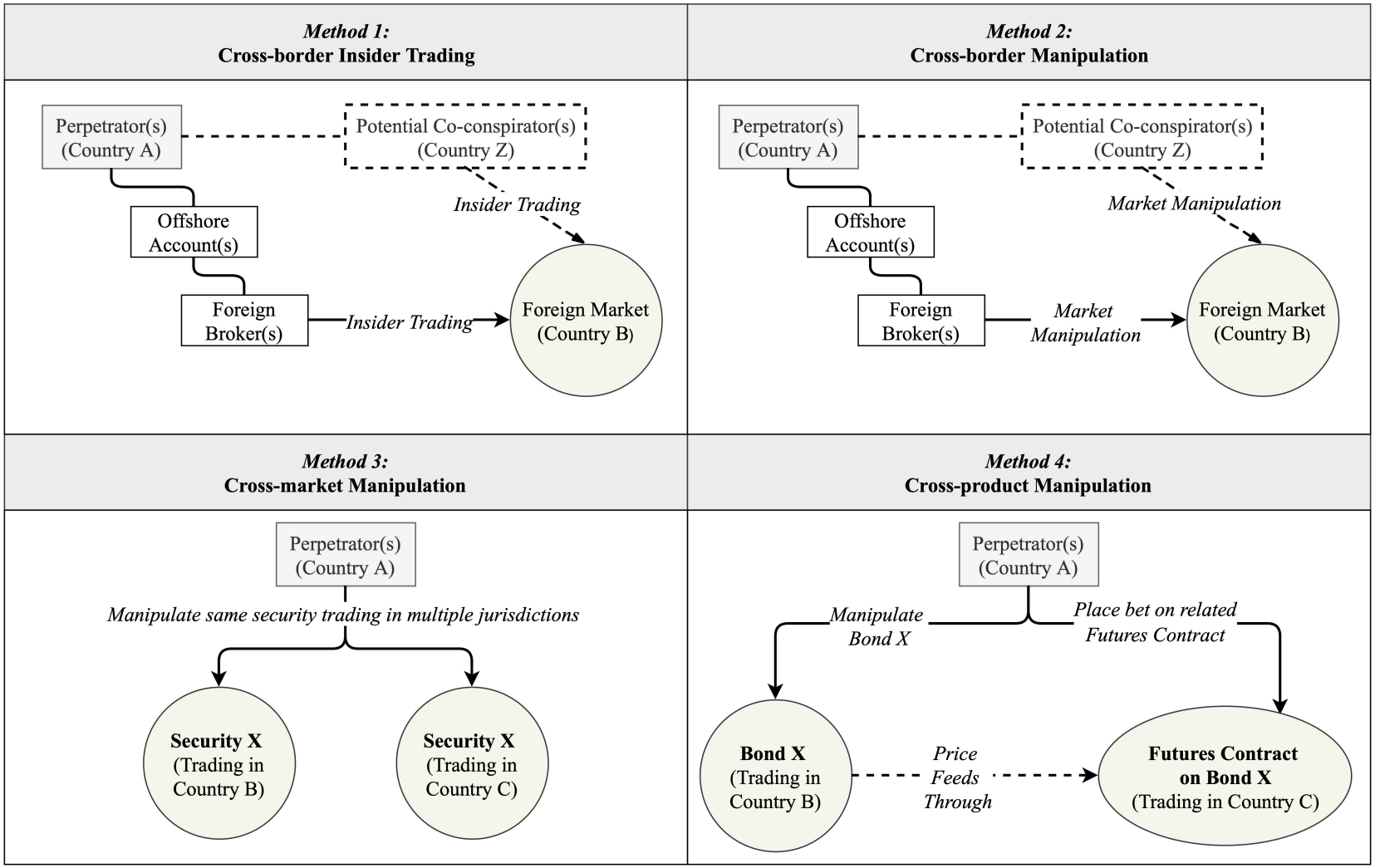
[70] BIS (2016a, 12).
[71] Ibid.
[72] BIS (2016b, 9).
[73] Author calculations based on data from Doidge, Karolyi, and Stulz (2009, 258).
[74] Readers may recall that the post-Bretton Woods era is not the first wave of globalization. The classical Gold Standard era (1873-1914) also featured the free-flowing movement of capital (Eichengreen and Irwin 2010). Market abuse occurred during this era, but these opportunities were not nearly on the same scale as today's capital markets. Trading was much slower, secondary markets were less intertwined, and many modern financial instruments vulnerable to manipulation (e.g., complex derivative products) were in their infancy or had yet to be introduced.

Figure 2: Methods of Transnational Market Abuse



Actors engaging in cross-border insider trading often enlist the help of co-conspirators located in a third country (indicated by the dashed lines in Figure 2). The involvement of these co-conspirators adds yet another layer of complexity, making it difficult for any one regulator to identify the perpetrators' coordination. One alleged example of this approach, from 2012, involved six Chinese citizens and a British Virgin Islands entity cooperating to manipulate shares of Zhongpin Inc., a China-based pork processing company trading in the U.S.[75] According to the SEC, the group obtained advanced knowledge that the CEO of Zhongpin would soon take the company private by purchasing existing shares at a premium. By separately placing bets through complex webs of offshore entities and brokerage accounts, the group made $9.2 million.[76]

The second method, cross-border manipulation, is very similar. But, rather than trading on the basis of inside information, perpetrators of this method coordinate through offshore bank accounts and brokerage firms to engage in manipulation. In 2014, for example, Blue Sky Capital Management Pty Ltd, an Australian Investment Management company, allegedly engaged in a spoofing strategy in Japanese stocks by placing and cancelling orders through multiple funds located in the Cayman Islands.[77] These methods often involve the use of Direct Market Access (DMA), whereby traders can participate in foreign markets under the user ID of their broker. Thus, rather than actively trading on behalf of their clients, brokers offering DMA services effectively allow those clients to directly participate in foreign markets themselves. Regulators have noted that DMA is highly susceptible to being misappropriated for manipulation purposes.[78]

[75] SEC (2012b).
[76] Ibid.
[77] SESC (2016).
[78] See Ceresney (2015); FINRA (2019, 16); Spens (2013).

The third method, cross-market manipulation, involves manipulating the price of financial instruments that simultaneously trade in multiple jurisdictions. As noted above, numerous instruments (e.g., cross-listed stocks) can be bought and sold on separate trading venues located in different countries. And, indeed, many capital markets have 'fragmented,' meaning that instruments are increasingly available on a larger number of separate venues.[79] Further, some of these venues may be 'dark pools' that purposefully restrict traders from knowing the identity of their counterparty before and/or after their order is fulfilled. Dark pools were initially created to protect institutional investors (e.g., Vanguard) from manipulation by eliminating opportunistic traders' capacity to front-run their trades.[80] Ironically, they have largely had the opposite effect by providing nefarious actors with opportunities to exploit dark pools' non-transparency.[81] Further, numerous dark pool operators have been penalized for secretly providing predatory traders with information on other participants' trading intensions.[82] This lack of transparency, in combination with the transnational fragmentation of capital markets, has created substantial opportunities to secretly manipulate the price of the same instrument by placing orders and transactions in different venues.[83]

The fourth method, cross-product manipulation, is the most complex. It involves transacting in one product (e.g., a bond) in one country as a means of manipulating the price of another, related financial instrument (e.g., a futures contract on that bond) in a second country. Globalization, fragmentation, and advances in algorithmic trading have

[79] Hill (2015); Kohler and Wyss (2012); Mattli (2019); Mattli and Kellerman (2019).
[80] Aguilar (2015). Front-running involves purchasing a product another trader desires and then reselling the product to that trader at an artificially inflated price.
[81] M. Lewis (2014); Mattli (2019); S. Patterson (2012). But see also Zhu (2013).
[82] These penalties are commonly made in reference to, in regulatory parlance, 'misleading statements and omissions' regarding the operation of the dark pool. Examples include enforcement actions against Deutsche Bank, Barclays, Credit Suisse, and Liquidnet (SEC 2014b, 2016b, 2016a).
[83] Austin (2017); Corlu (2018); Nasdaq OMX (2012).

created new opportunities to engage in such schemes.[84] Michael Coscia, for example, the first trader criminally prosecuted for spoofing, pursued such a strategy.[85] According to the U.S. Department of Justice (DOJ), Coscia's spoofing strategy involved transactions in various commodity futures whose prices reflected changes in the value of certain foreign exchange rate products.[86] Coscia subsequently executed transactions on both the Chicago Mercantile Exchange (Chicago) and ICE Futures Europe (London) to engage in cross-product manipulation, resulting in an illicit profit of $1.5 million.[87] This thesis' goal is to understand why regulators engage in certain forms of international cooperation to identify such schemes. Before proceeding to the TLCF, however, it is useful to review the primary method by which market abuse is detected: surveillance.

2.4 Market Surveillance

Market surveillance, i.e., the direct, continuous monitoring of orders and transactions, is the primary method for detecting insider trading and manipulation.[88] Contemporary market surveillance is largely automated. Algorithms are designed to scan trading activity and raise alerts when certain thresholds of suspicious activity are met. Once the system produces an alert, compliance staff are responsible for reviewing the relevant trading activity and, where necessary, initiating an investigation. Machine learning methods are currently being introduced to enhance this process.[89]

[84] Austin (2017); Bergþórsson (2017); Friedman (2018); Guo and Lo Prete (2019); Ko, Kozhanov, and Wilkoff (2016); Lo Prete et al. (2019); Nasdaq OMX (2012).
[85] DOJ (2015b).
[86] Ibid, 3.
[87] Ibid, 4.
[88] Whistleblowers are an alternative source of information. But the number of individuals willing to undertake the risk of blowing the whistle is very low.
[89] See, e.g., Nasdaq (2019).

The primary challenge of market surveillance is minimizing Type I and Type II errors. Thresholds that are too broad will produce a large number of false positives (Type I), leading to wasted time and resources. Thresholds that are too narrow, on the other hand, will miss suspicious activity (Type II). A multi-billion-dollar industry exists to provide software that minimizes such errors.[90] Further, the quality of surveillance, as with any computer program, is only as effective as the data it absorbs. Actors conducting surveillance must, therefore, ensure that they are receiving accurate information on orders and transactions. This has become more difficult because of market fragmentation, which produces numerous independent data streams with potentially inconsistent data formats and technical characteristics. The costs of harmonizing such streams, particular when designing a new surveillance system, are substantial.

But the challenges of market surveillance are not just technical. There is also the question of data access. Trading venues, whose traditional revenue sources have declined because of increased competition, now accrue significant revenue from selling their proprietary trading data.[91] For the right price, one can get faster access to, and higher quality of, information on real-time market activity.[92] Further, regulators with surveillance capabilities may be incentivized to retain their exclusive power to monitor domestic data on a consolidated basis. Therefore, in order to understand how regulators cooperate to address transnational market abuse, we have to take into consideration the international political economy of data access. This thesis does just that by presenting and testing the Two-level Cooperation Framework.

[90] Large providers of such software include Nasdaq SMARTS, NICE Actimize, and Software AG.
[91] See Mattli (2019).
[92] M. Lewis (2014); Marcus and Kellerman (2018); Mattli (2019); Mattli and Kellerman (2019); S. Patterson (2012).

3 Theoretical Framework and Methodology

Why do public agencies engage in different forms of international cooperation to detect transnational phenomena? To answer this question, this section presents The Two-Level Cooperation Framework (TLCF). The TLCF's core argument is that public agencies' decision to outsource tasks to regulatory intermediaries in the *past* impacts the form of international cooperation they utilize in the *future*. In other words, the *sequencing* of public agencies' choices has downstream consequences for their capacity and/or desire to engage in certain forms of international cooperation.

Public agencies outsource tasks in a wide variety of policy arenas, including food safety, building codes, and market surveillance.[93] This allows those agencies to take advantage of regulatory intermediaries' expertise and operational capacity.[94] Further, it can compensate for budgetary constraints.[95] But this process often involves granting those actors the exclusive capacity to monitor certain types of data, creating an informational asymmetry between public agencies and their regulatory intermediaries.

The exclusive capacity to monitor data is a significant source of power. In the context of market surveillance, for example, it allows trading venues to control the trading 'space' (whether physical or digital) under their watch.[96] Further, these trading venues can protect themselves (and their customers) by controlling what data is reported to the regulator. That power would be lost if the relevant national regulator develops the

[93] Fransen and LeBaron (2019); van der Heijden (2017); Lytton (2017).
[94] Abbott et al. (2019, 8); Abbott, Levi-Faur, and Snidal (2017, 20).
[95] Ibid. See also Kellerman (2020, 3).
[96] The power afforded by the exclusive capacity to perform surveillance has long been recognized, most notably by Bentham (1787) and Foucault (1975).

capacity to independently monitor the market itself. Similarly, granting an IO the capacity to conduct cross-border surveillance eliminates national regulators' exclusive capacity to monitor the markets within their respective jurisdictions. The key implication is that any attempt to reorganize responsibilities for surveillance, whether at the national or international level, requires disempowering incumbents. Therefore, it is a strategic interaction with both procedural and distributional consequences.

The TLCF conceptualizes these strategic interactions as a two-level game, involving, in sequential order, public agencies versus their regulatory intermediaries (domestic game) and public agencies versus public agencies (international game). The term 'two-level game' is traditionally used to model how domestic interests shape states' 'winsets' and, in turn, the outcome of international negotiations.[97] In this traditional model, decision-makers must participate in both the domestic and international games *simultaneously* and balance their respective imperatives.[98] Here, however, the two-level game metaphor is employed in reference to sub-state actors (public agencies). And, unlike the traditional use of the term, the TLCF focuses on how the *sequential* outcomes of the domestic and international games determine the form of cooperation public agencies utilize to detect transnational phenomena.

The remainder of this chapter will proceed as follows. Section 3.1 describes in more detail the outcome the TLCF seeks to explain, i.e., the forms of international cooperation public agencies utilize to detect transnational phenomena. Section 3.2 delineates the TLCF, including its scope condition, relevant actors, behavioral assumption, causal pathways, and implications. Section 3.3 presents The Market

[97] See Putnam (1988). 'Winset' refers to the set of outcomes acceptable to any one agent as an alternative to the status quo reference point (Tsebelis 2002).
[98] Putnam (1988, 460).

Structure Hypothesis, which seeks to anticipate the outcome of the domestic game. Section 3.4 presents The Bureaucratic Self-interest Hypothesis, which seeks to anticipate the outcome of the international game. Section 3.5 will consider three alternative explanations in addition to a potential confounding variable. Section 3.6 will discuss this thesis' methodological approach. This will be followed by Sections 3.7 and 3.8, which address the precise testing strategy for each hypothesis and the TLCF. Section 3.9 will subsequently discuss data, ethics, and the process by which evidence was obtained. Finally, Section 3.10 will conclude.

3.1 The Outcome: Forms of International Detection Cooperation

The TLCF seeks to explain the form of international cooperation public agencies utilize to detect transnational phenomena. *Detection* can be defined as the process of identifying something that is concealed and/or difficult to discern.[99] This action is connected to, but clearly distinguishable from, 'rulemaking' and 'enforcement.'[100] Scholars of IPE have constructed numerous typologies to explain the variety of institutional forms used to design international rules and global standards.[101] We do not, however, have a similar mapping exercise to classify the methods by which public agencies engage in what we can call *international detection cooperation*.

[99] This definition is a combination of those provided by Google and the Oxford English Dictionary (2019). The action of 'monitoring' is similar to detection, but often used in reference to phenomena that are well-known and relatively easy to observe.
[100] On the importance of distinguishing between these actions when studying international cooperation, see D. Bach and Newman (2010, 523). Scholars of regulatory practice have created a useful distinction between five core tasks, called the DREAM framework: detecting, responding, enforcing, assessing, modifying (Baldwin, Cave, and Lodge 2011, ch. 11). These scholars define detection as the identification of non-compliance and undesirable behavior.
[101] See, e.g., Abbott and Snidal (2009, 50); Eberlein and Newman (2008); Vabulas and Snidal (2013, 201).

International detection cooperation can be separated into three primary forms: Indirect Ad-hoc Information-Sharing, Direct Information-Sharing, and an International Organization (Figure 3). The key differentiating factor is whether the actor(s) with primary responsibility for performing front-line surveillance operates at the sub-national, national, or supranational level. The remainder of this section will discuss these forms of cooperation and discuss examples from various policy arenas.

Figure 3: Mapping Forms of International Detection Cooperation

Form of International Detection Cooperation	Examples	Primary Level of Detection
International Organization	ACER (Trade Surveillance); WHO (Disease Outbreak Monitoring); FRONTEX (EU Border Surveillance)	Supranational (IO)
Direct Information-sharing: Continuous	Five Eyes Network (Signals Intelligence); INTERPOL (Facial Recognition System)	National (Public Agencies)
Direct Information-sharing: Ad-hoc	U.K. - France Information-sharing (Trade Surveillance)	National (Public Agencies)
Indirect Ad-hoc Information-sharing	Austria - Switzerland Information-sharing (Trade Surveillance); FIU Information-sharing (Money Laundering)	Sub-national (Regulatory Intermediaries)

3.1.1 Indirect Ad-hoc Information-sharing

The first form of cooperation is *Indirect Ad-hoc Information-sharing*. As described in Section 1.1, this refers to a system in which sub-national regulatory intermediaries (e.g., stock exchanges) have the exclusive power to surveil the relevant data. Therefore, public agencies will have to obtain this data from their regulatory intermediaries before they can exchange that information with their foreign counterparts. Due to the necessity of making such requests, this system of information-sharing operates, by definition, on an *ad-hoc* basis. The public agencies involved are, in other words, incapable of engaging in a method of *continuous* information-sharing such as a shared database.

Indirect Ad-hoc Information-sharing is the most common form of cooperation used by securities and energy regulators to detect transnational market abuse. An example is information-sharing between Austria's Financial Market Authority (FMA) and The Swiss Financial Market Supervisory Authority (FINMA). Neither the FMA nor FINMA have the independent capacity to perform national trade surveillance.[102] Rather, they rely on regulatory intermediaries (e.g., the Vienna Stock Exchange and Swiss Stock Exchange) to monitor their own markets. Therefore, these regulators must request the data from those intermediaries before it can be shared.

Another example is information-sharing by Financial Intelligence Units (FIUs), national agencies responsible for investigating financial crimes such as money laundering and terrorist financing.[103] FIUs cannot independently monitor financial transactions to identify such activity. Rather, they rely on private regulatory intermediaries (e.g., banks)

[102] FINMA (2020); FMA (2020); Interviews #72 and 73.
[103] For more details on the history and operations of FIUs, see IMF and World Bank (2004).

to surveil their customers' transactions and, where appropriate, submit so-called Suspicious Transaction Reports (STRs).[104] FIUs often make requests to their foreign counterparts for any STRs or related information (e.g., specific transactional records) relevant to their investigation. These FIUs often cannot immediately respond, however, because the relevant data remains with their regulatory intermediaries.[105] Thus FIUs engage in a system of Indirect Ad-hoc Information-sharing.

3.1.2 Direct Information-sharing

The second form of international detection cooperation is *Direct Information-sharing*. This refers to a system in which public agencies have the independent capacity to perform front-line surveillance, and thus can directly exchange data with their foreign counterparts on either an *ad-hoc* or *continuous* basis. As previously noted, a relatively small number of securities and energy regulators are able to engage in *Direct Ad-hoc Information-sharing*. One example is information-sharing between the United Kingdom's Financial Conduct Authority (FCA) and France's Autorité des Marchés Financiers (AMF). Both the FCA and AMF have developed sophisticated internal surveillance systems, and thus can directly respond to ad-hoc requests for information.[106]

[104] IMF and World Bank (2004, 42-9).
[105] EU FIUs have access to the European Union Agency for Law Enforcement Cooperation (EUROPOL) FIU.net database. This database allows each FIU to query if another European FIU has data relevant to their search (e.g., STRs matching the name or known aliases of an individual under investigation). The system does not, however, provide the data itself. Rather, the FIU will have to make a formal request to their foreign counterpart, who, in turn, will usually have to request further information from their regulatory intermediary (Interviews #84, 85; see also European Council 2000). Thus, though appearing transnational, the EUROPOL FIU.net database actually facilities a system of Indirect Ad-hoc Information-sharing.
[106] AMF (2017); Spens (2014).

In other fields, however, public agencies have agreed to share information on a continuous basis. One example is the Five Eyes Network, an intelligence arrangement between the U.S., U.K., Canada, Australia, and New Zealand. The Five Eyes Network was created in 1947 to facilitate the continued sharing of intelligence between Anglophone allies.[107] It has subsequently evolved into an enormous web of surveillance programs involving various national agencies. One program, ECHELON, involves the sharing of signals intelligence (SIGINT), i.e., information on telecommunications and digital correspondence.[108] Many details about ECHELON remain classified. Existing disclosures corroborate, however, that it amounts to a shared database granting national government agencies the ability to simultaneously surveil SIGINT in numerous jurisdictions.[109] Crucial for classification purposes, this system does not require each national agency to make ad-hoc requests to regulatory intermediaries for data. Rather, participating agencies such as the U.S. National Security Agency (NSA) and Australian Signals Directorate have developed the independent capacity to surveil SIGINT within their respective jurisdictions (and abroad). Therefore, the Five Eyes Network amounts to a system of *Direct Continuous Information-sharing*.

Another example of this cooperation form is The International Criminal Police Organization's (INTERPOL) Face Recognition System.[110] INTERPOL is an international organization facilitating cooperation between national law enforcement agencies.[111] These agencies continuously contribute various types of data to INTERPOL, including facial images of suspected criminals. The Face Recognition System collects

[107] O'Neil (2017, 534).
[108] Ibid, 534-5.
[109] Rudner (2004, 201-3).
[110] INTERPOL (2020a).
[111] On the history of INTERPOL, see M. Barnett and Coleman (2005).

this data from its members and uses algorithms to match facial features.[112] When a match is found, the system automatically sends INTERPOL members any images from another jurisdiction that correspond to their list of suspects.

INTERPOL's Face Recognition System is accurately characterized as an example of Direct Continuous Information-sharing. INTERPOL cannot independently surveil, for example, video camera footage for biometric data. Rather, the organization is facilitating the continuous exchange of such data between national law enforcement agencies. And, indeed, INTERPOL, despite its substantial resources and staff, is best understood as a global information broker rather than an independent monitoring or enforcement agency.[113] Much of its work, like the Face Recognition System, focuses on helping national law enforcement agencies share information. This demonstrates that international organizations can play a supporting role in systems of Direct Information-sharing between national agencies.[114] For the purpose of this classification exercise, the label *International Organization* would only apply if the IO has been endowed with the capacity to independently perform front-line surveillance. The next sub-section discusses some examples of such IOs to demonstrate this conceptual difference.

3.1.3 International Organization

The third form of international detection cooperation is the allocation of surveillance powers to an *International Organization*. Such IOs have the capacity (administrative,

[112] INTERPOL (2020a). INTERPOL staff will also manually review certain images to account for specific factors such as ageing, plastic surgery, and the physical effects of drug abuse.
[113] Sheptycki (2004, 116-7; 2017, 112). See also Farrell and Newman (2019, 41).
[114] This position may also allow the IO to act as an 'orchestrator' by enlisting the support of national agencies to achieve certain governance goals (Abbott et al. 2015).

financial, and technical) to independently perform front-line surveillance to detect some type of transnational phenomenon. Such IOs have no need to request data from national regulators or sub-national regulatory intermediaries. Rather, they have direct access to, and the capacity to surveil, the requisite data. Note that this does *not* require that the IO has the power to take some kind of enforcement action (e.g., imposing penalties).

ACER is a typical example of an International Organization. The agency conducts ongoing surveillance of EU energy markets for transnational market abuse. In so doing, ACER can identify schemes that no one national energy regulator is able to directly observe. ACER does not, however, have the power to bring charges against suspected persons. Rather, the agency sends an alert to the relevant national regulators, who remain responsible for formal investigation and enforcement.[115]

Another example of an IO with surveillance powers is The European Border and Coast Guard Agency (FRONTEX). As the name implies, FRONTEX is responsible for coordinating the protection of EU member states' borders from 'irregular' immigration and cross-border crime.[116] To perform this function, FRONTEX operates numerous transnational surveillance systems, including The European Border Surveillance System (EUROSUR) and the Copernicus Maritime Surveillance Service.[117] Further, FRONTEX has recently incorporated drones into its systems of aerial surveillance.[118] The agency is not just an information broker. Rather, FRONTEX independently surveils EU borders in order to, for example, identify 'anomalous' vessels in the Mediterranean sea.[119] Once certain activity is detected, FRONTEX can immediately alert national border agencies

[115] European Union (2011, Article 18).
[116] Neal (2009).
[117] FRONTEX (2020); Marin (2014).
[118] Csernatoni (2018).
[119] European Commission (2018, 53-5).

such as Greece's Hellenic Coast Guard. Further, FRONTEX deploys, at any one time, approximately 1,500 border officers, a portion of which are able to directly intercept, seize, and redirect vessels.[120] Note that, in this case, the primary level of detection is *supranational*. This is a significant departure from, for example, INTERPOL's Face Recognition System, in which an IO merely facilitates Direct Information-sharing between agencies conducting *national* surveillance.

One final example, from a different empirical context, is the World Health Organization's (WHO) surveillance activities. The WHO operates numerous surveillance programs focused on identifying disease outbreaks, both on a continuous basis and in response to specific events/natural disasters.[121] For example, the WHO administers the Global Antimicrobial Resistance Surveillance System (GLASS), which facilitates global monitoring of national data on the consumption of antibiotics.[122] Through GLASS, the WHO can trace how certain resistant bacteria spread internationally. Another WHO program, The Global Public Health Intelligence Network (GPHIN), allows for 24/7 surveillance of national news, professional databases, and social media platforms to identify outbreaks of infectious diseases.[123] In so doing, the GPHIN team can trace the spread of such diseases across borders, not unlike FRONTEX's monitoring of migration and ACER's detection of transnational market abuse.

As these examples demonstrate, national public agencies cooperate to detect a wide range of transnational phenomena. The form of international detection cooperation utilized, however, varies by issue area and jurisdiction. To summarize, these can be divided into three primary types: Indirect Ad-hoc Information-sharing, Direct

[120] Vara and Sánchez-Tabernero (2016, 71-6).
[121] WHO (2017, 45-9).
[122] WHO (2018, 223).
[123] Dion, AbdelMalik, and Mawudeku (2015); Tanguay (2019).

Information-sharing (continuous and ad-hoc), and the allocation of surveillance powers to an International Organization. As noted above, this final category only applies if an IO is allocated the power to independently perform front-line surveillance. It would not apply if that IO is merely facilitating a system of Direct Information-sharing between national agencies (e.g., by maintaining a shared database). Also note that the same IO may be simultaneously involved in two different forms of international detection cooperation. The WHO, for example, has the aforementioned surveillance powers. Another WHO department, in contrast, facilitates a system of Direct Information-sharing between national health agencies in the event of disease outbreaks.[124] It is necessary, therefore, to take into account the details of specific systems when classifying forms of international detection cooperation. The TLCF, to which I now turn, subsequently seeks to anticipate the conditions under which public agencies utilize one form or another.

3.2 The Two-Level Cooperation Framework

Figure 4 presents The Two-Level Cooperation Framework. The TLCF is structured as a quasi-decision-tree, presented from the perspective of national public agencies. Unlike a standard decision-tree, the 'players' are not able to make an uncontested decision at each stage. Rather, each stage presents a strategic 'game,' the sequential outcomes of which will, the framework contends, determine the form of international detection cooperation we should observe (hence the use of the term 'two-level'). Relatedly, the TLCF can be used to understand why a single public agency does or does not have the capacity and/or

[124] This is the Global Outbreak Alert and Response Network (GOARN), which played a crucial role in facilitating information-sharing during the 2003 outbreak of Severe Acute Respiratory Syndrome (SARS) in Asia (Heymann and Rodier 2004; J. S. Mackenzie et al. 2014).

willingness to engage in certain forms of cooperation. The remainder of this sub-section will describe the TLCF's scope condition, relevant actors, behavioral assumption, causal pathways, and theoretical implications. Sections 3.3 and 3.4 will present two hypotheses regarding the outcomes of the domestic and international games, respectively.

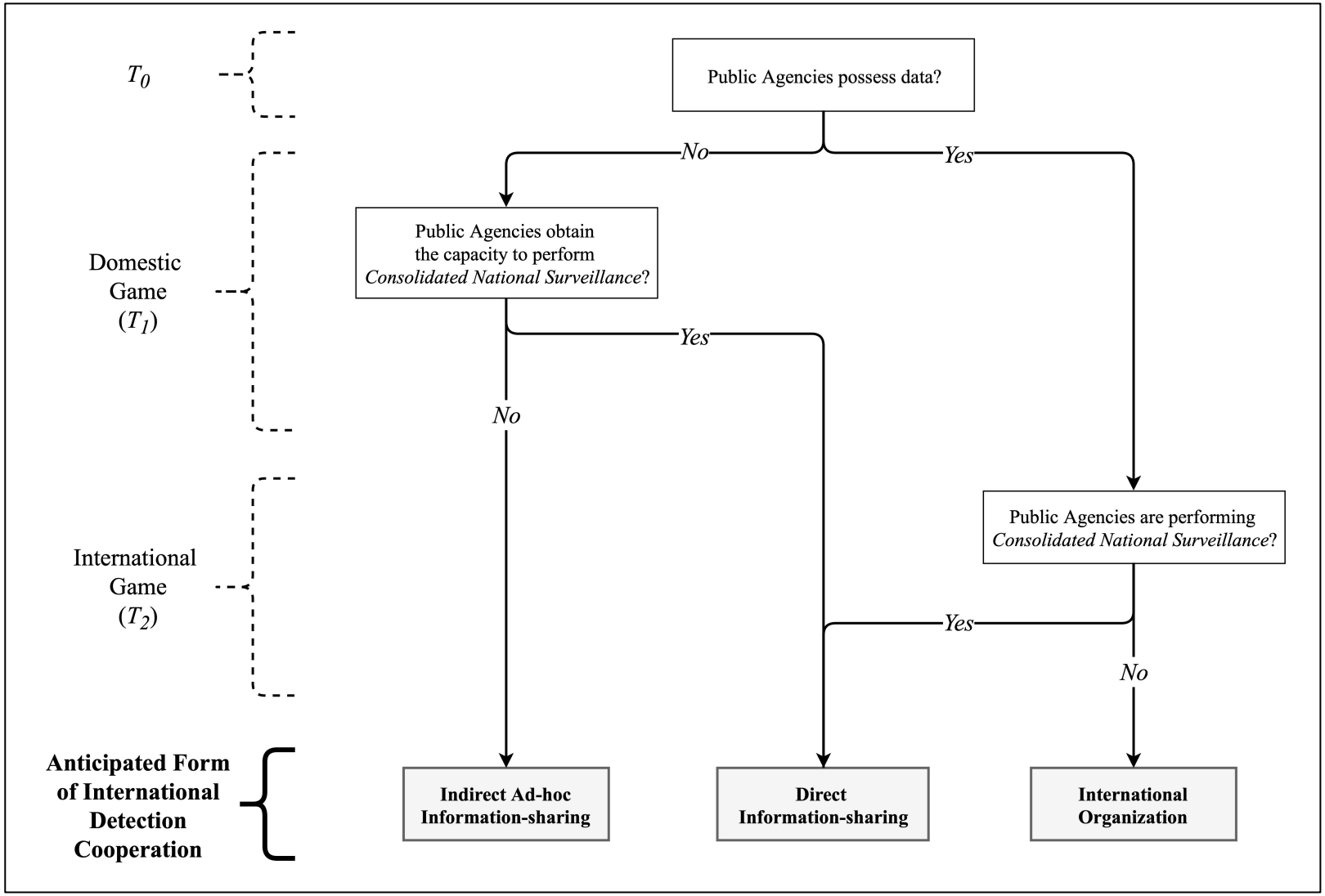
3.2.1 Scope Condition

The TLCF is subject to one scope condition that defines the circumstances in which it is applicable.[125] Namely, the framework contends to address situations in which public agencies seek to cooperate on the detection of some transnational phenomenon. If public agencies have no desire to cooperate, there is naturally no point in applying the framework. Phrased differently, the TLCF explains the form of international detection cooperation public agencies utilize *given* their desire to do so. Implicit in this condition is an assumption that public agencies exist to govern the relevant issue area.[126]

Relatedly, the TLCF does not seek to theorize the timing of public agencies' initial decision to cooperate with their foreign counterparts. In other words, it does not seek to theorize why public agencies 'enter' the two-level game in the first place. It is preliminarily anticipated, however, that 'exogenous shocks' such as financial, health, and security crises are likely catalysts. Such shocks may expose cross-border oversight gaps, providing public agencies with incentives to cooperate on detection.

[125] See Harris (1997).
[126] Note, however, that in some cases, public agencies may be pre-dated by other governmental offices or departments with similar objectives. The TLCF would apply to these earlier public offices. There may be some circumstances where, in the process of proceeding through the framework, a public agency transforms or combines with another agency. The TLCF may no longer be applicable in such circumstances if this alters their desire to cooperate. This would, however, have to be assessed on a case-by-case basis.

Figure 4: The Two-Level Cooperation Framework



3.2.2 Relevant Actors and Behavioral Assumption

There are two relevant actors: public agencies and regulatory intermediaries. *Public agencies* are national government agencies (e.g., the SEC, which oversees U.S. securities trading). National governments generally grant public agencies significant managerial independence and, in some cases, unilateral prosecutorial power.[127] In many jurisdictions, the independence of certain agencies is legally protected to, for example, avoid the politicization of investigations.[128] Therefore, it is assumed that public agencies are unitary actors with definable (albeit non-static) preferences.[129]

It should be noted that, in some cases, public agencies cannot unilaterally allocate surveillance powers to an IO. This decision may, for example, require the approval of national legislatures. Nevertheless, focusing on public agencies is justified for two reasons. First, and as will become clearer, public agencies' incentives to reject an IO are based on concerns often shared by national governments. Second, national legislatures are highly unlikely to allocate surveillance powers to an IO against the advice of the relevant public agency. These agencies are influential subject matter experts, and thus can be considered informal veto players over the decision to allocate surveillance to an International Organization.[130] Therefore, with regard to the choice of cooperation form, it is assumed that the preferences of public agencies and their respective legislatures are

[127] See, e.g., Karmel (1998).
[128] For example, this independence was codified for all EU energy regulators in the so-called Third Energy Package (Haverbeke, Naesens, and Vandorpe 2010, 410).
[129] The unitary actor assumption has previously been criticized as unrealistic, particularly when applied to nation-states (Hug 1999). It is, however, less controversial to assume that individual public agencies have definable preferences. These agencies often publicize their issue positions and are generally governed by individuals and/or committees with observable preferences over policy options.
[130] Veto players are agents whose agreement is, by law, necessary for an alteration of the legislative status quo (Tsebelis 2002). Public agencies do not have the legal right to override legislatures. But, because the allocation of surveillance to an IO is highly unlikely to occur without their approval, we can refer to these agencies as 'informal' veto players.

broadly aligned. I will, however, consider an alternative explanation concerning the potential confounding effect of party politics (outlined in Section 3.5.3). This argument contends that party politics impacts the outcome of the domestic game, with downstream consequences for the ultimate form of international detection cooperation.

Regulatory intermediaries are sub-state actors that perform surveillance on behalf of public agencies. This term derives from the RIT governance model, in which regulators (R) engage with intermediaries (I) to impact their ultimate target (T).[131] The concept of a regulatory intermediary used here is constrained to sub-state actors performing a specific task: detection (as opposed to, for example, rulemaking).[132] Examples include stock exchanges performing trade surveillance on behalf of securities regulators and banks surveilling customer accounts on behalf of FIUs. The framework treats each regulatory intermediary as a unitary actor with definable but non-static preferences. Multiple intermediaries' preferences may or may not be aligned.

The TLCF's single behavioral assumption is that the relevant actors have bounded rationality. In other words, actors are self-interested but, because of their cognitive limitations, have imperfect decision-making capabilities.[133] Most pertinently, actors with bounded rationality proceed through time in a sequential manner, often accepting 'good enough' outcomes that may be sub-optimal.[134] Thus actors with bounded rationality are capable of making decisions in the past that undermine the strict optimization of their preferences in the future. The key implication here is that public agencies' previous decision to outsource surveillance to regulatory intermediaries at time T_{-1} can

[131] Abbott, Levi-Faur, and Snidal (2017).
[132] Regulatory intermediaries might perform other functions, including rulemaking. But this thesis is primarily concerned with their surveillance roles.
[133] See Simon (1997).
[134] Simon (1997), similarly referenced in Kellerman (2019, 113).

inadvertently undermine their future capacity and/or willingness to engage in certain forms of international detection cooperation at time T_{1+}.[135]

3.2.3 Overview of Causal Pathways

The TLCF starts with the following question: do the public agencies interested in cooperating have access to the relevant data? If the answer is yes, they may proceed to the 'international game.' This is because, by virtue of their possession of the relevant data, these public agencies are *capable* of engaging in Direct Information-sharing or allocating surveillance powers to an International Organization.

If, however, the answer is no, these public agencies must engage their regulatory intermediaries in a 'domestic game' before proceeding. This describes a situation in which public agencies have previously outsourced surveillance to their respective regulatory intermediaries (at time T_{-1}, not pictured in Figure 4). Outsourcing surveillance involves granting those actors the exclusive capacity to monitor certain types of data, creating an informational asymmetry between public agencies and their regulatory intermediaries. Therefore, the public agencies will have to reverse this asymmetry by achieving the independent capacity to perform surveillance themselves. Achieving this capacity is necessary to engage in certain forms of international detection cooperation that require the direct exchange of data. This includes Direct Information-sharing and the allocation of surveillance powers to an International Organization (the latter cannot occur if public agencies are unable to provide the IO with access to the relevant data).

[135] Public agencies are not aware that they are proceeding through the TLCF framework. If they were, they would be able to predict the future and perform perfect backwards induction to achieve their preferred outcomes. Laboratory tests have found that humans regularly fail to do so (E. J. Johnson et al. 2002).

Let us begin with the first scenario: public agencies have access to the requisite data and subsequently proceed to the international game. The pertinent question of the international game is as follows: are the public agencies already performing *Consolidated National Surveillance* (CNS)? This refers to a system capable of performing surveillance on a great majority of the relevant data within a particular national jurisdiction.[136] Here it is important to note that there is a critical distinction between having *access to* data and *performing surveillance on* that data. CNS requires more than simply having access to the relevant data. It also necessitates significant resources, expertise, and personnel to construct and operate a system capable of performing national, consolidated surveillance on a continuous basis. Thus having access to data is a necessary but insufficient condition for performing CNS.

The TLCF anticipates that, if public agencies have already acquired the capacity to perform CNS, they are unlikely to cooperate via an International Organization. Generally speaking, state and sub-state actors have various incentives to participate in formal IOs.[137] Scholars have also observed that such actors can incorporate IOs into transgovernmental networks and/or take advantage of those IOs' capacity to act as international 'orchestrators.'[138] The exclusive capacity to perform CNS is, however, a significant source of power for public agencies. Internally, it allows them to control certain actors and punish behavior considered undesirable. Externally, it affirms that they are solely responsible for governing their national 'turf.' Thus, in these circumstances, it is anticipated that public agencies will engage in Direct Information-sharing to preserve their exclusive powers at the national level. In other words, these bureaucratic incentives

[136] The term 'great majority' is used here in acknowledgement that, in practice, very few surveillance systems can claim to have perfect coverage of all relevant data.
[137] Abbott and Snidal (1998); Koremenos, Lipson, and Snidal (2001).
[138] Abbott et al. (2015); Eberlein and Newman (2008).

to retain power will override or outweigh any potential incentives to allocate surveillance powers to an International Organization.

In contrast, it is expected that we will observe the allocation of surveillance powers to an IO only where public agencies have access to the relevant data but are *not* performing surveillance on that data. Because these agencies have yet to invest the time and resources necessary to perform CNS, they have yet to obtain the powers or benefits afforded by that capability. Therefore, these agencies will not view an IO as a threat to their (non-existent) surveillance powers. Section 3.4 discusses these expectations in more detail by presenting *The Bureaucratic Self-interest Hypothesis* as an explanation for the outcome of the international game.

Now let us return to the alternative starting scenario: public agencies do *not* have access to the requisite data at time T_0 because they have previously outsourced surveillance to their regulatory intermediaries (at time T_{-1}). In such cases, public agencies proceed to the 'domestic game' at time T_1, where they will seek to reverse their dependence on their regulatory intermediaries by obtaining the independent capacity to perform CNS.[139] This process requires disempowering those regulatory intermediaries by eliminating their exclusive capacity to perform surveillance. Thus the domestic game is a strategic interaction with both procedural and distributional consequences. Section 3.3 formulates *The Market Structure Hypothesis* to anticipate the conditions under which public agencies will 'win' this domestic game by achieving the independent capacity to perform CNS within their respective jurisdictions.

If public agencies fail to achieve the capacity to perform CNS (i.e., 'lose' the domestic game), it is anticipated that they will engage in Indirect Ad-hoc Information-

[139] Note that in such circumstances, obtaining the capacity to perform CNS implies, by definition, that the public agency simultaneously obtains access to the requisite data.

sharing. This is a continuation of the status quo. As they did before the 'game' started, public agencies will still have to go through their respective regulatory intermediaries in order to exchange information. Alternatively, if public agencies are able to disempower their regulatory intermediaries and achieve CNS, they can proceed to the international game. The TLCF anticipates that this will only lead to one outcome: Direct Information-sharing. By successfully achieving the exclusive capacity to perform CNS, public agencies inadvertently develop ingrained, bureaucratic incentives to maintain the powers and benefits that exclusivity affords. Therefore, they will reject the allocation of surveillance powers to an International Organization they can neither fully control nor prevent from absorbing jobs, expertise, and authority.

3.2.4 Theoretical Implications

The TLCF has two key theoretical implications. First, it implies that public agencies' decision to outsource tasks to regulatory intermediaries in the past (at time T_{-1}) can inadvertently undermine their capacity to engage in certain forms of international detection cooperation in the future (at time T_{1+}). Thus, following previous work on historical institutionalism and the relationship between time and political outcomes, the framework contends that the sequencing of events matters.[140] Pubic agencies' decision to outsource surveillance to regulatory intermediaries is a critical juncture, increasing the probability that certain causal pathways will occur.[141]

[140] Farrell and Newman (2010, 621-3); Pierson (2000b; 2000a; 2004, ch. 2). Pierson (2004, 64-70) provides a useful distinction between three different types of arguments involving positive feedback/sequencing effects: (1) positive feedback loops; (2) sequenced-based arguments about self-reinforcement; and (3) downstream dynamics. The TLCF most accurately fits in the second category, in which "the temporal order of key events or processes helps to determine which path of development will emerge" (p. 67).
[141] Pierson (2004, ch. 2).

This implication is logically consistent because the relevant actors have bounded rationality. Public agencies have numerous, rational reasons for outsourcing tasks to regulatory intermediaries. Delegation can, for example, compensate for public agencies' budgetary constraints and allow them to benefit from regulatory intermediaries' expertise and operational capacity.[142] But, because they cannot see into the future, public agencies underestimate or fail to foresee how this decision can limit their future capacity to engage in certain forms of cooperation.

The second theoretical implication is that the outcome of the domestic game can alter public agencies' preferences in the international game and, in turn, the ultimate form of cooperation utilized. Scholars of IPE often contend, explicitly or implicitly, that there is a clear division between preference formation and strategic interaction. Rational-choice approaches tend to treat preferences as pre-determined (i.e., 'given' by nature) so that they can create precise, falsifiable hypotheses.[143] This has led some to contend that there is a division of labor between constructivism, focused on preference formation, and rational-choice, focused on strategic decision-making.[144] Such bifurcated thinking might lead one to conclude that the nature of international cooperation is merely the product of strategic interaction between actors with pre-defined preferences. But this fails to take into consideration how the process of strategic interaction itself can impact the nature and/or intensity of these preferences.[145] Further, it leads to a static view of the world that largely ignores how preferences might change across time.[146]

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[142] Abbott et al. (2019, 8); Abbott, Levi-Faur, and Snidal (2017, 20).
[143] As Snidal (2013, 95) summarizes, "The much-maligned assumption of fixed preferences…arises not from a metaphysical belief that preferences are fixed but from methodological considerations of enabling empirical disconfirmation through limiting the possibilities of 'curve fitting' via imputed preferences."
[144] Katzenstein, Keohane, and Krasner (1998, 682).
[145] For a more detailed discussion of this weakness, particularly in regard to the intermediating impact of institutions on preferences, see Farrell and Newman (2010, 617-21).
[146] Levi (2008, 129). See also Eberlein and Grande (2005, 90-1).

The TLCF, in contrast, theorizes how the dynamic process of the two-level game impacts not just public agencies' capacity, but also their preference, to engage in one form of international detection cooperation or another. This pertains to public agencies that 'win' the domestic game by disempowering their regulatory intermediaries and achieving the capacity to perform CNS. Doing so creates new, bureaucratic incentives to maintain the powers and benefits afforded by this newfound capability (Section 3.4 discusses these powers and benefits in greater detail). As a result, these public agencies will not be interested in sacrificing that exclusivity by allocating surveillance powers to an IO. Thus, ironically, winning the domestic game *reduces* the probability of observing public agencies engage in what may be, in certain circumstances, the optimal form of international detection cooperation from a broader societal perspective.

By making this argument, the TLCF engages with what has been referred to as the 'eventfulness' of preference formation.[147] The domestic game is a critical event that alters public agencies' preferences and, in turn, the probability of certain causal pathways occurring. Taking this dynamic factor into account improves upon static rational-choice models that implicitly assume (often unrealistically) that actor preferences are fixed across time.[148] This does not, however, require sacrificing falsifiability.[149] Rather, the TLCF incorporates this temporal dynamic into a rational-choice framework with clear thresholds for causal inference. In so doing, this thesis contributes to a growing body of literature recognizing that rational-choice and historical institutionalism can be combined to explain various political outcomes.[150]

[147] P. Hall (2005, 136).
[148] On the general faults of this assumption, see Tversky, Slovic, and Kahneman (1990).
[149] On issues of falsifiability in historical institutionalist accounts, see Vergne and Durand (2010).
[150] Fioretos (2017); Fioretos, Falleti, and Sheingate (2016); P. Hall (2010); Jupille, Mattli, and Snidal (2013); Katznelson and Weingast (2005); Kellerman (2019).

3.3 Theorizing the Domestic Game

Public agencies often lack access to the data they wish to share because they have previously outsourced surveillance to regulatory intermediaries. In order to engage in forms of cooperation that require the direct exchange of data, these public agencies will have to reverse this outsourcing arrangement by developing the independent capacity to perform Consolidated National Surveillance. Only then will these public agencies be capable of engaging in Direct Information-sharing or allocating surveillance powers to an International Organization. If they fail to achieve surveillance powers, they will remain dependent on their regulatory intermediaries for information and thus be constrained to Indirect Ad-hoc Information-sharing. For public agencies entering the domestic game, this constitutes a continuation of the status quo.

When will these public agencies successfully obtain the capacity to perform CNS? In other words, when will they 'win' the domestic game? Previous scholarship emphasizes that, once a public agency empowers a regulatory intermediary to perform some task, it is extremely difficult to reverse this process (i.e., disempower the intermediary). Over time, these intermediaries tend to accumulate more responsibilities, influence, expertise, and connections to the industry, increasing the public agency's dependence on their services.[151] Missing from these perspectives is consideration of market structure. Scholars have examined the connection between market structure and firms' incentives to support or oppose increased regulation.[152] But this factor has yet to

[151] Abbott et al. (2019); Büthe (2006, 2010b); Kruck (2017); Mattli and Büthe (2005).
[152] Hviid and Olczak (2016); Kennard (2019); Michaelis (1994); Oster (1982); Pecorino (2001); Peltzman (1976); Stigler (1971).

be incorporated into our understanding of RIT governance.[153] Nor has it previously been considered as a contributing explanatory factor for the form of international cooperation public agencies utilize. This sub-section subsequently presents *The Market Structure Hypothesis* to anticipate the outcome of the TLCF's domestic game.[154]

3.3.1 The Market Structure Hypothesis

The Market Structure Hypothesis contends to apply when a public agency seeks to disempower their regulatory intermediaries by obtaining the independent capacity to perform national surveillance. The Market Structure Hypothesis contends that the level of competition between regulatory intermediaries, will, all things equal, determine whether public agencies obtain the capacity to perform CNS. In other words, the primary causal factor is the structure of the market for regulatory intermediaries:

> The Market Structure Hypothesis:
>
> In *competitive* (*monopolistic*) markets for regulatory intermediaries, public agencies are more likely (less likely) to obtain the capacity to perform *Consolidated National Surveillance*.

Consolidated National Surveillance (CNS) is the dependent variable and refers a system capable of surveilling a great majority of the relevant data within a particular state.[155] The

[153] The closest exception is Mattli and Seddon (2015), who, in their analysis of international organizations as orchestrators, note that an orchestrator's relative power vis-à-vis an intermediary actor depends in part on the number of intermediaries available. This could also be interpreted as an analysis of how the 'market supply' of agents impacts their strategic interrelationship with their principal.
[154] A version of this sub-section has been published as a standalone article in *Regulation & Governance* (Kellerman 2020).
[155] The term 'great majority' is used here in acknowledgement that, in practice, very few surveillance systems can claim to have perfect coverage of all relevant data.

precise nature of these systems and the data they ingest depends on the issue area. With regard to market abuse, CNS refers to the capacity to simultaneously surveil all (or close to all) orders and transactions occurring within one state in at least one asset class to detect insider trading and manipulation. Public agencies that obtain this capability disempower their regulatory intermediaries (trading venues) by eliminating their exclusive capacity to monitor their own markets. CNS reverses, in other words, the informational asymmetry between public agencies and their regulatory intermediaries.

CNS is operationalized as a binary variable: public agencies either obtain this capability or they do not. Obtaining this capability does not necessarily preclude regulatory intermediaries from continuing to perform surveillance for other legal and/or commercial purposes. For example, a stock exchange may want to continue performing surveillance in order to ensure that the initial public offerings (IPOs) of newly listed companies operate smoothly.[156] Further, public agencies may want those regulatory intermediaries to continue performing surveillance to create multiple 'lines of defense' against the relevant phenomenon.[157] The key is that these public agencies are no longer *dependent* on their regulatory intermediaries. By 'winning' the domestic game and obtaining the capacity to perform CNS, these public agencies will now be able to engage in forms of international cooperation that require the direct exchange of data.

Competition is the independent variable and refers to the level of competition between regulatory intermediaries. This does *not* refer to competition between public agencies or what the RIT literature terms 'target actors' (e.g., nefarious actors engaged in market abuse). It is notoriously difficult to precisely define the competitiveness of a

[156] A disrupted IPO can have disastrous consequences. In 2012, for example, Nasdaq experienced technical failures during the IPO of Facebook, causing $500 million in losses for investors (Mathisson 2012).
[157] Regulatory supervision is referred to as the '4th' line of defense, which sits on top of the three lines of defense within a financial institution: management, compliance, internal audit (Arndorfer and Minto 2015).

market.[158] The most common method is to assess some combination of market share and firm quantity, but this often fails to capture other relevant factors such as barriers to entry, product differentiation, and dynamic components such as the presence of potential and/or in-progress entrants.[159] With these challenges in mind, competition is operationalized here as a binary market structural state: competitive and monopolistic. Monopolistic markets are characterized by the presence of a single, dominant regulatory intermediary, high barriers to entry, and dormant entrance threat. Competitive markets, in contrast, are characterized by the presence of numerous competing regulatory intermediaries, low barriers to entry, and an active threat of entry by new competitors (Table 3).

Table 3: Characteristics of Monopolistic and Competitive Market Structure Settings

	Number of Regulatory Intermediaries	*Barriers to Entry*	*Entrance Threat*
Monopolistic Markets	Low	High	Dormant
Competitive Markets	High	Low	Active

This binary conceptualization of market structure is a simplification. It does not, for example, address intermediate scenarios such as oligopoly (which, as discussed in Chapter 10, would be an excellent avenue for future research). What it does capture is that the likelihood of public agencies obtaining CNS depends on whether they are dealing with a monopolistic regulatory intermediary or a larger set of competing intermediaries with opposing interests. The hypothesized causal mechanism, to which I now turn, is the

[158] Linick (2014); Liu, Molyneux, and Wilson (2013); Marlow and Wright (1987); Papandreou (1949).
[159] Baker (2001); Roberts (2014, 914-21).

manner in which market structure conditions regulatory intermediaries' incentives to support or oppose the public agency's attempt to obtain surveillance powers.

3.3.2 Intuition and Causal Mechanism

The causal mechanism by which competition (*X*) is hypothesized to predict the success or failure of public agencies' attempts to obtain CNS (*Y*) is the manner in which market structure conditions regulatory intermediaries' incentives. Understanding the underlying intuition of this causal mechanism requires examining these incentives in two structural circumstances: competitive and monopolistic markets. For exposition purposes, I will begin by discussing the latter.

In *monopolistic markets*, the single, dominant regulatory intermediary has little incentive to sacrifice its exclusive power to create, implement, monitor, and/or enforce rules. This exclusivity is both commercially and strategically valuable. Monopolistic intermediaries with exclusive certification powers, for example, can utilize that exclusivity to engage in rent-seeking (i.e., imposing costs on other actors beyond that which is economically or socially necessary) and/or accrue consistent revenues as an industry's sole gatekeeper.[160] An example of the latter is the product safety certifier Underwriters Laboratories (UL), which long held a monopoly on the assessment of certain products because numerous U.S. statutes and regulations explicitly required firms to acquire UL stamps of approval.[161]

[160] Lizzeri (1999).
[161] Partnoy (2001, 506-8).

Monopolistic regulatory intermediaries can also use their exclusive powers to control other actors and protect themselves from outside interference. An example of particular interest here is exchanges' traditional surveillance role. For most of the 20th century, capital markets were highly concentrated, featuring one national exchange organized as a mutual cooperative owned by member broker-dealers.[162] Because these members were also the owners, there was a strong alignment of interests between broker-dealers and exchange management.[163] It is subsequently anticipated, therefore, that these monopolistic regulatory intermediaries would prefer to maintain the exclusive power to monitor their own markets. Exchange management may view this exclusivity as essential to maintaining its reputation.[164] Broker-dealer members, in turn, may anticipate that the exchange has greater expertise and will respond to their infractions with a lighter touch than a government agency performing CNS.[165]

Competitive markets, in contrast, provide regulatory intermediaries with incentives to *support* the public agency's obtainment of CNS (Table 4). Non-state actors may have various reasons to 'demand' increased regulation.[166] In a similar vein, regulatory intermediaries in competitive markets will have cost-saving and cost-imposing incentives to support the allocation of surveillance powers to the public agency.

[162] Karmel (2002); Mattli (2019).
[163] Baxter (1973); Floreani and Maurizio (2012); Geranio (2016); Stringham (2002); Zanotti (2012). In the language of the RIT governance model, there was a strong alignment of interests between Regulatory Intermediaries and Target actors (Abbott, Levi-Faur, and Snidal 2017).
[164] Mattli (2019).
[165] Consistent with concerns expressed by Pirrong (1995).
[166] Büthe (2010a); Green (2014, 51); Haddock and Macey (1987); Mattli and Woods (2009, 35).

Table 4: Regulatory Intermediaries' Incentives to Support Public Agencies' Obtainment of Consolidated National Surveillance

Cost-saving Incentives	*Cost-imposing Incentives*
A) Save costs by no longer having to perform task	E) Subject competitors to enhanced regulatory oversight
B) Reduce reputational risk of performing task	F) Impose costs on competitors and/or raise barriers to entry
C) Save costs by no longer having to rely on third-party services to perform task	G) Eliminate incumbent advantages
D) Save costs through centralization of task	H) Burden regulator and/or alternative intermediary with new task

This list is non-exhaustive and the precise incentives at play are expected to vary.

The first category is *cost-saving incentives*. In some circumstances, CNS may eliminate regulatory intermediaries' legal obligations and, therefore, the cost and reputational risk of performing the relevant task (*Incentives A and B*). Similarly, it may eliminate the costs of utilizing third-party services to perform said task (*Incentive C*). Another incentive to support CNS is to save costs through centralizing the relevant task (*Incentive D*). If, for example, regulatory intermediaries are required to report data to multiple institutions, streamlining this process via centralization may result in cost savings.

The second category is *cost-imposing incentives*. CNS may provide regulatory intermediaries with an opportunity to subject their competitors to enhanced oversight by the public agency (*Incentive E*). Private firms, for example, may know that their competitors are shirking their intermediary responsibilities. In the context of market surveillance, for example, one stock exchange might feel that a competitor intermediary (i.e., another trading venue) is purposefully performing weak monitoring in order to attract customers. This provides an incentive to support empowering the public agency to identify and punish such shirking. Regulatory intermediaries may also support CNS

because it will indirectly impose costs on competitors and/or raise barriers to entry (*Incentive F*). Securities regulators' efforts to acquire the capability to perform CNS, for example, may require constructing a new centralized database of market transactions funded by the industry. Incumbent regulatory intermediaries may support this process, not because they enjoy paying, but rather because it will impose a relatively larger burden on their competitors and raise the fixed costs of entering the market.[167]

In contrast, smaller and/or newer players may support CNS because it eliminates certain advantages enjoyed by incumbents (*Incentive G*). For example, incumbent regulatory intermediaries may enjoy limited legal liability or reduced tax obligations in return for performing surveillance.[168] CNS, by providing the public agency with the capacity to perform that surveillance itself, may eliminate or reduce the justification for maintaining these special benefits. This provides competing intermediaries lacking the same benefits with an incentive to support CNS. Finally, regulatory intermediaries may support CNS because they anticipate that this burdensome task will overwhelm the public agency's staff and/or distract them from other responsibilities (*Incentive H*). The underlying logic of this incentive is similar to 'document dump' tactics, whereby lawyers purposefully overwhelm opponents with large quantities of new data.

This list is non-exhaustive, and the precise incentives at play in any one strategic circumstance are expected to vary. These incentives are also based on actors' expectations about the distributive consequences of CNS. If public agency's attempt to obtain CNS is a protracted process, it is possible that regulatory intermediaries will actively update these expectations in response to new information.[169] As a result, the incentives at play may

[167] Oster (1982); Peltzman (1976); Stigler (1971).
[168] Karmel (2008); Nafday (2010); Orenbach (2011); Pacella (2012).
[169] See Wang (2003).

change over time. Finally, this thesis does not seek to anticipate the timing of public agencies' attempts to obtain CNS. It is preliminarily anticipated, however, that exogenous shocks revealing (a) the public agency's inability to perform certain tasks and/or (b) regulatory intermediaries' failure to perform said tasks sufficiently, are likely catalysts.

3.4 Theorizing the International Game

Once public agencies have acquired access to the relevant data, they may proceed to the international game. The pertinent question here is whether public agencies are performing CNS. To reiterate, having access to data and performing surveillance on that data are distinct (the former is a necessary condition of the latter, but not vice-versa). This sub-section presents *The Bureaucratic Self-interest Hypothesis* to theorize how public agencies' capacity to perform CNS impacts the outcome of the international game and, in turn, the form of cooperation utilized.

3.4.1 The Bureaucratic Self-interest Hypothesis

If public agencies have access to the data they wish to share (at time T_0) or have obtained that access by 'winning' the domestic game (T_1), they may proceed to the international game (T_2). Here they are faced with the question of whether to utilize Direct Information-sharing or an International Organization.[170] State and sub-state actors have various

[170] There are no circumstances in which a public agency performing CNS would choose to engage in Indirect Ad-hoc Information-sharing. This would be non-sensical. There is no reason for a public agency to request information from its regulatory intermediaries when it has direct access to that information through its performance of CNS.

reasons to participate in formal IOs. These IOs can, for instance, centralize tasks and act as an independent arbiter of international disputes.[171] Relatedly, IOs provide an opportunity to institutionalize rules, distinguish membership, and create an independent secretariat to facilitate regular interaction.[172]

The exclusive capacity to perform CNS is, however, highly valuable. As discussed in more detail below, it provides public agencies with power, material benefits, and ideational benefits. Public agencies performing national surveillance will, therefore, have bureaucratic self-interests to maintain their exclusive monitoring powers. The Bureaucratic Self-interest Hypothesis anticipates that these interests will outweigh (i.e., dominate) other considerations and lead those public agencies to reject the allocation of surveillance powers to an IO. These public agencies will, instead, choose to engage in Direct Information-sharing.

Alternatively, public agencies that are *not* performing CNS will have no bureaucratic self-interests to protect their (non-existent) surveillance powers. Under such circumstances, it is anticipated that these public agencies will view the allocation of surveillance power to an IO not as a threat, but rather an appropriate functional approach for detecting the relevant transnational phenomenon. Therefore, the key predictor of the international game is whether the relevant public agencies are performing or not performing Consolidated National Surveillance:

[171] Abbott and Snidal (1998, 4-5).
[172] Vabulas and Snidal (2013, 201). This facilitation of regular interaction is fundamental to the capacity of international institutions to address coordination and collaboration problems, including the prisoner's dilemma (for a summary of neo-liberal institutionalist theory on this topic, see Stein 2008).

The Bureaucratic Self-interest Hypothesis:

Public agencies that perform (do not perform) *Consolidated National Surveillance* are more likely to cooperate via *Direct Information-sharing* (an *International Organization*).

Consolidated National Surveillance (CNS) is the independent variable and, as noted above, refers a system capable of surveilling a great majority of the relevant data within a particular national jurisdiction. The dependent variable is the form of international detection cooperation, the definitions of which are provided in Section 3.1.

3.4.2 Intuition and Causal Mechanism

The causal mechanism underlying this hypothesis is, as the name suggests, bureaucratic self-interest. Namely, it is anticipated that public agencies performing CNS will have numerous incentives to maintain the powers and benefits it affords. These can be organized into three categories: power, material benefits, and ideational benefits (Table 5). The precise incentives at play in any one situation are expected to vary. Regardless of which incentives are present, it is anticipated that these will encourage public agencies to reject allocating surveillance powers to an IO.

Note that this does not mean that public agencies will reject involving an IO in systems of Direct Information-sharing. As previous studies have noted, IOs can incorporate transgovernmental networks of national regulators into their policy-making process, creating a synergistic relationship.[173] And, indeed, IOs can play a facilitating role in systems of Direct Information-sharing by maintaining shared databases, performing

[173] Eberlein and Newman (2008).

quality control, and acting as a central point of contact. INTERPOL plays precisely such a role by maintaining shared databases (e.g., the aforementioned database of facial recognition data) and, more generally, acting as an information-broker for national police agencies.[174] Providing an IO with the capacity and mandate to independently perform surveillance within states is, however, another proposition entirely. Unlike Direct Information-sharing, it eliminates public agencies' exclusive capacity to perform CNS. And, in so doing, it threatens to eliminate or reduce the powers, material benefits, and ideational benefits afforded by that exclusivity. The Hypothesis subsequently anticipates that this will provide public agencies performing CNS with various incentives to reject the allocation of surveillance powers to an IO.

Table 5: Bureaucratic Incentives to Reject Allocating Surveillance Powers to an IO

Categories	*Avoid loss/reduction of…*	
Power	I)	Internal power over domestic market, policy, and investigations
	J)	External power to act as informational gatekeeper
Material Benefits	K)	Employment
	L)	Expertise
	M)	Sunk costs
Ideational Benefits	N)	Prestige
	O)	Control of 'turf'

This list is non-exhaustive and the precise incentives at play are expected to vary.

First, the exclusive capacity to perform CNS is a significant source of internal and external power (*Incentives I and J*).[175] Internally, it allows public agencies to control their

[174] M. Barnett and Coleman (2005); INTERPOL (2020a); Sheptycki (2004, 2017).
[175] Foucault (1975, 176) neatly summarizes this power: "Hierarchized, continuous and functional surveillance may not be one of the great technical 'inventions' of the eighteenth century, but its insidious extension owed its importance to the mechanisms of power that it brought with it."

domestic markets, policy priorities, and investigations of undesirable activity.[176] That power would be lost or reduced if public agencies allow an IO to perform surveillance within their jurisdiction. The IO might, for example, raise concerns about particular actors and issues against the wishes of the public agency.[177] Further, it might identify activity the public agency missed (or chose to ignore), creating embarrassing questions about the agency's competence.

Externally, the exclusive capacity to perform surveillance provides public agencies with power vis-à-vis foreign actors. Namely, it allows the agency to act as an informational gatekeeper by controlling what data is made available.[178] This has multiple potential benefits. It may, for example, provide public agencies with bargaining power in international negotiations.[179] Further, it may allow public agencies to protect domestic individuals and firms from unwanted scrutiny by foreign actors.[180] And, in certain issue areas, public agencies may use their exclusive surveillance powers to 'control the narrative' about potentially-embarrassing events. China, for example, has been accused of purposefully withholding domestic data about the spread of the COVID-19 virus to control the perception of how its government handled the crisis.[181]

That gatekeeping power would be lost if the agency allocates surveillance powers to an international organization. If, for example, an IO such as the WHO could directly surveil disease outbreak data within China, this would undermine the government's ability to control the narrative. In other contexts, an IO might reveal sensitive information

[176] For a discussion of the extensive literature on the power afforded by surveillance, see Dandeker (1990); Hier and Greenberg (2009, 38-9).
[177] This risk might be particularly salient in countries with high levels of corruption, where public agencies might knowingly protect certain individuals or companies engaged in crime. A large literature exists on the corruption of civil servants (Borges et al. 2017; Buscaglia and van Dijk 2003; Svensson 2003).
[178] The term 'gatekeeper' has been used in various contexts. See Coffee (2006, 10, endnote 1).
[179] See, for example, the international negotiation of disclosure rules covered by Licht (1999).
[180] In some issue areas, such as SIGINT intelligence, this may be directly tied to national security.
[181] Albert (2020); BBC (2020); Belluz (2020); Brunnstrom (2020).

to other national public agencies. Further, the IO might use its surveillance powers to 'name and shame' individual public agencies (or states) as a means of encouraging them to adopt and/or alter certain policies. An example of this tactic is the Financial Action Task Force's (FATF) national compliance assessments.[182] The FATF is an IO that, *inter alia*, maintains a list of states considered to have weak measures against money laundering and terrorist financing.[183] Empirical work has indicated that FATF can influence states to alter their policies by placing them on this list.[184]

The desire to protect these internal and external powers reflect well-documented concerns about delegating tasks to international organizations. Such delegation presents the principal-agent problem.[185] State and sub-state actors (principals) must decide if they are comfortable delegating tasks to an IO (agent) whose preferences may diverge from their own.[186] The risk is that these IOs depart from their original mandate, engaging in activity that may be contrary to their founders' goals.[187] Further, allocating powers to an IO involves more general concerns often shared by national legislatures and executives about sacrificing sovereign control over the nation's internal affairs.[188]

Second, public agencies will reject an IO in order to preserve the material benefits afforded by their exclusive surveillance powers. Social scientists have long recognized that bureaucratic organizations seek to ensure their own survival.[189] As one classic study of bureaucracy summarizes, "The egotistical motives of self-preservation and of self-satisfaction are dominating forces."[190] In order to protect themselves, bureaucracies will

[182] Nance (2015).
[183] See FATF (2020).
[184] Morse (2019).
[185] Hawkins et al. (2006).
[186] Ibid, 24-31.
[187] Guzman (2013); Kellerman (2019); Vabulas (2019); Vabulas and Snidal (2013).
[188] For a review of the literature on this topic, see Epstein and O'Halloran (2008, 79-80).
[189] The canonical text is, arguably, Downs (1966).
[190] Barnard (1956, 139), quoted in Clark and Wilson (1961, 132).

redefine their goals, use self-promotional rhetoric, and/or 'mission creep' into areas outside the agency's original mandate.[191] Following these insights, it is anticipated that public agencies performing CNS will reject an IO in order to the avoid the potential loss of employment and/or expertise (*Incentives K and L*). Public agency staff members may fear that the allocation of surveillance powers to an IO will threaten their job stability and future prospects. Agency management, in turn, may fear that staff and expertise will gravitate toward the IO.

Further, public agencies will be incentivized to avoid wasting the sunk costs of achieving CNS (*Incentive M*). Sunk costs are costs that cannot be recovered.[192] And, as noted by behavioral economists, humans are vulnerable to the 'sunk cost fallacy.' The fallacy is the tendency to continue an endeavor once an investment has been made even if that is unpleasant (or sub-optimal), driven by a desire to avoid the feeling that the initial investment was wasted.[193]

Similarly, public agencies may view the allocation of surveillance powers to an IO as a waste of sunk costs. Significant upfront investments are necessary to acquire the capability to perform CNS. This includes, for example, the cost of establishing a dedicated department with the staff, expertise, and resources necessary to perform surveillance. Further, it may require the construction of a new, centralized database. Such databases can be expensive, particularly if it requires harmonizing numerous legacy reporting systems. Therefore, it is anticipated that these sunk costs will incentivize public agencies to reject the allocation of surveillance powers to an IO. Even if this allocation is

[191] Bedeian (1984, 131); Langevoort (1990); Warmington (1974, 107).
[192] Arkes and Blumer (1985, 124).
[193] For a more technical explanation, see Thaler (1980, 47).

considered the appropriate functional solution, public agencies' fear of wasting their initial investments will lead them to cooperate via Direct Information-sharing.

Third, public agencies will desire to maintain the ideational benefits afforded by their surveillance powers. One such ideational benefit is prestige (*Incentive N*). Working for the 'top' authority in any one field is prestigious, providing social currency and the perception of having authority.[194] Further, empirical studies have found that being associated with prestigious institutions can have a positive statistical impact on salaries and future employment prospects.[195] Another ideational benefit is the perception that the agency is in charge of their 'turf,' i.e., the breadth and depth of their bureaucratic authority (*Incentive O*). Organizations are highly sensitive about this topic, often willing to engage in 'turf wars' with rivals to preserve their authority.[196] The SEC, for example, has engaged in turf wars with its domestic counterpart, the Commodity Futures Trading Commission (CFTC), over the scope of financial instruments falling under each agency's respective jurisdiction.[197] Allowing an IO to perform surveillance, however, threatens both ideational benefits. It suggests that there is a 'higher' institution that is both more authoritative than the public agency (reducing prestige) and able to directly impede on their turf. The threat of losing prestige and turf will, therefore, provide public agencies with incentives to reject the allocation of surveillance powers to an IO.

The alternative situation is one in which public agencies have access to the relevant data but are *not* performing CNS. This situation may arise if, for example, public agencies are collecting the requisite data for other purposes. Certain agencies might, for

[194] Roucek (1957); Scott (1989); Treiman (1977).
[195] See, e.g., Erlandson (1963); Judge et al. (1995); Jung and Lee (2016); Melguizo and Strober (2007).
[196] T. Bach et al. (2016); Busuioc (2016); Finke (2019); Heims (2019); Lencioni (2006); P. S. Roberts (2009).
[197] Macey (1994, 939).

example, collect data to perform research, but have not spent the time and resources necessary to acquire the capability to surveil that data for misconduct. Therefore, because there is no bureaucratic apparatus dedicated to surveillance, the incentives listed in Table 5 are inapplicable. Under these conditions, it is anticipated that public agencies will, all things equal, view an IO as the appropriate functional solution for detecting the relevant transnational phenomenon.

3.5 Alternative Explanations and Confounding Variables

Before proceeding to this thesis' testing methodology, it is important to consider any plausible alternative explanations for why public agencies engage in different forms of international detection cooperation. This section considers three alternative explanations, which I term the Legal Argument, the Cost-benefit Argument, and the Party Politics Argument. The first two arguments are, I contend, unconvincing explanations for the empirical puzzle. The Party Politics Argument, however, presents a plausible alternative explanation for the outcome of the domestic game which, in turn, impacts the ultimate form of cooperation utilized. This thesis will, therefore, incorporate a test of this alternative explanation into its methodological approach.

Finally, this section considers a potential confounding variable, i.e., a variable that confounds the relationship between the independent and dependent variables, resulting in a spurious correlation.[198] This variable, which is relevant to two case studies, is the 2007-2009 Global Financial Crisis (GFC). The GFC could plausibly confound the causal relationship predicted by the Bureaucratic Self-interest Hypothesis for these case studies.

[198] On addressing confounding variables in case study analysis, see Gerring (2008).

If true, this would reduce our confidence in the hypothesis and the aggregate TLCF. To account for this possibility, this thesis will directly assess whether the GFC plays a confounding role in the relevant case studies.

3.5.1 The Legal Argument

One alternative argument is that variation in domestic laws will determine the form of international detection cooperation public agencies utilize. Existing studies have noted that inconsistent domestic laws are an impediment to information-sharing and joint enforcement actions.[199] Inconsistencies in data privacy laws, for example, can complicate the international exchange of information.[200] Another example is national inconsistencies in capital punishment law. Public agencies operating in states with laws against capital punishment may be unable to share information if that would lead to the extradition of citizens to a country with the death penalty.[201]

Is it possible, therefore, that the form of international detection cooperation will depend on whether public agencies have consistent domestic laws? Previous work has found, for instance, that states with similar institutional characteristics, including those related to legal systems, are more likely to engage in Mutual Legal Assistance Treaties (MLATs).[202] Following such observations, the Legal Argument might contend that public agencies with inconsistent domestic laws will reject any form of international detection

[199] Austin (2017); Martyniszyn (2015); Pitt, Hardison, and Shapiro (1987); Rider (1990); Trachtman (1994).
[200] See, e.g., Archick (2014, 7-10); Austin (2017, 155); Poullet (2004); Santolli (2008). For a practical review of the balance between privacy and effective information-sharing in the context of anti-terrorism, see Swire (2006). On the international political economy of data privacy and information-sharing, see Eberlein and Newman (2008); Farrell and Newman (2019); Newman (2011a, 2011b).
[201] de Felipe and Martín (2012); Finlay (2011, 604). Domestic, regional (e.g., EU), or international laws may also prevent the extradition itself (Clarke 2003; Clarke et al. 2004; Roecks 1994).
[202] Efrat and Newman (2018). See also M. van der Heijden (2019).

cooperation that involves the *continuous* exchange of data (namely: Direct Continuous Information-sharing or the allocation of surveillance powers to an IO). Such cooperation forms, because they involve the continues exchange of data, would preclude public agencies from making ad-hoc decisions about whether they can legally respond to individual information requests. The Legal Argument would, therefore, expect public agencies with inconsistent domestic laws (e.g., regarding data protection or capital punishment) to engage instead in ad-hoc systems of information-sharing.

The Legal Argument suffers, however, from three empirical and theoretical weaknesses. First, it fails to account for the variation in cooperation forms we observe, both for transnational market abuse and other policy arenas. In the EU, for example, energy regulators have agreed to allocate surveillance powers to ACER. This is consistent with the Legal Argument; EU states have common domestic rules regarding, for instance, data privacy and capital punishment.[203] The Legal Argument cannot explain, however, why EU securities regulators, operating in the same states and considering the proposal in the same time period, rejected allocating similar powers to ESMA. Further, states with inconsistent domestic laws have engaged in continuous methods of information-sharing. INTERPOL, for example, is an IO that facilitates Direct Information-sharing between national police agencies by managing shared databases such as the aforementioned Face Recognition System. In contradiction to the Legal Argument's expectations, however, INTERPOL includes the U.S. and EU states, which have divergent laws regarding data protection and capital punishment.[204]

[203] With regard to data protection, see the General Data Protection Regulation (GDPR) and its predecessor, the 1995 Data Protection Directive. With regard to capital punishment, see the Charter of Fundamental Rights of the European Union, Article 2.
[204] INTERPOL (2020b).

The Legal Argument also underestimates the potential for public agencies to make compromises in order to engage in forms of international detection cooperation that involve the continuous exchange of data. One example is the U.S. and EU's access to the the Belgian-based Society for Worldwide Interbank Financial Telecommunication (SWIFT).[205] SWIFT facilitates a global inter-bank messaging system that communicates the execution of financial transactions.[206] In 2006, the *New York Times* exposed that the U.S. Treasury Department was accessing SWIFT messages for counter-terrorism purposes.[207] This violated European data privacy laws, leading to a complex negotiation involving numerous actors within the U.S. and EU.[208] Eventually, concessions were made and U.S. Treasury retained its access to SWIFT via the Terrorist Financing Tracking Program (TFTP) Agreement.[209] Thus, in sum, divergent laws do not necessarily prevent states from engaging in certain forms of cooperation.

Second, public agencies have, in some instances, exhibited a willingness to violate domestic laws. The Five Eyes Network and related information-sharing processes have, for example, been accused of violating domestic privacy protections.[210] If public agencies are willing to simply ignore domestic laws, this undermines the argument that variation in such laws dictates how they cooperate with their foreign counterparts. At minimum, it suggests that in certain circumstances other factors are more important than law for explaining variation in cooperation forms.

[205] Detailed at length by Farrell and Newman (2019, ch. 4).
[206] Farrell and Newman (2014, 506).
[207] Farrell and Newman (2019, 95).
[208] Ibid, ch. 5.
[209] This does not necessarily imply that those concessions were balanced between the competing interests of security and data protection.
[210] R. Barnett (2015); Conrad (1984); Milanovic (2015); Norvell (2009); Sims (2005).

Third, and finally, the Legal Argument does not help us understand differences in public agencies' capacity to engage in indirect versus direct methods of information-sharing. The UK's FCA, for example, performs CNS and thus is capable of directly sharing information with foreign agencies. Austria's FMA, in contrast, relies on the Vienna Stock Exchange for surveillance and thus can only engage in Indirect Ad-hoc Information-sharing. The Legal Argument does not speak to this variation. This weakness is, I posit, attributable to its lack of attention to sequencing and the domestic politics of regulatory outsourcing. Specifically, it fails to account for how public agencies' outsourcing of surveillance in the *past* (at time T_{-1}) impacts their capacity and/or desire to engage in certain forms of cooperation in the *future* (at time T_{1+}).

3.5.2 The Cost-benefit Argument

Another alternative argument is that public agencies' decision to engage in certain forms of cooperation is based on apolitical cost-benefit analyses. Public agencies might determine, for example, that the costs of allocating surveillance powers to an International Organization outweigh its benefits. This could potentially be forwarded as an explanation for why most securities and energy regulators use Indirect or Direct Ad-hoc Information-sharing to detect transnational market abuse.

The Cost-benefit Argument suffers, however, from both empirical and theoretical weaknesses. In the context of market abuse, for example, IOSCO has identified numerous flaws associated with systems of ad-hoc information-sharing. These include slow response times, inconsistent formats for delivering data, and the complexities of

requesting information from private regulatory intermediaries.[211] Previous studies have corroborated that regulators are frustrated by these issues, which reduce their capacity to address transnational market abuse.[212] This raises questions about whether the benefits of these information-sharing arrangements truly outweigh their costs, particularly in comparison to other policy options such as the allocation of surveillance powers to an IO. Further, the cost-benefit analysis argument fails to explain why we observe ACER but no equivalent EU organization with the capacity to surveil trading in other asset classes. It is not obvious, for instance, that an IO for EU energy markets is more cost-effective than an IO for EU securities markets.

These empirical discontinuities suggest that the Cost-benefit Argument does not accurately explain why public agencies engage in different forms of cooperation. This is, I posit, attributable to its lack of attention to politics and sequencing effects. It is a truism to observe that public agencies (like many organizations) sometimes pursue inefficient policies.[213] And, as innumerable studies have observed, political forces are often contributing factors to such inefficiencies.[214] Further, studies of historical institutionalism have examined how previous events can, through sequencing effects, lead to sub-optimal future outcomes.[215] The TLCF improves upon the Cost-Benefit Argument by explicitly theorizing how politics and sequencing effects impact public agencies' capacity and/or desire to engage in certain forms of international cooperation.

[211] IOSCO (1993, 3-7; 1994; 2003; 2005, 10-5; 2009, 14-21; 2011; 2013, 22-30).
[212] Austin (2017); Cumming and Johan (2008); Mattli (2019); Williams (2015).
[213] For a review of literature on this topic, see Bartel and Harrison (2005).
[214] As Besley and Coate (1998, 139) neatly summarize, "…policies that would be declared efficient by standard economic criteria are not necessarily adopted in political equilibrium."
[215] Fioretos, Falleti, and Sheingate (2016); Katznelson and Weingast (2005); Levi (2008); Pierson (2000b, 2000a, 2004). With the caveat that optimality is often in the eye of the beholder.

3.5.3 The Party Politics Argument

One final alternative explanation worth considering pertains to the outcome of the domestic game. The TLCF assumes that the preferences of public agencies and their respective governments are broadly aligned. If, however, the political party in power is ideologically opposed to government regulation, might this impact whether public agencies successfully disempower their regulatory intermediaries and achieve CNS? Phrased differently, is it possible that the outcome of the domestic game will depend on whether the political party in power generally favors government regulation?

Political parties and executives often seek to influence the behavior of (what should be) independent public agencies.[216] They can, for example, appoint senior officials with similar political ideologies.[217] Further, legislatures normally control public agencies' budgets, and thus politicians may be able to influence their behavior by threatening to withhold financial appropriations.[218] It is plausible, therefore, that political actors would interfere in public agencies' disempowerment attempts in order to protect regulatory intermediaries' exclusive powers. In the context of this thesis, they might take steps to prevent public agencies from disempowering their regulatory intermediaries by obtaining the capacity to perform CNS.

The Party Politics Argument's theoretical expectations are difficult to precisely define. The 'party in power' may refer to executive or legislative bodies, but, in some circumstances, these bodies may be controlled by different parties. Further, it is difficult

[216] Devins and Lewis (2008); Ennser-Jedenastik (2015); D. E. Lewis (2008).
[217] D. E. Lewis (2008).
[218] Fenno (1966); Ting (2001). See also Stewart III (1989). States have been observed exercising similar tactics vis-à-vis IOs. The U.S., for example, has, on multiple occasions, threatened to withhold funding from the World Bank and regional Multilateral Development Banks in order to influence their policies, budgetary priorities, and individual lending decisions (Babb 2009; Kellerman 2019).

to precisely define what it means for a political actor to generally 'favor' or 'oppose' regulation.[219] For two of the case studies analyzed here, however, identifying these characteristics is clear. Namely, these cases take place in the U.S. during the Republican administrations of Ronald Reagan (1981 – 1989) and Donald Trump (2016 – present). These administrations are characterized by clear ideological opposition to government regulation. Therefore, they provide an opportunity to observe if party politics impacts the outcome of the domestic game.

The Party Politics Argument, if supported by empirical evidence, would reduce our confidence in The Market Structure Hypothesis. Such evidence would suggest that market structure is either unimportant or less important than party politics for explaining the outcome of the domestic game, and, in turn, the form of international detection cooperation we should observe. This thesis will, therefore, incorporate a test of this alternative explanation into its methodological approach.

3.5.4 The Global Financial Crisis as a Confounding Variable

Finally, this thesis will also examine the potential impact of a confounding variable: the 2007-09 Global Financial Crisis (GFC). Chapters 7 and 8 perform case studies on two instances in which regulators considered allocating surveillance powers to an IO. These involve EU energy and securities regulators debating the allocation of such powers to, respectively, ACER and ESMA. Both of these debates took place during and/or soon after the GFC. This crisis was, by multiple measures, the largest of its kind since the 'Great

[219] And, in many circumstances, coding political parties' positions as 'for' or 'against' regulation would greatly oversimplify reality.

Crash' of 1929.[220] It had a profound negative impact on European states' economies; the region's real Gross Domestic Product (GDP) fell by 4.2% in 2009 (with declines as high as 18% in Eastern Europe), unemployment soared, and numerous member states were plunged into lengthy sovereign debt crises.[221] The crisis also raised borrowing costs for EU electricity companies and was associated with a significant increase in 'energy poverty,' i.e., the inability of households to secure a minimum level of access to electricity and gas on a consistent basis.[222]

Numerous scholars have theorized that crises are exogenous shocks that can alter the balance of negotiating power, disrupt institutional equilibria, and change policy narratives.[223] Such shocks are highly relevant to the politics of financial regulation.[224] As one study summarizes, "Crises trigger ideational contestation and undermine the legitimacy of existing regulatory models."[225] And, indeed, the GFC had a tremendous impact on the design of financial regulation in Europe, inspiring a host of new directives covering banks, securities markets, and supervision.[226]

Following these observations, is it possible that the GFC is an exogenous shock that confounds the Bureaucratic Self-interest Hypothesis' theoretical expectations for the ACER and ESMA case studies? The GFC increased political will to more stringently regulate the financial sector. One might plausibly argue, therefore, that the GFC significantly increased the probability that EU energy and securities regulators would (a) consider allocating surveillance powers to an IO and (b) agree to do so. If true, this would

[220] Wheelock (2010). At the time of writing the COVID-19 pandemic threatens to overtake both events as the most severe financial and economic crisis in modern history.
[221] Yurtsever (2011, 689). 'Gross Domestic Product' is a monetary measure of the market value of all goods and services produced in a specific time period. 'Real' GDP is GDP adjusted for inflation.
[222] Oliveras et al. (2020).
[223] For a review (and critique) of this literature, see Mahoney and Thelen (2010).
[224] Quaglia (2012, 516).
[225] Ibid.
[226] Quaglia (2013).

reduce our confidence in the Bureaucratic Self-interest Hypothesis' capacity to explain these case studies. At minimum, it would suggest that our inability to 'control' for the GFC undermines accurate causal interpretation. Worse, it may suggest that these cases are driven not be the hypothesized independent variable, but rather anomalous, GFC-induced circumstances favoring increased market oversight in Europe. To account for this possibility, this thesis will directly evaluate the GFC's impact on both case studies.

3.6 Methodological Approach

To evaluate the TLCF's explanatory power, this thesis utilizes process-tracing, i.e., the evaluation of evidence within cases to determine if proposed causal mechanisms exist and operate as expected.[227] Each case study focuses on either a domestic or international game as a means of testing, respectively, The Market Structure Hypothesis and Bureaucratic Self-interest Hypothesis. Further, the case studies allow us to observe how the outcome of each game impacts the form of cooperation utilized. In so doing, we can test both the hypotheses and the aggregate explanatory framework.

Process-tracing is performed on five case studied 'structured' in a systematic manner to allow for comparison and 'focused' on the relevant empirical evidence (structured-focused comparison).[228] This method is appropriate for small-*n* research involving qualitative data and can be used to set clear, falsifiable standards for comparing hypotheses against alternative explanations.[229] This thesis does not employ quantitative methods for two reasons. First, there is an insufficient number of observations to generate

[227] Beach and Pedersen (2013); Bennett (2009); Collier (2011).
[228] See George and Bennett (2005).
[229] King et al. (1994, 45-6, 227). Also see Farrell and Newman (2010, 626) and Rueschemeyer (2003).

the statistical definition of 'significant' results.[230] Second, and more importantly, the TLCF theorizes that sequencing effects impact public agencies' capacity and/or preference to engage in certain forms of international cooperation. It would be extremely difficult, if not impossible, to infer from quantitative data whether the causal mechanisms underlying this process exist and operate as expected. Rather, it is more appropriate to investigate these mechanisms through comparative, within-case analysis.

3.7 Testing the Market Structure Hypothesis

The TLCF theorizes that, where public agencies lack access to the relevant data at time T_0, they will proceed to the 'domestic game' at time T_1. Here they will attempt to disempower their regulatory intermediaries and obtain the independent capacity to perform CNS. The outcome of this game is theorized to have downstream consequences for public agencies' capacity and/or desire to engage in certain forms of international detection cooperation. To predict the outcome of this game, this thesis has presented the Market Structure Hypothesis. This Hypothesis contends that market structure (independent variable) will, all things equal, determine whether public agencies successfully obtain the capacity to perform CNS (dependent variable).

To test (a) the Market Structure Hypothesis and (b) how the outcome of the domestic game impacts the ultimate form of international detection cooperation, I perform a structured-focused comparison of three case studies. In each case, a national securities regulator(s) (public agency) seeks to disempower trading venues (regulatory

[230] Mahoney (2003) contends, somewhat controversially, that the concept of statistical significance differs depending on whether one is engaging in (a) probabilistic analyses of large-n data or (b) deterministic analyses of small-n data based on the logic of necessary and sufficient conditions.

intermediaries) and acquire the independent capacity to perform CNS. The remainder of this section will define measurement thresholds for causal inference and explain the method by which these cases were selected.

3.7.1 Measurement Thresholds for Causal Inference

This thesis utilizes a mixture of the 'hoop' and 'smoking gun' tests to infer the causal accuracy of the Market Structure Hypothesis.[231] Hoop tests set conditions that a theory must satisfy to remain in consideration (necessary but insufficient conditions).[232] Here the 'hoop' that the hypothesis must jump through is that the presence of a competitive (monopolistic) market should result in the observation of the public agency obtaining (not obtaining) CNS. Any contradictions of these hypothesized causal pathways would constitute falsifying evidence. Smoking gun tests create conditions that are sufficient but unnecessary for confirming a hypothesis. The smoking gun here is evidence (or lack thereof) of regulatory intermediaries exhibiting and acting upon the incentives outlined in Table 4 (corroborating or falsifying the presence and operation of the hypothesized causal mechanism). Hoop and smoking gun standards, when combined, provide a 'strong' test of a hypothesis.[233]

To carry out these tests, we must establish clear measurement thresholds for the independent variable, dependent variable, and causal mechanism (summarized in Table 6). The dependent variable, CNS, is classified to have occurred if public agencies obtain the independent capacity to surveil the great majority of the relevant data within their

[231] Collier (2011).
[232] With the caveat that we can never fully eliminate a theory in social science given the ambiguity of the data (Beach and Pedersen 2013, 102).
[233] Van Evera (1997, 311).

state. In the context of market abuse, this amounts to the capacity to simultaneously surveil all (or close to all) orders and transactions occurring within one state in at least one asset class to detect insider trading and market manipulation. By obtaining CNS, public agencies disempower regulatory intermediaries by eliminating their exclusive capacity to monitor their own markets.

The classification of the independent variable, market structure, is based on the three market structural characteristics in Table 3: quantity of regulatory intermediaries, barriers to entry, and entrance threat. As discussed in the next sub-section, classifying the cases of interest here based on these characteristics is straightforward. Future applications of the hypothesis may, however, require quantitative measures of these characteristics depending on the industry and the variety of available observations.[234]

Finally, we must establish a falsifiable standard for (in) validating the presence and operation of the hypothesized causal mechanism. It is subsequently established that in a monopolistic market, regulatory intermediaries should exhibit zero incentives to support the public agency's obtainment of CNS. To the contrary, monopolistic regulatory intermediaries, motivated by a desire to retain their exclusive surveillance powers, should actively oppose the public agency's attempt. In contrast, regulatory intermediaries in competitive markets should exhibit and act upon one or more cost-saving or cost-imposing incentives (listed in Table 4) to support the public agency's obtainment of CNS. Failure to satisfy this threshold constitutes falsifying evidence and reduces our confidence in the Market Structure Hypothesis' explanatory power.

[234] If, for example, one wishes to evaluate the dynamics of oligopoly, it may be necessary to establish more precise thresholds for classifying a market as monopolistic, oligopolistic, and competitive.

Table 6: Measurement Thresholds for Causal Inference (Domestic Game)

Variable/Mechanism	Coding	Threshold(s)
The Market Structure Hypothesis		
Competition (*Independent variable*)	1/0	1: Competitive Market • Number of regulatory intermediaries: high • Barriers to entry: low • Entrance threat: active 0: Monopolistic Market • Number of regulatory intermediaries: low • Barriers to entry: high • Entrance threat: dormant
Consolidated National Surveillance (CNS) (*Dependent variable*)	1/0	1: Consolidated National Surveillance (CNS) • Public agencies develop the capacity to perform Consolidated National Surveillance, eliminating regulatory intermediaries' exclusive capacity to monitor their own markets
Regulatory intermediaries' incentives (*Causal mechanism*)	Letters representing incentives	In Competitive Markets • Regulatory intermediaries must exhibit and act upon one or more cost-saving or cost-imposing incentives to support the public agency's obtainment of CNS In Monopolistic Markets • Regulatory intermediaries must exhibit and act upon zero incentives to support the public agency's obtainment of CNS
Alternative Explanation: The Party Politics Argument		
Political party (*Alternative independent variable*)	1/0	1: Party in power generally favors regulation 0: Party in power generally opposes regulation
Interference (*Alternative causal mechanism*)	1/0	1: Party in power interferes in the public agency's attempt to achieve CNS to protect regulatory intermediaries' exclusive capacity to monitor their own markets

Process tracing will also be utilized to evaluate the Party Politics Argument as an alternative explanation for the outcome of the domestic game. The Party Politics Argument contends that the ideological orientation of the political party in power toward government regulation (independent variable) will determine whether public agencies successfully obtain CNS (dependent variable). The mechanism by which this effect might

occur is the political party interfering in the process to protect regulatory intermediaries' exclusive powers. As discussed in the next section, classifying the independent variable in the cases analyzed here is straightforward. Future tests may, however, need to establish more precise thresholds for measuring whether a political party (or parliamentary coalition) is generally for or against government regulation.[235]

3.7.2 Case Selection

The universe of potential cases includes any attempt by a public agency to disempower their regulatory intermediaries and obtain the independent capacity to perform CNS. This thesis, in line with its motivating empirical puzzle, will focus on securities and energy regulators (public agencies) attempting to disempower trading venues (regulatory intermediaries) by obtaining the capacity to perform CNS on their domestic markets. Prior research identified 14 such cases (Table 7).

Classifying the independent variable, market structure, for each case required prior research and an assessment of market conditions at the time of each regulator's attempt to achieve CNS. Generally speaking, however, this classification exercise was clear due to global market structural changes. Namely, for most of the 20th century, virtually every economy featured one dominant exchange (i.e., one dominant regulatory intermediary).[236] Network effects favored concentration; the more trading occurring on one exchange, the more attractive that exchange became, creating a positive feedback loop often referred to as 'liquidity begetting liquidity.'[237]

[235] On the complexities of classifying political parties' ideological positions, see Gunther, Montero, and Linz (2002).
[236] Floreani and Maurizio (2012, 98-9).
[237] Duboff (1983, 262); Michie (1987, 169-209).

Table 7: Classifications of Domestic Game Cases

State	Regulator attempting to obtain the capacity to perform Consolidated National Surveillance (CNS)	Approximate Time period	Monopolistic or Competitive Market (Independent variable)
U.S.	Securities and Exchange Commission (Market Oversight Surveillance System)	1978-1982	Monopolistic
U.S.	Securities and Exchange Commission (Consolidated Audit Trail)	2010-2019	Competitive
U.S.	Federal Energy Regulatory Commission	2006-2009	Competitive
Canada	Investment Industry Regulatory Organization of Canada	2007-2009	Competitive
U.K.	Financial Conduct Authority	2007-2010	Competitive
U.K.	Office of Gas and Electricity Markets	2012-2013	Competitive
Netherlands	Autoriteit Financiële Markten	2016-2017	Competitive
Netherlands	Autoriteit Consument & Markt	2015-2017	Competitive
Germany	Bundesanstalt für Finanzdienstleistungsaufsicht	2018-2019	Competitive
Italy	Commissione Nazionale per le Società e la Borsa	2010-2017	Competitive
Belgium	Financial Services and Markets Authority	2010-2012	Competitive
France	Autorité des Marchés Financiers	2008-2010	Competitive
Australia	Securities and Investment Commission	2009-2011	Competitive
Japan	Securities and Exchange Surveillance Commission	1991-1995	Competitive

Classifications are based on prior research. Note that the time periods are estimates, as it is not always clear when exactly regulators initiated their attempt to disempower their regulatory intermediaries by obtained the capacity to perform Consolidated National Surveillance.

Further, there were sizeable barriers to creating a new, competing exchange. Most notable were the costs of creating and maintaining a physical space where traders can interact. The New York Stock Exchange, for example, featured 15,000 square-feet of trading floor surrounded by 72-foot marble walls.[238] Replicating such a space was a substantial barrier to entering the 'market for markets' to compete with incumbent exchanges.[239] Thus capital markets featured few regulatory intermediaries (including a single, dominant player), high barriers to entry, and a dormant entrance threat (i.e., *monopolistic markets*).

[238] On NYSE's dimensions and member club, see Jacobs (2017) and Money-Zine (2019).
[239] Massimb and Phelps (1994, 43); Mattli (2019).

This situation changed in the 1990s, as technological advances made it possible to create new, electronic trading venues at relatively little cost.[240] The result was a proliferation of new trading venues and a reduction in exchanges' market share. Thus, since the early 1990s, capital markets have been characterized by a high number of competing regulatory intermediaries, low barriers to entry, and an active entrance threat (i.e., *competitive markets*).

Energy markets have followed a similar historical trajectory. Traditionally, energy provision was controlled by single, state-run suppliers.[241] In most states, these suppliers were natural monopolies with total control of the production and distribution of energy to consumers. Thus there was one, dominant player, insurmountable barriers to entry, and dormant entrance threat (i.e., *monopolistic markets*). In the late 1980s and 1990s, however, states gradually privatized their energy markets and allowed the price of gas and electricity to fluctuate based on market forces.[242] This transition, in combination with the reduced cost of electronic trading methods, led to a proliferation of competing energy trading venues.[243] Thus since the 1990s, energy markets have been characterized by a high number of competing regulatory intermediaries, low barriers to entry, and active entrance threat (i.e., *competitive markets*).

This set of cases allows for the 'diverse case' selection strategy, in which at least one case is selected from two or more sub-groups representing the full range of values for the independent and/or dependent variables.[244] Here we have two sub-groups based

[240] M. Lewis (2014); Mattli (2019); Mattli and Kellerman (2019); Michie (2006, ch. 8); S. Patterson (2012).
[241] Dahl (2015, ch. 5).
[242] Bacon (1995); Bacon and Besant-Jones (2001); Dagdeviren (2009).
[243] Cramton (2017); Massimb and Phelps (1994); Seddon (2019).
[244] Gerring (2008).

on whether a public agency sought to obtain the capacity to perform CNS in the context of a monopolistic (1 case) or competitive (13 cases) market.

To ensure representation of each sub-group, the sole case taking place in a monopolistic market is selected: the SEC's Market Oversight Surveillance System (MOSS). From the alternative sub-group, I purposefully select the other case involving the SEC: the Consolidated Audit Trail (CAT). These cases have the added benefit of the 'most similar' method, in which two cases are selected that are similar in all relevant respects except the independent variable of interest. Namely, they involve the same initiating actor (the SEC) and legal system but differ by whether they took place in a competitive or monopolistic market structural setting. These cases cannot, however, control for the possibility that there is something unique about the U.S. and/or SEC that is driving the results. To ameliorate this risk, I randomly select a third case: Canada's creation of the Investment Industry Regulatory Organization of Canada (IIROC).

The IIROC case is somewhat abnormal due to the peculiarities of Canadian provincial politics. Unlike virtually every state in the world, Canada does not have a federal securities regulator. Rather, it has 13 separate regulatory agencies for each of its provinces and territories (e.g., the Ontario Securities Commission and Financial and Consumer Affairs Authority of Saskatchewan). The desire to protect each region's independence has prevented the creation of a federal authority.[245] And, in a similar vein, allowing any one provincial regulator to perform market surveillance on another's 'turf' is politically sensitive. Therefore, Canadian regulators sought to disempower their private regulatory intermediaries (trading venues) by creating a new entity with the capacity to perform CNS on their collective behalf: IIROC. One might naturally wonder if this is

[245] Anand and Green (2011); Fraiberg (2011); Jordan (2008).

simply replacing one set of regulatory intermediaries with another. But unlike trading venues, IIROC is a non-profit regulatory agency that acts on behalf of Canadian regulators.[246] It reports any abnormal trades directly to each regulator, and those regulators can access its data at any time.[247] Therefore, although it is technically a separate organization, IIROC is functionally equivalent to obtaining CNS.

These three cases provide an opportunity to test both The Market Structure Hypothesis and the TLCF. Because the CAT project took place in a monopolistic market structural setting, it is anticipated that the SEC' attempt to obtain CNS will fail and, as a result, the Commission will continue engaging in the status quo mode of international cooperation: Indirect Ad-hoc Information-sharing. The MOSS and IIROC projects, in contrast, took place in competitive market structural settings. Thus we should observe the regulators successfully obtain the capacity to perform CNS and subsequently engage in Direct Information-sharing.

What would the alternative explanation, the Party Politics Argument, anticipate for these cases? The MOSS and CAT cases, both involving the U.S. SEC, were initiated by Democratic administration and concluded under Republican successors (the Reagan and Trump administrations, respectively). These Republican administrations exhibited a strong ideological aversion to government regulation of any kind.[248] The Party Politics Argument would, therefore, expect each administration to interfere in the SEC's attempt to obtain CNS in order to protect regulatory intermediaries' exclusive surveillance powers. In turn, the SEC will, according to the Party Politics Argument, be constrained to the status quo mode of cooperation: Indirect Ad-hoc Information-sharing.

[246] See OSC (2018).
[247] Interviews #32, 33, 34, 39, 40, 41.
[248] On Reagan's anti-regulatory stance, see Noll (1988). On Trump's anti-regulatory stance, see Brookings Institute (2020).

The third case study, IIROC, takes place in Canada during the 36th and 37th Canadian Parliaments. These Parliaments were consistently controlled by the Liberal Party of Canada, led by Prime Minister Jean Chrétien. Consistent with the Liberal Party's largely progressive agenda, the Chrétien Parliaments exhibited no aversion to regulation.[249] The Party Politics Argument would, therefore, not expect any interference in Canadian securities regulators' attempt to obtain CNS. Rather, it predicts that these regulators will successfully endow those powers to IIROC, which, in turn, will allow those regulators to engage in Direct Information-sharing.

3.8 Testing the Bureaucratic Self-interest Hypothesis

The TLCF theorizes that public agencies will enter the 'international game' under two circumstances. The first circumstance is when public agencies have access to the requisite data at time T_0 and thus can proceed directly to the international game. The second circumstance is when public agencies lack access to the requisite data at time T_0, proceed to the domestic game at time T_1, and win the domestic game by developing the capacity to perform CNS. In either case, these public agencies are then presented with the option of engaging in Direct information-sharing or allocating surveillance powers to an International Organization.

The Bureaucratic Self-interest Hypothesis contends that public agencies performing (not performing) CNS will, all things equal, engage in Direct Information-sharing (an International Organization) at time T_{2+}. An important implication of this Hypothesis is that public agencies who 'win' the domestic game will always choose to

[249] On the Chrétien governments' policy priorities, see Jeffrey (2010, chs. 9-11).

engage in Direct Information-sharing. Although they are capable of cooperating via an IO, they will reject that option in order to protect the powers and benefits afforded by their newfound capability to perform CNS. Thus the outcome of the domestic game alters not just public agencies' capacity, but also their preference, to engage in one form of cooperation or another.[250] In contrast, we will only observe the allocation of surveillance powers to an IO where public agencies have access to the relevant data at time T_0 but are *not* performing CNS on that data. Such public agencies have not invested the time and resources into achieving CNS, and thus have no bureaucratic self-interests to protect their (non-existent) surveillance powers.

To test this hypothesis, I perform a structured-focused comparison of two case studies in which public agencies debated allocating surveillance powers to an IO. The first case pertains to EU energy regulators debating the allocation of surveillance powers to ACER. The second case pertains to EU securities regulators debating the allocation of surveillance powers to ESMA. The former group possessed access to the relevant data but was not performing CNS on that data. Numerous members of the latter group, in contrast, had obtained the capacity to perform CNS on their respective markets. The Hypothesis would, therefore, expect these groups to engage in different forms of international detection cooperation (an IO and Direct Information-sharing, respectively). The remainder of this section will define measurement thresholds for causal inference and explain the method by which cases were selected.

[250] This reflects the 'eventfulness' of preference formation (P. Hall 2005, 136).

3.8.1 Measurement Thresholds for Causal Inference

Like the Market Structure Hypothesis, the Bureaucratic Self-interest Hypothesis is tested through a mixture of the hoop and smoking gun tests. Here the 'hoop' test is that the presence of public agencies performing (not performing) CNS should result in those agencies cooperating via Direct Information-sharing (an International Organization). Any contradictions of these hypothesized causal pathways would constitute falsifying evidence. The smoking gun is evidence (or lack thereof) of public agencies exhibiting and acting upon the bureaucratic incentives to reject an International Organization listed in Table 5. This evidence can corroborate or falsify the presence and operation of the hypothesized causal mechanism.

The dependent variable is the form of international detection cooperation public agencies utilize (Direct Information-sharing or an International Organization). The independent variable is classified based on whether any of the relevant public agencies are performing CNS. As noted previously, the general definition of this term is a system capable of surveilling a great majority of the relevant domestic data. For market abuse, this refers to a system capable of surveilling all (or close to all) orders and transactions in at least one asset class within a single state to detect insider trading and manipulation.[251]

Finally, it is necessary to establish a falsifiable standard for (in) validating the presence and operation of the hypothesized causal mechanism. Here that standard is as follows: in cases where some portion of the public agencies are performing CNS, we should observe at least one of those agencies exhibit and act upon bureaucratic incentives

[251] The term 'close to all' is included in recognition that very few systems can claim 100% coverage. A system capable of observing 95% of transactions, for example, would still be considered a consolidated system of national surveillance.

(listed in Table 5) to reject the allocation of surveillance powers to an IO. These agencies should, in other words, exhibit incentives to maintain the powers, material benefits, and ideational benefits afforded by their exclusive capacity to perform CNS. In contrast, if no public agencies are performing CNS, we should observe those agencies exhibit zero bureaucratic incentives to reject an IO. Because these agencies have yet to obtain the capacity to perform CNS, they should not view the allocation of surveillance powers to an IO as a threat. To the contrary, they should view this as an appropriate functional solution for detecting the relevant transnational phenomenon. Failure to satisfy this threshold constitutes falsifying evidence, reducing our confidence in the Bureaucratic Self-interest Hypothesis and the TLCF.

Table 8: Measurement Thresholds for Causal Inference (International Game)

Variable/Mechanism	Coding	Threshold
Consolidated National Surveillance (CNS) (*Independent variable*)	1/0	1: Some or all public agencies are performing Consolidated National Surveillance (CNS) *Definition of Consolidated National Surveillance for market abuse*: capacity to simultaneously surveil all (or close to all) orders and transactions occurring within one state in at least one asset class to detect market abuse
Form of International Detection Cooperation (*Dependent variable*)	1/0	1: Direct Ad-hoc Information-sharing 0: International Organization
Incentives to Reject the creation of an International Organization (*Causal mechanism*)	Letters representing incentives	<u>Where Consolidated National Surveillance is present:</u> At least one public agency must exhibit and act upon the incentives listed in Table 5 to reject the allocation of surveillance powers to an IO.

3.8.2 Case Selection

The universe of potential cases includes any situation in which multiple public agencies have considered allocating surveillance powers to an IO. This thesis, in line with its motivating empirical puzzle, will focus on attempts by securities and energy regulators to invest an IO with the independent capacity to surveil domestic capital markets for transnational market abuse. Prior research identified two cases, involving the potential allocation of surveillance powers to ACER (energy markets) and ESMA (securities markets). Note that, although there are only two available cases in this issue area, public agencies have debated allocating surveillance powers to IOs to detect a wide range of transnational phenomena. The Hypothesis and the TLCF claim to explain the full universe of cases, and thus their explanatory power is not limited to the cases analyzed here. As discussed in Chapter 10, evaluating the Framework's generalizability to cases in other issue areas is an appropriate next step for future research.

Classifying these cases required prior research on whether the public agencies involved were or were not performing CNS during the relevant time period (Table 8). This research indicated that, when EU energy regulators considered allocating surveillance powers to ACER, they *were not* performing CNS. In contrast, multiple EU securities regulators had achieved the capacity to perform CNS prior to considering the allocation of surveillance powers to ESMA.

This set of cases allows for the 'diverse case' selection strategy. There are two sub-groups: cases in which the relevant public agencies had (Sub-group 1: ESMA) or had not (Sub-group 2: ACER) achieved CNS prior to the negotiations. Both available cases are selected. It is, of course, difficult to make strong conclusions on the basis of two cases.

But this set does provide the advantages of the most similar method. Namely, each involves attempts by regulators in the same states (EU members) to address the same problem (transnational market abuse) in similar time periods (approximately 2000 – 2015). They differ, however, by whether the relevant public agencies had previously acquired surveillance powers.

Table 8: Classifications of International Game Cases

Public Agencies	Relevant IO	Approximate Time period	Public agencies already performing Consolidated National Surveillance (CNS)? (Independent variable)
EU securities regulators	ESMA	2000 – 2015	Yes
EU energy regulators	ACER	2005 – 2013	No

Classifications are based on prior research. Note that time periods are estimates, as it is not always clear when regulators initially considered allocating surveillance powers to an IO.

These cases provide an opportunity to test both The Bureaucratic Self-interest Hypothesis and the TLCF. The ESMA case involved public agencies that had already acquired the capability to perform CNS. As a result, we should observe those agencies (a) exhibit numerous incentives to reject the allocation of surveillance powers to an IO and (b) subsequently choose to utilize Direct Information-sharing instead. The ACER case, in contrast, featured public agencies that were *not* performing surveillance. Individual EU energy regulators had access to transactional data on electricity and gas products, which they used for other purposes (e.g., monitoring consumer energy costs). But the surveillance of that data for market abuse remained the responsibility of private regulatory intermediaries (namely: energy trading venues). Therefore, it is anticipated that these energy regulators will choose to allocate surveillance powers to an IO: ACER.

We must also evaluate, however, the potential confounding effect of the 2007-09 Global Financial Crisis. Both of these cases took place during and/or soon after the GFC. As noted above, it is plausible that the GFC significantly increased the likelihood of EU energy and securities regulators (a) considering allocating surveillance powers to an IO and (b) agreeing to do so. If true, EU energy and securities regulators should allocate surveillance powers to an IO (ACER and ESMA, respectively) rather than engage in Direct Information-sharing. Further, we would expect to observe these regulators cite the GFC as a primary motivating factor for this decision. Such evidence would decrease our confidence in the Bureaucratic Self-interest Hypothesis and the aggregate Framework's explanatory power.

3.9 Data, Ethics, and Collection Techniques

This thesis draws on data from three primary sources: archival materials, documents obtained from the SEC via a Freedom of Information Act Request (Case Number 18-01974-FOIA), and extensive elite interviews with practitioners. This section will provide more details on these data sources, discuss ethical considerations, and describe the method by which interview data was procured.

Archival materials were consulted at The New York Stock Exchange Archives in September 2018. This archive, which is not open to the public, yielded hundreds of letters, memos, reports, and private notes from the late 1970s and early 1980s related to the SEC's MOSS project. In the same month, archival materials were also obtained from the Ontario Securities Commission Library in Toronto, Canada. These include a wide variety of letters, memos, and reports on Canadian financial regulation ranging from 1944 to

2017. Finally, additional documentation of the SEC's MOSS program was obtained from the Commission via the aforementioned Freedom of Information Act Request. These documents were received on August 17th, 2018.

In addition to these materials, 86 elite interviews were conducted with regulatory practitioners in Oxford, London, Toronto, New York, Washington, D.C., Paris, Frankfurt, Bonn, Amsterdam, and The Hague. Ethical approval to conduct these interviews was obtained from the University of Oxford's Department of Politics and International Relations Research Ethics Committee on April 26th, 2018. These interviews are categorized as 'elite' because each person was purposefully selected based on their position and/or relevant expertise.[252]

Each interviewee was contacted via email and provided with full information about the purpose of the project (an example email template is provided in Appendix 1). The selection process also featured elements of the 'snowball' sampling method, whereby research participants are contacted with the help of other research participants.[253] In practice, this equated to interviewees voluntarily introducing the author to other interviewees within their social and/or professional networks. These introductions were helpful because the professional fields of financial regulation and white-collar crime investigations feature high levels of confidentiality and litigation risk. And, indeed, because the topic of this thesis is sensitive, the great majority of interviewees participated on the condition of anonymity.

Interviewees represent a wide range of current and former regulators, investigators, prosecutors, compliance officers, surveillance officers, traders, brokers, programmers, police officers, and foreign affairs specialists. In total, 194 individuals were

[252] On elite interviews, see Hochschild (2009).
[253] For a review of the snowball sampling method and its uses, see Browne (2005).

contacted, leading to 86 interviews, producing a positive response rate of approximately 44.3%. Approximately 75% of interviewees were male (compared to 25% female). This reflects more general gender imbalances in the financial services industry, which, despite efforts to create more equitable hiring and promotion practices, continues to be male dominated.[254] Appendix 2 provides descriptive statistics on the interviewee population contacted for this study.

3.10 Conclusion

Public agencies cooperate to detect a wide range of transnational phenomena. The form of international detection cooperation utilized, however, varies by issue area, jurisdiction, and time period. To explain this variation, this chapter has presented the Two-level Cooperation Framework. The TLCF demonstrates that public agencies' decision to outsource surveillance to regulatory intermediaries in the past (T_{-1}) impacts their capacity and/or desire to engage in certain forms of cooperation in the future (T_{1+}). This process is conceptualized as a sequential two-level game, involving public agencies v. regulatory intermediaries (domestic game) and public agencies v. public agencies (international game). To anticipate the likely outcome of each game, this chapter has also introduced, respectively, The Market Structure Hypothesis and Bureaucratic Self-interest Hypothesis. These hypotheses, in combination with the TLCF, can, I contend, anticipate the form of international detection cooperation public agencies utilize.

[254] In the UK, for example, 17% of FCA-approved individuals in 2019 [i.e., individuals performing senior business functions that must be registered and approved] were female, a figure that has not changed since 2005 (Croxson et al. 2019, 3). In the US, 21.9% of senior leadership roles in financial services firms in 2019 were held by women (Rogish et al. 2019). In Canada, approximately 18.2% of board seats among all companies were held by women in 2018 (MacDougall et al. 2019).

This framework advances our understanding of IPE in two primary ways. First, it challenges the widely held assumption that public agencies are *able* to cooperate by sharing data. As the TLCF demonstrates, public agencies often lack access to said data because of their previous decision to outsource surveillance to regulatory intermediaries. This decision prompts a series of political contests, the sequential outcomes of which will impact not just public agencies' capacity, but also their preference, to utilize certain modes of cooperation. Thus, by relaxing the aforementioned assumption, the TLCF unveils how sequencing effects impact regulatory capacity, preference formation and, ultimately, the nature of international regulatory cooperation.

Second, The Market Structure Hypothesis draws novel causal connections between industrial organization, RIT governance dynamics, and IR. Previous work has recognized that, under certain conditions, private firms may have strategic incentives to support increased regulation. This hypothesis is, however, the first to theorize that the level of competition between regulatory intermediaries will, all things equal, determine whether public agencies can reclaim outsourced functions. Further, the Market Structure Hypothesis, in combination with the TLCF, is the first attempt to theorize how the outcome of RIT strategic contests impacts the manner in which public agencies cooperate to address transnational problems.

The remainder of this thesis will test these expectations through a structured-focused comparison of five case studies. Consistent with the empirical puzzle that inspired this project, these case studies will focus on securities and energy regulators seeking to identify transnational market abuse. Through these cases, we can evaluate each hypothesis and the aggregate explanatory power of the TLCF.

4 Case Study: the Market Oversight Surveillance System

In the late 1970s, the SEC sought to acquire the independent capacity to perform nationwide surveillance of U.S. trading via the creation of the Market Oversight Surveillance System (MOSS). At the time, the SEC relied on stock exchanges to monitor their own markets for abuse. In the language of RIT governance, the regulator (SEC) relied on regulatory intermediaries (exchanges) to identify its target actors (criminals engaging in insider trading and market manipulation).[255] This arrangement allowed the SEC to avoid the costs of performing surveillance and benefit from stock exchanges' professional expertise. But it also created an informational asymmetry between the public agency and its regulatory intermediaries.

The MOSS project, if completed, would reverse this asymmetry. It would provide the SEC with the capability to perform Consolidated National Surveillance (CNS), thereby eliminating its dependence on its regulatory intermediaries. These intermediaries, in turn, would lose their exclusive power to monitor their own markets. This provides us with an opportunity to test whether The Market Structure Hypothesis accurately predicts the outcome of the 'domestic game.' Further, we can observe if the outcome of this game impacts the form of international detection cooperation the SEC utilizes in a manner that is consistent with the TLCF's theoretical expectations.

To undertake this analysis, this case evaluates empirical evidence drawn from four primary sources. First, the author consulted letters, memoranda, and reports at the New York Stock Exchange's high-security archives. These archives, which are not normally

[255] See Abbott, Levi-Faur, and Snidal (2017).

open to the public, yielded a wealth of original data on the MOSS initiative, particularly from the perspective of NYSE staff. Second, additional documents were consulted at the SEC Historical Society online archives. Third, evidence was obtained from archival sources of news articles in *The New York Times* and the now-defunct industry publication *Securities Week*. The fourth and final source of data was publicly available transcripts of Congressional hearings related to the MOSS initiative.

The empirical results corroborate the Market Structure Hypothesis and, more generally, the TLCF. In the language of the framework, the SEC lacked access to the requisite data at time T_0. It subsequently proceeded to the 'domestic game' at time T_1, where it sought to disempower its regulatory intermediaries and achieve the independent capacity to perform CNS. This disempowerment attempt occurred in the context of a monopolistic market structural setting, in which the New York Stock Exchange (NYSE) held, in effect, a natural monopoly on trading.

Consistent with the expectations of the Market Structure Hypothesis, the SEC failed to obtain CNS. NYSE, the monopolistic regulatory intermediary, exhibits no incentives to support the SEC's attempt. To the contrary, archival documents clearly indicate that the exchange viewed MOSS as a threat to its exclusive capacity to monitor its own market. To preserve the status quo, NYSE used delay tactics, lobbying, and the strategic recommendation of an alternative system to kill the initiative. As a result, the SEC failed to disempower its regulatory intermediaries and achieve CNS (i.e., it 'lost' the domestic game). Consistent with the TLCF's anticipated causal pathways, this resulted in the SEC continuing to engage in the status quo mode of international detection cooperation: Indirect Ad-hoc Information-sharing.

4.1 Theoretical Expectations

The SEC's attempt to obtain the capacity to perform CNS took place in the context of a *monopolistic* market structural setting. When MOSS was proposed, the U.S. featured multiple regional exchanges facilitating trading in equities. But the New York Stock Exchange was, in effect, a natural monopoly. By 1977, NYSE accounted for 84% of U.S. securities trading by dollar volume.[256] Further, its pre-tax income was approximately 10 times the size of its nearest competitor.[257] As one industry member observed in the late 1970s , NYSE was "by far the dominant market in the securities industry and has achieved an overwhelming concentration of trading…"[258]

And, indeed, NYSE personified the concept of liquidity begetting liquidity, in which user network effects encourage an increasing number of traders to coalesce around one venue.[259] High barriers to entry aided this dominance. One such barrier was the cost of establishing a new physical space where traders can interact. By the end of the 1970s, NYSE possessed an imposing neoclassical building on Wall Street, 15,000 square feet of trading floor surrounded by 72-foot marble walls, and one of the Financial District's most exclusive members clubs.[260] In 1978, the same year MOSS was proposed, NYSE's iconic status was solidified through its classification as a National Historic Landmark.[261] The cost of creating a comparable physical location for trading was, therefore, a sizeable hurdle to entering the 'market for markets' to compete with NYSE.[262]

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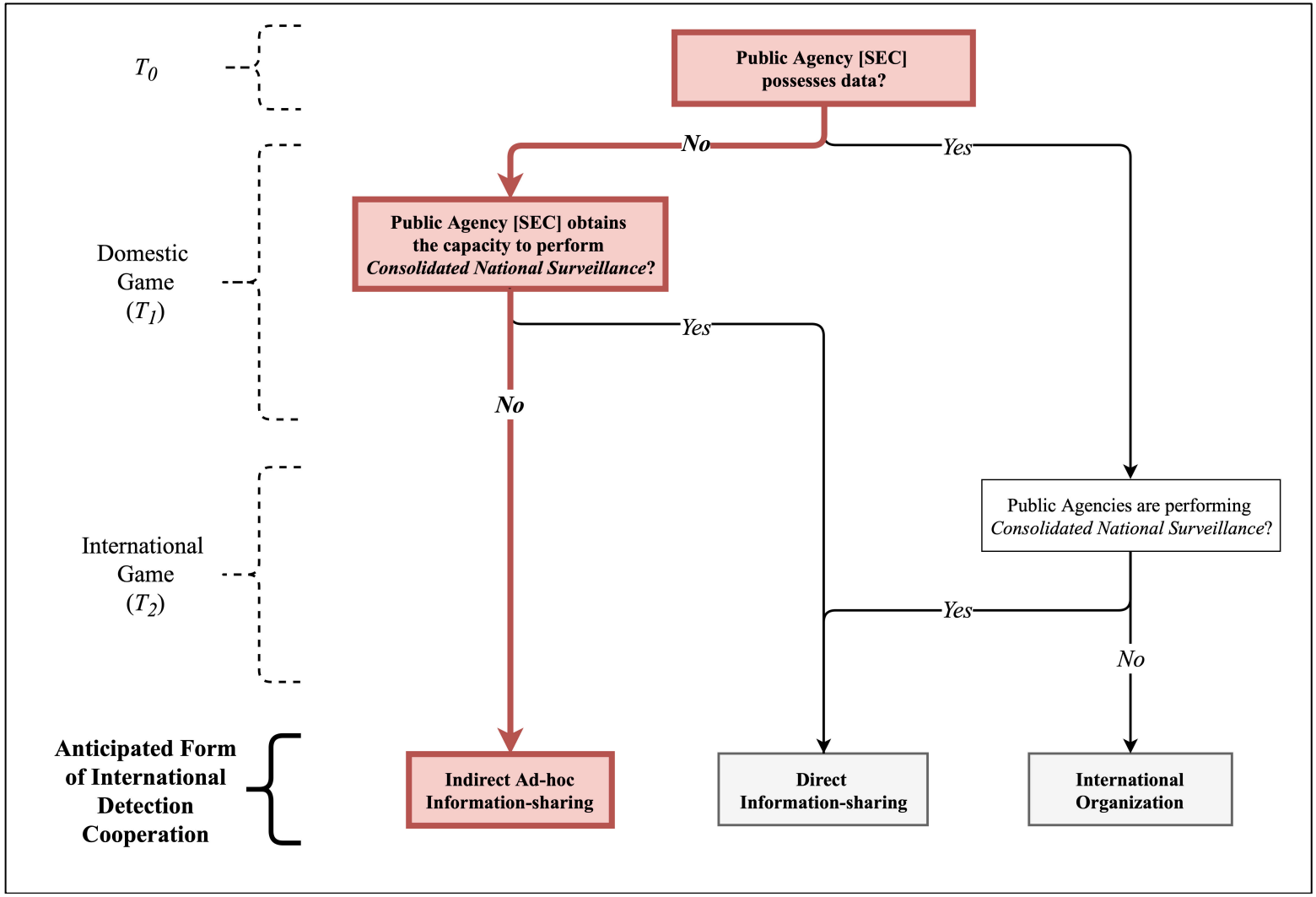
[256] SEC (1978, 987).
[257] In 1977, NYSE reported pre-tax income of $10,747,000. Its largest competitor, the American Stock Exchange, made $1,246,000 in the same year. (SEC 1978, 989).0
[258] SEC (1978, 988).
[259] Duboff (1983); Mattli (2019); Mattli and Kellerman (2019); Michie (1987).
[260] On NYSE's dimensions and member club, see Jacobs (2017) and Money-Zine (2019).
[261] See U.S. National Park Service (2018).
[262] On the transformation of this cost over history, see Mattli (2019).

This thesis has two subsequent theoretical expectations. First, in accordance with The Market Structure Hypothesis, it is expected that the SEC will fail to disempower its regulatory intermediaries and achieve the capacity to perform CNS. NYSE, the monopolistic regulatory intermediary, should exhibit no competitive incentives to support the SEC's MOSS project. To the contrary, NYSE should, according to the hypothesis, actively fight the regulator's disempowerment attempt in order to preserve its exclusive capability to monitor its own market. Second, the TLCF anticipates that the SEC, after having lost the domestic game, will continue to engage in the status quo mode of international detection cooperation: Indirect Ad-hoc Information-sharing (Figure 5). Because the SEC will fail to achieve CNS, it will be incapable of engaging in forms of cooperation that require the direct exchange of data (namely: Direct Information-sharing or an International Organization).

This chapter will also evaluate the Party Politics Argument as an alternative explanation. The MOSS project was initiated during the Democratic administration of Jimmy Carter and concluded soon after the election of his Republican successor, Ronald Reagan. President Reagan's tenure was characterized by a strong aversion to government regulation.[263] The Party Politics Argument would, therefore, expect the Reagan administration to interfere in the disempowerment process to protect regulatory intermediaries' surveillance powers. This interference might entail appointing SEC Commissions with shared ideological aversions to government regulation. Alternatively, the administration might, in conjunction with aligned members of Congress, threaten to withhold and/or reduce budgetary appropriations to the SEC.

[263] For a summary of these policies, see Noll (1988).

Figure 5: Expectations for MOSS Case Study



This figure pertains to the form of international detection cooperation the SEC is expected to utilize.

4.2 Initiation of Attempt to Achieve CNS

Over the course of the 1970s, U.S. markets experienced an explosive rise in the use of futures and options contracts.[264] These contracts, which provide the obligation or option to buy/sell some product in the future at a fixed price, have existed for centuries.[265] Their primary purpose is to hedge against the risk of unforeseen price movements in particular products (e.g., agricultural goods).[266] But they are also subject to speculation by traders who wish to buy and sell individual contracts at a profit without ever actually receiving the underlying goods. In the 1970s, the industry found new methods of trading derivative contracts on a wide range of products, including financial instruments such as stocks and bonds.[267] One unintended consequence of this trend, to the distress of the SEC, was a "rapid growth" in the appearance of market abuse.[268]

These developments raised concerns within the SEC about whether stock exchanges were fulfilling their obligations to perform market surveillance. Since the passage of the Securities Exchange Act of 1934, the SEC has relied on these exchanges to perform a wide range of regulatory duties, including surveillance.[269] In return for performing these quasi-governmental and quasi-judicial functions, the SEC grants these exchanges the special designation of Self-Regulatory Organizations (SROs). To this day, SRO status affords exchanges certain legal immunities against civil liability normally reserved for judges and government agencies.[270]

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[264] Purcell and Valdez (1976).
[265] Weber (2008).
[266] On hedging techniques, see Purcell and Valdez (1976, 561-65).
[267] Petzel (1995, 97-9).
[268] SEC (1978, 18, 125, 459).
[269] Stone and Perino (1995).
[270] Nafday (2010).

To assess the quality of SRO surveillance, the SEC initiated a review of exchanges' regulatory compliance departments in 1978. The results were not reassuring. As *The New York Times* summarized:

> A Securities and Exchange Commission staff report [asserts] that the nation's stock exchanges and brokerage firms ha[ve] failed to protect the investing public by adequately policing trading…the SEC staff report criticizes the exchanges…for deficiencies in their surveillance of trading…[271]

An internal memorandum to then-SEC Chairman John Shad added more color: "[the study found that] SRO surveillance functions were under-staffed, under-budgeted and to a significant degree, inadequately supported by automated capabilities."[272] And, as Table 9 summarizes, these deficiencies were widespread. NYSE was specifically criticized for inadequate record-keeping and its inability to identify traders on a routine, automated basis.[273] The study expressed particular frustration that NYSE had yet to develop an automated surveillance system despite the Commission urging the exchange to do so as early as 1963.[274] In light of these faults, the 1978 review concluded that "the lack of such essential surveillance information raises a substantial concern…regarding whether the exchange has the ability to fulfill its statutory responsibilities on a daily basis for each stock that is traded on the NYSE floor."[275]

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[271] Miller (1979).
[272] Milk (1981, 3). In a remarkable moment of corporate transparency, AMEX stated that it "recognizes the validity of the criticisms and consider them fair" (Miller 1979).
[273] SEC (1978, 24).
[274] Ibid, 223-9.
[275] Ibid, 228-9.

Table 9: SEC Criticisms of Exchange Surveillance Systems (1978-1979)

Exchange	*The SEC's Critiques*
American Stock Exchange (AMEX)	"…AMEX cannot identify, on a regular, automated basis, the brokers that execute each options trade or the firms that will clear the trade. Consequently, the AMEX must resort to the slow and costly process of manually reconstructing trading…" "…AMEX staff closed many cases with no action even though the circumstances suggested that a violation may have occurred."
Chicago Board Options Exchange (CBOE)	"The inspection team found inadequacies in the manner in which the CBOE seeks to detect certain trading violations."
Midwest Stock Exchange (MSE)	"…although MSE documents indicated the exchange had detected numerous instances of [suspicious] trading…no records were maintained indicating whether any subsequent investigation was done." "…MSE investigations that were conducted were often incomplete and concluded prematurely."
New York Stock Exchange (NYSE)	"…NYSE does not have the ability to identify, on a routine, automated basis, the participants in each stock trade…" "…NYSE [does not] maintain a record…which indicates the parties, the reporting time, and the terms of each NYSE stock trade." "…despite the NYSE's recent initiation of a multi-million dollar 'trading facilities upgrade project,' the exchange has not yet committed itself to obtain regularly the surveillance information that it lacks."
Pacific Stock Exchange (PSE)	"This inspection disclosed certain inadequacies in some of the exchange's systems which monitor compliance by market professionals with trading rules…"
Philadelphia Stock Exchange (PHLX)	"…much of the investigatory process was informal and undocumented."

Critiques of the AMEX, MSE, NYSE, and PSE derive from SEC (1978, 22, 24, 30, 31, 32). Critiques of the CBOE and PSE derive from SEC (1979, 16-7).

These shortcomings were particularly concerning given the report's other major finding that the SEC was severely ill-equipped to perform surveillance and must rely entirely on the SROs: "…the Commission was shown to be totally dependent on these other organizations to supply us with even the most basic information concerning the marketplace."[276] The SEC subsequently concluded that it needed to enhance its own independent surveillance capabilities by creating a new in-house mechanism: the Market Oversight Surveillance System (MOSS). This would have multiple benefits:

> In addition to providing the Commission for the first time with a direct surveillance capability over trading activities on all of the nation's stock and options markets, the proposed system will facilitate many existing Commission functions such as the inspection and regulation of self-regulatory organizations and the examination of registered broker-dealers.[277]

Although not framed in such terminology at the time, this process involved the disempowerment of U.S. exchanges. The MOSS project would provide the SEC with the independent capability to perform CNS on America's capital markets to detect insider trading and manipulation. This newfound capability would, in turn, eliminate stock exchanges' exclusive powers to monitor their own markets. The Market Structure Hypothesis anticipates that monopolistic regulatory intermediaries will not be interested in sacrificing their exclusive regulatory powers. And, indeed, as the next section corroborates, NYSE was strongly opposed to the SEC's attempt to obtain CNS.

[276] Milk (1981, 3).
[277] SEC (1980, 1).

4.3 Exhibited Incentives of Regulatory Intermediaries

At the time of MOSS's introduction, NYSE was a non-profit, mutual organization owned by its member broker-dealers. This does not necessarily imply that the exchange's management team and its members always agreed. But available evidence suggests that there was a strong, aligned preference to maintain the exchange's exclusive capacity to perform trade surveillance. In a 1981 speech expressing deep concerns about the SEC's proposal, NYSE President John J. Phelan remarked:

> The fact remains that *self-imposed discipline* is always more effective—and certainly more palatable—than *discipline imposed from outside*…it is in the best interests of each self-regulatory organization to strive to provide the trading environment, the services to members—and the self-regulatory oversight—that help them maximize the efficiency of their service…[278]

And, indeed, member broker-dealers had ample reason to suspect that *discipline imposed from outside* would be tougher than the status quo. The 1978 review clearly expressed the SEC's dissatisfaction with the SROs' surveillance activities. Further, in an April 1980 letter to Congressman James Scheuer, SEC Chairman Harold Williams alluded to a potential conflict of interest undermining the SROs' monitoring efforts:

> A stock exchange…is expected to perform what are sometimes two mutually inconsistent roles. As a marketplace, it competes for business and depends upon

[278] Phelan (1981b, 3, 10, emphasis added).

> the support of its members for economic survival, while at the same time regulating the conduct of those members. Obviously, there are times when the self-regulators may have difficulty in balancing the interests of their members against their duties and responsibilities...[279]

Chairman Williams' feelings would have been painfully clear to the exchanges; he forwarded his letter directly to NYSE's Chairman of the Board the next day.

The SROs were immediately troubled. Archival documents indicate substantial internal discussion at NYSE over their concerns and how best to express them to the SEC and Congress.[280] The evidence clearly indicates that the SROs' primary concern was the threat of MOSS to their traditional oversight role. As one NYSE employee concludes in an internal memorandum, "The objective of the statutory scheme [of self-regulation] is for the SEC to ensure that the SROs do their job properly, not for the SEC to take the job away from them."[281] This concern was corroborated by *Securities Week*, who reported that the SROs "fear that MOSS could usurp their surveillance roles."[282] Thus, consistent with the expectations of The Market Structure Hypothesis, NYSE exhibits no competitive incentives to support the SEC's attempt to obtain CNS. To the contrary, the evidence indicates that NYSE preferred to self-regulate rather than allow the SEC to independently monitor its members' trading activity. But the exchange was not satisfied to keep its concerns to itself. Rather, NYSE was poised to engage in a purposeful campaign to kill the MOSS before it saw the light of day.

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[279] Williams (1980, 2).
[280] Kittell (1980); NYSE (n.d.).
[281] Brunelle (1980).
[282] Securities Week (1980).

4.3.1 NYSE Expresses its Concerns to Congress

The SEC planned to implement MOSS over a period of five years. This plan was initially received favorably by the U.S. House of Representatives and Senate, which jointly stated at its initial budget authorization that "…the proposed MOSS system is *essential* to the performance of the Commission's traditional oversight functions…"[283] In response to "industry concerns," however, Congress established a six-month regular reporting period on the progress of the initiative, providing SROs with an opportunity to "evaluate any burdens crated by MOSS" at each interval.[284]

To evaluate the benefits of CNS, the SEC created a MOSS pilot program. The Commission's headquarters in Washington, D.C. lacked the infrastructure necessary to host the requisite computer hardware.[285] Therefore, the pilot was operated in New York City. The system received quotation and trade data on stocks and options listed on the NYSE, AMEX, CBOE, PSE, and PHLX.[286] The SROs delayed the receipt of this data by raising questions about how the Commission would ensure that information on their broker-dealer members would remain confidential.[287] After the SEC assuaged these concerns, MOSS began applying 13 algorithms to detect irregular trading activity in 670 stocks and 20 options classes.[288] These numbers were slowly increased over the period of

[283] Quoted in SEC (1981a, 2, emphasis added).
[284] Milk (1981, 5). See also Shapiro (1984).
[285] SEC (1981a, 5).
[286] Ibid, Attachment A.
[287] Ibid, 6-7.
[288] Much like contemporary market surveillance, these algorithms were programmed to raise an alert when certain thresholds of suspicious trading were passed. Examples of these thresholds include: "Occurrence of greater than normal volatility in individual equity securities" and "an unusually high percentage of trading volume in a single security accounted for by a relatively small group of market participants…" (SEC 1981a, 14). The precise definition of terms such as 'normal volatility' and 'unusually high percentage' were kept secret because knowledge of these thresholds would allow nefarious traders to work around them.

the pilot program, and it was anticipated that, once fully operational, MOSS would surveil 6,500 stocks and 274 options classes in real-time.[289]

Evidence suggests that the pilot was successful: 25% of the alerts generated by MOSS had not been identified by any one SRO.[290] Further, MOSS provided the SEC's inspections staff with new tools to evaluate whether SROs were fulfilling their regulatory obligations. In January 1981, for example, the Commission observed that AMEX and CBOE's surveillance was based on inadequate transactional data.[291] One month later, the SEC used MOSS printouts to identify specific issues with AMEX's data streams, resulting in a deficiency letter expressing the Commission's dissatisfaction.[292] The SEC later reported to Congress in its first six-month review, "Both inspections were among the most precise, most productive, and least costly surveillance inspections conducted by the Commission in some time."[293]

But, because the pilot required government funding, NYSE had an opportunity to voice its concerns at appropriations hearings. The primary battle took place on March 20th, 1980, when the Congressional Subcommittee on Consumer Protection and Finance considered appropriations to the SEC for fiscal years 1981-1983.[294] Prior to the commencement of the hearings at 9:30 a.m., NYSE's John McConnell discussed MOSS with Congressmen Richard Ottinger (D, NY-24), Tom Luken (D, OH-2), James Scheuer (D, NY-11), and Matthew Rinaldo (R, NJ-12).[295] And, as Table 10 indicates, NYSE appears to have been successful in communicating its various points of concern to

[289] SEC (1981a, 3, Footnote 6).
[290] SEC (1981b, 13).
[291] SEC (1981a, 22).
[292] Ibid, 22-3.
[293] Ibid, 23. Equally impressive, the system was running approximately $200,000 under budget in FY 1981 with an additional $300,000 in budget surplus project for FY 1982 (Milk 1981, 7).
[294] U.S. Congress (1980).
[295] McConnell (1980).

Table 10: Comparing Concerns: NYSE v. Members of Congress

Draft Questions in NYSE Memoranda	→	*Concerns Expressed by Members of Congress*
"To what extent have you explored the possibility of having a system like MOSS developed in cooperation with the Self-Regulatory Organizations…?"		"Have you considered the possibility of developing MOSS in cooperation with the self-regulatory organizations…?" *Senator Richard Lugar (R, IN) Letter to SEC's Harold Williams*
"How do you expect support for a program which admittedly duplicates much of the surveillance inputs which currently exist at the self-regulatory organizations."		"To what extent will MOSS duplicate existing market surveillance systems of the self-regulatory organizations?" *Senator Richard Lugar (R, IN) Letter to SEC's Harold Williams* "Is there unnecessary duplication?" *Congressman Matthew Rinaldo (R, NJ) in Appropriations Hearing*
"What costs have you projected the securities industry will have to bear – or the consumer to whom they might pass such costs along…?"		"I would like to know what costs you have projected that would have to be borne by the securities industry or by the consumer to whom they might pass on such costs…" *Congressman Matthew Rinaldo (R, NJ) in Appropriations Hearing* "Do you expect that any costs incurred by the industry as a result of MOSS will be passed through to securities customers?" *Senator Richard Lugar (R, IN) Letter to SEC's Harold Williams*
"Are there any guarantees or safeguards that MOSS will not evolve from a surveillance system into a trading system…?"		"[the SROs fear] that it might create a capability of MOSS becoming in effect an electronic marketplace that would threaten them." *Congressman James Scheuer (D, NY) in Appropriations Hearing* "…you don't think [MOSS] conceivably could develop into an electronic marketplace?... Obviously, the SROs are suspicious that that is the direction you are going; isn't that right?" *Congressman Tom Luken (D, OH) in Appropriations Hearing*

members of Congress, who repeated these misgivings (almost verbatim) during the appropriations hearing or in personal letters to the SEC.

And, indeed, the hearing did not go well for SEC Chairman Williams. The aforementioned Congressman expressed deep concerns on behalf of the SROs, best summarized by Subcommittee Chair James Scheuer: "the general feeling we get from the industry [is] that they have a queasy feeling about the cost of MOSS, about how MOSS will interface with them, and about how MOSS will affect the traditional role of the SROs. *They have a general feeling that it is a threat to them*…"[296] Two NYSE staff members present at the hearings indicated their satisfaction by reporting back to headquarters that "…it was mostly downhill for Williams…[Congressmen] Luken and Rinaldo *pummeled* Williams with repeated questions and charges."[297] This pummeling substantially reduced enthusiasm for the project at a crucial stage of its development. NYSE would follow this victory with a final, decisive blow: propose that the exchanges perform cross-market surveillance themselves as an alternative to MOSS.

4.3.2 NYSE Proposes an Alternative: The ISG

Building on its victory in Congress, NYSE led the SROs in a collective effort to propose an alternative to the MOSS: the Inter-Market Surveillance Group (ISG). The ISG was proposed as a mechanism to facilitate information-sharing between the exchanges on a

[296] U.S. Congress (1980, 132, emphasis added).
[297] Lyons and Day (1980, 3, emphasis added).

routine or 'request' basis and, "where appropriate," the SEC.[298] This proposal was received favorably by the SEC's new Republican Chairman, John Shad.[299]

Why would Shad accept ending MOSS in favor of the ISG? One might point toward Shad's deregulatory ideology. This ideology was personified in a *New York Times* profile, in which Shad opined that SEC reporting requirements should be reduced because disclosing unfavorable information hurts corporations' images.[300] But another clue can be found in an internal memo between David Morf, SEC Management Analyst, and Executive Director Kundahl. Morf passes a message from a colleague to Kundahl suggesting that Shad's "real agenda is not to find himself in the uncomfortable position of explaining publicly why the SEC failed to detect market problems after Congress gave the Commission a charter and money to create MOSS."[301] In other words, passing the buck would eliminate the SEC's responsibility to operate MOSS effectively.

As the ISG developed, however, SEC staff grew agitated with its slow pace.[302] The SROs dragged their feet on constructing the consolidated audit trail of transactional data upon which the ISG concept was based. In response to a SEC staffer's question if the ISG had developed any audit trail prototypes, a representative of PHLX asked, "Are you rehearsing your Vegas comedy routine?"[303] The same report laments that the ISG's data processing staff had just one meeting in the organization's first seven months, raising questions as to whether there was a serious commitment to meeting deadlines. Further, the information shared thus far consisted of reports rather than hard data, which

[298] Phelan (1981a, 13).
[299] Shad (1981).
[300] Gerth (1981).
[301] Morf (1981).
[302] Ginion (1981).
[303] Ibid.

"precludes intelligent usage" and "obviates a commitment of data processing efforts and reduces the utility of the data in the surveillance effort."[304]

An internal SEC memorandum was more damning. A Commission staffer reported that NYSE's plans for an audit trail consisted of having brokers throw their execution tickets into a bin on the floor, which would then be collected, sorted and shared with other venues as needed.[305] Those tickets would not, however, be checked for accuracy or automated. The frustrations of SEC staff are palpable:

> This plan would have practically no impact on [the] current surveillance activities of the exchange, and would only slightly expedite certain investigative procedures at the NYSE. Moreover, it would have, at best, a minimal impact on inter-market surveillance because it would not routinely identify the parties to each NYSE trade. *Essentially it leaves us exactly where were on May 8, 1980*. In order to determine whether trading is sufficiently suspicious to warrant [a] surveillance inquiry a major trade reconstruction effort is necessary. Thus most suspicious trading would never be observed and would never be investigated. For these reasons, *the proposed 'audit trail' by the NYSE cannot be accepted as a basis for pulling back on MOSS*.[306]

Despite these warnings, the SEC did in fact pull back on MOSS, publicly committing to scale down its plans in favor of the ISG. In light of NYSE's failure to establish a firm implementation timeline, an internal SEC memo recommended a modest expansion of

[304] Ginion (1981).
[305] Shea (1981, 1).
[306] Ibid, 2.

the MOSS pilot in 1982 simply to avoid the impression that "the Commission is relinquishing its leverage before...commitments have been fulfilled."[307]

The ISG has slowly developed into an international private association of member exchanges. It has no permanent secretariat and publishes little information about its activities.[308] Interviewees explained that the ISG holds two conferences per year focused primarily on sharing methods.[309] It also provides a mechanism for sharing information in the event that one exchange suspects wrongdoing that may involve another exchange.[310] But this does *not* entail ongoing surveillance of cross-market trading.[311] Rather, it is an *ad hoc* information-sharing arrangement, and thus not a true replacement of MOSS. Thus NYSE, through delays, lobbying, and the strategic proposal of an alternative system, successfully defeated the MOSS initiative. As a result, the SEC failed to disempower its regulatory intermediaries and achieve the independent capability to perform CNS. In the terminology of the TLCF, it 'lost' the domestic game. And, consistent with the framework's expectations, this loss resulted in the SEC continuing to engage in the status quo mode of international detection cooperation.

4.6 Outcome: Indirect Ad-hoc Information-sharing

Because the SEC failed to create MOSS, it continued to engage in the status quo mode of international detection cooperation: Indirect Ad-hoc Information-sharing. If a public agency in another national jurisdiction required data on U.S. trading, the SEC would not

[307] Scarff (1981).
[308] Austin (2017, 56).
[309] Interviews #3, 11, 14.
[310] Interview #38.
[311] Interviewees #3, 11, 14, 32, 33, 34, 38.

be able to immediately respond. Rather, the Commission would have to request that data from U.S. exchanges (e.g., NYSE), on whom they remained dependent for market surveillance. Michael Mann, the SEC's first Direct of the Office of International Affairs, noted that in the 1980s and 1990s the SEC's actions on international enforcement "was really dealt with on a much more ad hoc basis."[312] Mann confirmed via interview that the SEC would only be able to acquire detailed information by going through the exchanges and their broker-dealer members: "…we used to find out through what was called the 'blue sheet' process, which was to ask the broker: who are you trading for? And then find out who they were trading for. And then you would know if it was international or not."[313] Therefore, in the event that foreign public agencies requested data, the SEC did not have that data at its fingertips: it had to go through its regulatory intermediaries.

Over time, the SEC has entered into numerous MoUs with foreign securities regulators to encourage information-sharing. But these agreements do not alter the fundamental nature of the process, in which the SEC must request data from its regulatory intermediaries before sharing that information with its foreign counterparts. And, as Mann has noted, these MoUs are unenforceable statements of intent.[314] Their effectiveness is highly dependent on the willingness of regulators to provide quick and accurate responses to one another's requests: "If it doesn't work fast; if you don't have a meeting of the minds on both sides; it's just not going to work…no one was going to go off and spend their career litigating the agreement after the fact at the Hague…"[315] The necessity of requesting data from regulatory intermediaries can substantially slow down this process. These intermediaries may challenge the request, fail to respond, or inform

[312] Carroll (2005, 2).
[313] Interview #58.
[314] Carroll (2005, 9).
[315] Ibid.

suspects (whether purposefully or inadvertently) that they are under investigation by a foreign regulator.[316] Another risk is that the SEC is unable to detect transnational market abuse because it lacks access to data within its own jurisdiction. One provider of market surveillance technology interviewed for this study was confident: "[there are] giant cross-border gaps – they'd never know. There's probably a lot being missed."[317] Thus, in sum, the outcome of the MOSS case is clear. Because the SEC was unable to disempower its regulatory intermediaries and achieve the capacity to perform CNS, it continued to engage in Indirect Ad-hoc Information-sharing.

4.7 Analysis

The MOSS project was an attempt by a public agency to disempower its regulatory intermediaries and achieve the capacity to perform CNS. Consistent with the expectations of the Market Structure Hypothesis, the SEC's attempt to create MOSS failed. The dominant regulatory intermediary, NYSE, exhibits no competitive incentive to support the initiative. To the contrary, the evidence clearly indicates that NYSE viewed MOSS as a threat to its exclusive power to self-regulate. To maintain this power, NYSE used delay tactics, lobbying, and the strategic suggestion of an alternative to prevent the SEC from implementing MOSS.

The MOSS case is also consistent with the TLCF's theoretical expectations. The SEC lacked the requisite data at time T_0 and subsequently proceeded to a domestic strategic interaction with their regulatory intermediaries at time T_1. The SEC failed,

[316] Interview #2. See also Austin (2017).
[317] Interview #4; corroborated by Interview #5.

however, to 'win' this domestic game and develop the independent capacity to perform CNS. As a result, the Commission remained dependent on its regulatory intermediaries for market surveillance. The ultimate outcome, therefore, was a continuation of the status quo, in which the SEC engaged in Indirect Ad-hoc Information-sharing with its foreign counterparts to detect transnational market abuse.

How does the Party Politics Argument, an alternative explanation, perform against this case study? The MOSS case appears to fit the Argument's narrative; the project was initiated under the Democratic administration of Jimmy Carter and ultimately cancelled when Republic Ronald Reagan came to power. It is unclear, however, if MOSS corroborates the hypothesized causal mechanism. Archival materials indicate that the SEC's new, Republican Commissioner may have been motivated not just by his deregulatory ideology, but also the more politically neutral desire to shirk responsibility for operating MOSS effectively.

Because the Market Structure and Party Politics Argument predict the same outcome, the MOSS case is insufficient to eliminate either explanation.[318] Rather, we need to examine a case in which each hypothesis predicts a different outcome. The next chapter on the CAT provides such an opportunity. The CAT is the SEC's second attempt to disempower its regulatory intermediaries and develop the independent capacity to perform CNS. Like the MOSS, the CAT was initiated under a Democratic administration (Obama) and concluded under a Republican successor (Trump). But unlike the MOSS, this disempowerment attempt took place in a radically different market structural setting. And, consistent with the expectations of this thesis, the ultimate outcome of the CAT initiative was very different.

[318] This case would, in itself, constitute exploratory research. Confirmatory evidence requires the evaluation of additional cases that vary on the independent and/or dependent variable. See Gerring (2008).

5 Case Study: the Consolidated Audit Trail

In 2010, the U.S. Securities and Exchange Commission once again sought to obtain the independent capacity to perform nationwide surveillance of America's capital markets. The proposal called for the creation of the Consolidated Audit Trail (CAT), a centralized database of all orders and transactions in U.S. securities. Like the MOSS, the CAT would allow the SEC to independently perform CNS. And, also like the MOSS, the CAT threatened to disempower the SEC's regulatory intermediaries by eliminating their exclusive capacity to monitor their own markets.

In contrast to the late 1970s, however, the SEC's second attempt to obtain CNS took place in a radically different market structural setting. The creation of the internet in the 1990s, in combination with advances in processing power, significantly reduced the cost of creating a new trading venue. The result was a proliferation of such venues and, correspondingly, a substantial reduction in NYSE's market share. In other words, the 'market for markets' transitioned from natural monopoly to robust competition. This competitive environment should, according to the Market Structure Hypothesis, provide regulatory intermediaries with numerous incentives to support the CAT. As a result, this thesis would expect the SEC to 'win' the domestic game, achieve CNS, and, in turn, engage in Direct Information-sharing.

To test these expectations, this case evaluates empirical evidence drawn from three primary sources. First, the author conducted 60 interviews with regulatory practitioners in Oxford, London, Toronto, New York, and Washington, D.C. These interviewees represent a wide range of exchanges, broker-dealers, regulators, industry

associations, and trading firms. A large portion of these interviewees were directly involved in the negotiation/implementation of the CAT and have first-hand knowledge of its internal politics. But, because these politics are commercially sensitive, the great majority of interviewees participated on the condition of anonymity. The second source of data is official regulatory documents related to the CAT, sourced from the SEC and the CAT Plan Operating Committee website. Third, the author consulted publicly available letters, testimonies, and op-eds related to the initiative.

Notably, zero interviewees participating in this study were aware of the SEC's MOSS project. Nor does the Commission's proposal documents for the CAT makes any mention of the initiative.[319] Thus there appears to be little awareness, amongst the public or practitioners, that the CAT is actually the SEC's *second* attempt to develop independent surveillance capabilities. Important for causal inference purposes, this suggests that 'learning effects' are minimal.[320] In other words, there is no evidence that the relevant actors' experience with the MOSS impacted their preferences and/or actions during the negotiation of the CAT. This is notable because learning effects, if identified, might be interpreted as an intervening variable that somehow mediates the relationship between the independent and dependent variables. The presence of such a variable would raise questions as to whether we are actually observing the independent effect of market structure on the outcome of the SEC's attempt to obtain CNS.

[319] SEC (2012a).

[320] On learning effects in strategic scenarios, see Fudenberg and Levine (2016). It is, of course, possible that individuals who refused or failed to respond to this project's interview requests have knowledge of the MOSS project. But the author was able to speak with current or former representatives of every key actor involved in the negotiation of the CAT. It is striking that not a single member of this group was aware of the MOSS project's existence. This suggests, at minimum, that the SEC's previous attempt to acquire surveillance capabilities is not common knowledge amongst research subjects.

The empirical results corroborate the Market Structure Hypothesis and, more generally, the TLCF. In the language of the framework, the SEC lacked access to the requisite data at time T_0. It subsequently proceeded to the 'domestic game' at time T_1, where it sought to disempower its regulatory intermediaries and achieve the independent capacity to perform CNS. Consistent with this thesis' expectations, the SEC's regulatory intermediaries exhibit numerous cost-saving and cost-imposing incentives to support the CAT's creation. Specifically, exchanges exhibit incentives to *Save costs by no longer having to rely on third-party services to perform task* (Incentive C) and *Impose costs on competitors and/or raise barriers to entry* (Incentive F). Broker-dealers operating trading venues, in turn, exhibit incentives to *Save costs through centralization of task* (Incentive D) and *Eliminate incumbent advantages* (Incentive G). And, as expected, the CAT ultimately succeeded, thereby allowing the SEC to engage in Direct Information-sharing with its foreign counterparts at time T_{1+}.

5.1 Background and Theoretical Expectations

Throughout the 20th century, traders interacted on physical trading floors, sometimes referred to as 'pits.' These pits operated via 'open outcry,' in which traders signal their intensions to buy or sell by yelling prices at one another and using complicated systems of hand gestures.[321] The exchanges that facilitated this trading were mutual cooperatives owned by member broker-dealers. Thus the members of the exchanges were also the owners, creating a strong alignment of interests between broker-dealers and upper

[321] Gorham and Singh (2009). Though seemingly chaotic, these pits were governed by various rules enforced by the exchange (Abolafia 2001; Doherty et al. 1990; Gunningham 1991; Mattli 2019).

management.[322] And, as noted in Chapter 4, the costs of providing a physical location where traders could interact was a substantial barrier to entering the 'market for markets' and competing with incumbent exchanges such as NYSE.

The 1990s changed everything. The creation of the internet, in combination with advances in processing power, made it possible to buy and sell financial instruments electronically.[323] These developments reduced barriers to entry by allowing firms to create new electronic venues, termed Alternative Trading Systems (ATSs), at relatively little cost. Further, it allowed brokerages to 'internalize' order flow by matching their clients' trades in-house rather than routing their orders to a traditional exchange.[324] As one historian summarizes, these firms "started to develop electronic computer networks which replicated the markets that stock exchanges provided and allowed floor trading to be bypassed completely."[325] Thus, in a Shakespearean twist, the members of the exchanges were now their direct competitors. These changes occurred so rapidly, and had such a profound effect on the nature of securities trading, that one scholar boldly proclaimed in 1993, "The New York Stock Exchange is an anachronism."[326]

This proclamation was prescient. By 2010, the year of the CAT's proposal, there were an astounding 85 ATSs registered with the SEC, none of which existed prior to 1999.[327] Further, more than 200 broker-dealers were effectively acting as trading venues by internalizing order flow.[328] In response to this newfound competition, every U.S.

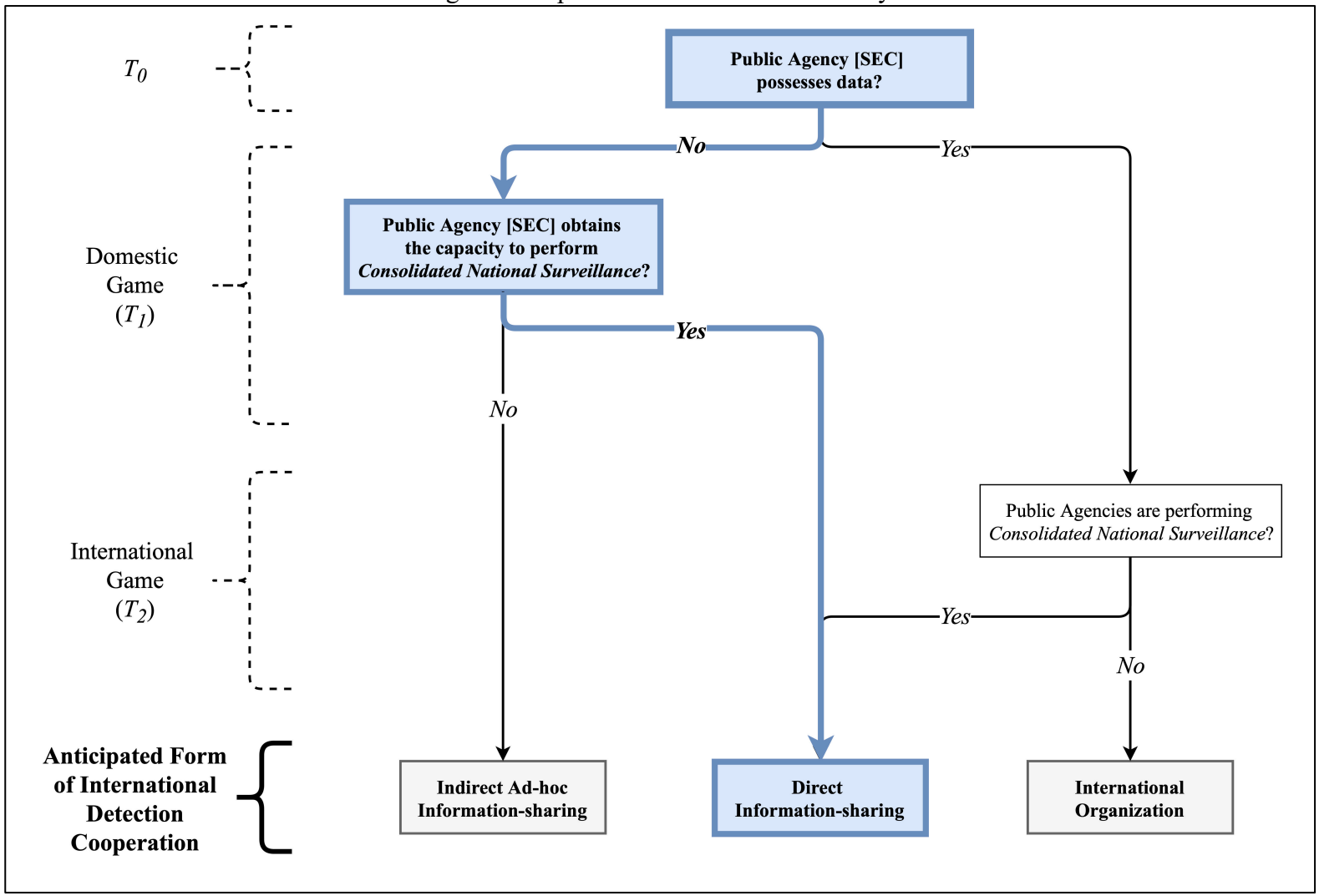
[322] Baxter (1973); Floreani and Maurizio (2012); Geranio (2016); Stringham (2002); Zanotti (2012).
[323] Gorham and Singh (2009); Lewis (2014); Marcus and Kellerman (2018); Mattli (2019); Mattli and Kellerman (2019); S. Patterson (2012).
[324] The Economist (1991) reported, "As costs bite Wall Street houses, even the old loyalty of putting NYSE-listed-stock trades through the floor of the NYSE is weakening. Big retail brokerages like Shearson Lehman now match trades in-house when they can, before passing them to the exchange for form's sake." Prior to the 1990s, brokerages viewed internalization as cost-prohibitive (Mattli 2019).
[325] Michie (2006, 268).
[326] Nowak (1993, 485).
[327] SEC (2010a).
[328] Schapiro (2010).

exchange demutualized, transitioning from mutual cooperatives to private, and later public, corporations.[329] NYSE, once a natural monopoly facilitating upwards of 80% of U.S. trading, experienced an astonishing decline in market share to approximately 26% in 2009.[330] Thus the SEC's second attempt to obtain surveillance powers took place in the context of a highly *competitive* market structural setting.

This thesis has two subsequent theoretical expectations. First, in accordance with The Market Structure Hypothesis, it is expected that the SEC will successfully disempower its regulatory intermediaries and obtain the independent capacity to perform CNS. Competition between regulatory intermediaries will create various incentives to support the SEC's attempt to obtain CNS. These incentives have little to do with actually improving the SEC's ability to identify and prosecute actors engaged in market abuse. Rather, regulatory intermediaries will view the CAT as an opportunity to save costs and/or impose costs on competitors. To validate the presence and operation of this hypothesized causal mechanism, we should observe regulatory intermediaries exhibit and act upon at least one of the incentives listed in Table 4 to support the SEC's obtainment of CNS. Second, the TLCF anticipates that the SEC will follow the causal pathway highlighted in Figure 6. Namely: the SEC lacks access to the data at time T_0 and subsequently proceeds to the domestic game at time T_1. The SEC is expected to win this domestic game, and, as a result, engage in a new form of international detection cooperation at time T_{1+}: Direct Information-sharing.

[329] Zanotti (2012). Specifically, of the exchanges in existence at the time of MOSS, NYSE, NASD-NASDAQ, CBOE, MSE, and the Cincinnati Stock Exchange demutualized. The Philadelphia Stock Exchange, Pacific Stock Exchange, Boston Stock Exchange, and AMEX were acquired.
[330] Angel, Harris, and Tepper (2010, 5).

Figure 6: Expectations for CAT Case Study



This figure pertains to the form of international detection cooperation the SEC is expected to utilize.

This chapter will also evaluate the Party Politics Argument as an alternative explanation. The CAT was initiated during the Democratic administration of Barack Obama and concluded under his Republican successor, Donald Trump. The Trump Administration has exhibited an aversion to government regulation.[331] In his initial, 100-day action plan to 'Make American Great Again' in 2016, Trump declared that for every new Federal regulation, two existing regulations must be eliminated.[332] The Party Politics Argument would subsequently expect the CAT to fail. It would anticipate that the Trump Administration, in line with its fierce aversion to government regulation, will intervene in the disempowerment process to protect regulatory intermediaries' exclusive powers. Thus, unlike the MOSS case study, the Market Structure and Party Politics Argument predict different outcomes for the SEC's CAT project.

5.2 Initiation of Attempt to Obtain CNS

On May 6th, 2010, U.S. markets lost and recovered almost a trillion dollars in less than 20 minutes in what is now known as the 'Flash Crash.'[333] It took the SEC and Commodity Futures Trading Commission (CFTC) four months to reconstruct what happened in that 20 minutes.[334] And, even when these agencies released their final report, there remained significant scepticism about their conclusions, indicative of the tremendous complexity of contemporary U.S. capital markets.[335]

[331] For a comprehensive list of the Trump administration's deregulatory actions, see Brookings Institute (2020).
[332] Trump (2016, Third Measure). The term 'regulation,' which may refer to a single rule or an entire piece of legislation, was, naturally, not specified.
[333] Mackenzie and van Duyn (2010).
[334] Stein (2016).
[335] CFTC and SEC (2010); Mcinish, Upson, and Wood (2014); Pirrong (2015).

In response to its inability to observe the (potentially manipulative) trading activity driving such events, the SEC proposed the CAT.[336] The proposal contended that inconsistencies in the SROs' existing audit trails makes "detection of illegal trading activity carried out across multiple markets and multiple products more difficult."[337] The Commission also highlighted the insufficiencies of the Intermarket Surveillance Group (ISG), noting that (a) information is only shared on an *ad hoc* basis; (b) information is not shared in any uniform or comparable format; and (c) the organization is not subject to SEC oversight.[338] There is not, however, any mention of the MOSS. Nor does the proposal acknowledge that the dissatisfactory ISG only exists because the SEC cancelled its previous plans to develop independent surveillance capabilities.

The CAT would serve as a central data repository for all orders and transactions in equities, options, exchange-traded funds (ETFs), and debt instruments.[339] This is no small undertaking. Contemporary U.S. capital markets are dominated by high-frequency trading (HFT), i.e., the "use of extraordinarily high speed and sophisticated programs for generating, routing, and executing orders [within] very short time-frames…"[340] Firms specializing in HFT may execute hundreds of thousands of orders within microsecond time frames (that is, one millionth of a second).[341] Collecting data on this trading from all U.S. exchanges, ATSs, and brokers is extremely difficult. One example of the technical complexities is time synchronization. Most clocks are slightly inaccurate, particular at the second and sub-second level. To account for these infinitesimal differences, firms

[336] SEC (2010b).
[337] Ibid, 7.
[338] Ibid, 44.
[339] To be precise, the CAT was proposed to apply to all National Market System Plan securities. For a list of instruments that qualify, see SEC (2005, Rule 600(b)).
[340] This definition is amended from SEC (2014a, 4).
[341] See, e.g., O'Hara (2015).

reporting data to the CAT are required to synchronize their business clocks to within 50 milliseconds of the time maintained by the National Institute of Standards.[342] The end product is one of the largest and most complex databases in U.S. history.

The CAT will be accessible to the SEC and SROs. Therefore, it will provide the SEC with the independent capacity to perform Consolidated National Surveillance of American capital markets for abuse. Although not publicly framed in such terminology, this would disempower the SEC's regulatory intermediaries, which now included not just exchanges, but also ATSs and broker-dealers internalizing order flow. Namely, it would eliminate their exclusive capacity to monitor their own markets. One might naturally expect private industry to balk at such a proposal. But, as the next sub-section demonstrates, competition provided regulatory intermediates with various incentives to *support* the SEC's pursuit of CNS.

5.3 Exhibited Incentives of Regulatory Intermediaries

"Well it's like everything else in this industry – it's the markets versus their members."
- *Former SEC employee (Interview #51)*

The CAT is as complicated as it is fascinating. Public commentary has focused primarily on its numerous delays and technical setbacks.[343] And, indeed, its history is tortured; as one practitioner with direct involvement summarized, "The CAT is a clusterfuck."[344] The empirical evidence indicates, however, that regulatory intermediaries have had numerous cost-saving and cost-imposing incentives to support its creation. One particularly

[342] CAT NMS (2018).
[343] Gellasch (2017); Themis Trading (2015, 2017).
[344] Interview #46.

prevalent theme is the battle between incumbent exchanges and broker-dealers operating ATSs and internalization services. Exchanges were mutual cooperatives owned by broker-dealers for most of the 20th century. And, as the MOSS case demonstrates, this created a strong, aligned interest to reject any outside inference in the internal affairs of the exchange. But the newfound ability of broker-dealers to create their own competing trading venues broke this alliance; the former member-owners of exchanges are now their fiercest competitors. The members of these respective groups do not necessarily have homogenous preferences and, in fact, are actively in competition with one another. Nevertheless, exchanges and broker-dealers exhibit certain shared incentives with respect to the CAT and thus will be analyzed separately.

5.3.1 Exhibited Incentives of Exchanges

The SEC outsourced the design of the CAT to the SROs in what is termed a National Market System (NMS) Plan.[345] Under this Plan, the SROs were granted the authority to determine the technical intricacies of the system, allocate costs, and select which third-party company would process the data. To facilitate this process, the SROs established a joint company, CAT NMS LLC, and formed an Operating Committee in which each SRO is granted one vote.[346] When the SEC proposed the CAT in 2010, there were 18 American stock exchanges registered as SROs. This number has since grown to 23.[347] One final vote is granted to the Financial Industry Regulatory Authority (FINRA), a non-profit SRO responsible for overseeing the regulation of U.S. broker-dealers.[348]

[345] SEC (2010b).
[346] CAT NMS (2015).
[347] SEC (2020).
[348] On the history of FINRA, see Cole (2007).

As Table 11 indicates, this provides each SRO with approximately 4.35% voting power in the CAT Plan Operating Committee. But, because certain corporate groups own multiple SROs, their collective voting power is higher. The CBOE and Nasdaq, for example, have a combined voting share of approximately 52.2%, and thus can exercise veto power over majority decisions by cooperating. This inequity was actually greater in 2010 when there were less exchanges. Certain smaller SROs, such as the Investors Exchange (IEX), have protested that this grants these corporate groups undue influence over the CAT process.[349] And, indeed, the exchanges have not always agreed on the design of the database or its governance processes. Nevertheless, publicly available documents, congressional testimony, and interviews with practitioners indicate that these exchanges have had certain shared incentives to support the initiative.

The first observed incentive is *Save costs by no longer having to rely on third-party services to perform task* (Incentive C). Prior to the CAT, SROs outsourced certain aspect of their surveillance to FINRA. Exchanges felt comfortable doing so because FINRA does not operate a trading venue and thus is not a direct competitor. This did, however, make the SROs dependent on FINRA – who charged substantial fees for this service – to perform some level of cross-market surveillance.[350] The CAT, by providing exchanges with access to a consolidated national database of trading activity, provides an opportunity to eliminate this dependence. One interviewee noted:

> I…think that when the proposal [for the CAT] first came out like 10 years ago…there was probably a view [among the exchanges] … that this would reduce the exchanges' dependence on FINRA and their ability to kind of charge whatever

[349] Ramsay (2018).
[350] SEC (2015a, 12).

Table 11: U.S. Exchanges and CAT Operating Committee Voting Power

Exchange	*Individual Voting Power*	*Corporate Group*	*Collective Voting Power*
BOX Exchange LLC	4.35%	TMX Group	4.35%
CBOE BYX Exchange, Inc.	4.35%	CBOE	26.1%
CBOE BZX Exchange, Inc.	4.35%		
CBOE C2 Exchange, Inc.	4.35%		
CBOE EDGA Exchange, Inc.	4.35%		
CBOE EDGX Exchange, Inc.	4.35%		
CBOE Exchange, Inc.	4.35%		
Investors Exchange LLC	4.35%	IEX	4.35%
Long-Term Stock Exchange, Inc.	4.35%	LTSE Services, Inc	4.35%
Miami International Securities Exchange LLC	4.35%	Miami International Holdings, Inc.	13.05%
MIAX Emerald, LLC	4.35%		
MIAX PEARL, LLC	4.35%		
Nasdaq BX, Inc.	4.35%	Nasdaq	26.1%
Nasdaq GEMX, LLC	4.35%		
Nasdaq ISE	4.35%		
Nasdaq MRX, LLC	4.35%		
Nasdaq PHLX LLC	4.35%		
The Nasdaq Stock Market LLC	4.35%		
NYSE Arca	4.35%	Intercontinental Exchange	17.4%
NYSE American LLC	4.35%		
NYSE Chicago, Inc.	4.35%		
NYSE National, Inc.	4.35%		
Financial Industry Regulatory Authority (FINRA)			4.35%

Individual voting shares are rounded, and thus do not equal 100%. FINRA is included because, though not an exchange, it is an SRO and has voting power in the CAT Plan Operating Committee.

> they wanted for regulatory services to the exchanges. Because then you'd have the full audit trail with orders and quotes from all exchanges and do your own surveillance. And even if you didn't do your own surveillance, you could threaten that to FINRA and it could impose some kind of cost discipline on them. I would think that the exchanges would be really interested in pulling back their stuff from FINRA. Because they hate being dependent on FINRA.[351]

As the interviewee alludes to, the CAT would provide the SROs with an opportunity to pull back their outsourced functions from FINRA and perform cross-market surveillance on their own.[352] Further, exchanges may be able to commercialize their access to the CAT by offering regulatory services that compete with FINRA's outsourcing solutions.[353] There is also a concern that FINRA, who in 2017 held approximately $1.6 billion in net assets and provides its executives with multi-million-dollar compensation packages, is not really a non-profit organization and lacks sufficient SEC oversight.[354] One former SEC employee confirmed, "I think there has been some concern as well about FINRA becoming too big and too powerful…the exchanges don't want to cede all of this [surveillance] necessarily to FINRA."[355] An SRO employee directly involved in the CAT corroborated: "Let's just say not everybody loves FINRA…"[356]

Exchanges' interest in improving their own surveillance capabilities also appears to be tied to an ongoing battle regarding their SRO status. As previously noted, this status provides exchanges with immunity against civil liability in return for performing quasi-

[351] Interview #46.
[352] Corroborated by Interview #59.
[353] Interview #46, 47.
[354] See Schoeff and Kelly (2017). Figures derive from FINRA (2017).
[355] Interview #51.
[356] Interview #60.

governmental and quasi-judicial functions.[357] In recent years, the SEC officials and industry critics have questioned whether the SROs should continue to enjoy these benefits as for-profit corporations.[358] SEC Commissioner Robert Jackson Jr. concisely summarized this critique in a 2018 speech:

> For over a century, exchanges were collectively owned not-for-profits, overseeing and organizing trading in America's best-known companies. But about a decade ago, exchanges became private corporations, designed—perhaps even obligated—to maximize profits. Yet we at the SEC have far too often continued to treat the exchanges with the same kid gloves we applied to their not-for-profit ancestors. The result is that, even while one our fundamental mandates is to encourage competition, the SEC has stood on the sidelines while enormous market power has become concentrated in just a few players…[359]

For exchanges, losing immunity would have enormous commercial implications. It may open exchanges to legal liability for any damages caused in the performance of its regulatory duties.[360] And, arguably, this may extend to market disruptions.[361] In May 2012, for example, Nasdaq experienced extensive system failures while launching the

[357] Nafday (2010); Pacella (2012).
[358] City of Providence v. BATS Global Markets, Inc. (2017); Gellasch (2017).
[359] Jackson Jr. (2018).
[360] In City of Providence v. BATS Global Markets, Inc. (2017, 20), the U.S. Court of Appeals for the Second Circuit determined that SROs are entitled to absolute immunity in at least six contexts: (1) disciplinary proceedings against exchange members; (2) the enforcement of security-related rules and regulations and general regulatory oversight over exchange members; (3) the interpretation of the securities laws and regulations as applied to the exchange or its members; (4) the referral of exchange members to the SEC and other government agencies for civil enforcement or criminal prosecution under the securities laws; (5) the public announcement of an SRO's cancellation of trades; and (6) an amendment of an SRO's bylaws where the amendments are 'inextricably' intertwined with the SRO's role as a regulator.
[361] At present, the SEC can penalize SROs for market disruptions. In March 2018, for example, NYSE agreed to pay the SEC $14 million for market disruptions (Bullock and Shubber 2018).

IPO for Facebook. Market participants experienced more than $500 million in losses but had no recourse to hold Nasdaq liable for the mistake.[362] If this situation were reversed, and traders were able to hold exchanges liable for damages caused by such disruptions (potentially including opportunity costs), the financial implications for exchanges such as Nasdaq could be disastrous.

In preparation for this battle, numerous exchanges have reclaimed certain surveillance functions previously outsourced to FINRA.[363] In so doing, exchanges hope to demonstrate that they continue to perform quasi-governmental functions worthy of legal protection. The CAT, by providing exchanges with access to a national consolidated database of trading activity, may enhance their ability to make this case.[364] When asked about these motivations, one SRO official directly involved in the CAT process coyly confirmed, "That's a good guess."[365]

The second observed incentive is to *Impose costs on competitors and/or raise barriers to entry* (Incentive F). The CAT will be funded through new regulatory fees charged to industry members. The SROs, by virtue of their control of the CAT Operating Committee, have the power to determine the allocation of those fees. The Committee has, as a whole, exhibited an intension to shift the majority of the CAT's operating costs (in one proposal, 75%) to broker-dealers.[366] The Securities Industry and Financial Markets Association (SIFMA), the primary industry body representing American broker-dealers, has repeatedly criticized the inherent conflict of interest of allowing the exchanges to decide the fees paid by their direct competitors.[367]

[362] Mathisson (2012).
[363] McCrank (2014).
[364] Mont (2014); Interview #51.
[365] Interview #60.
[366] CAT NMS (2017).
[367] Dolly (2017); SIFMA (2013b, 2013c, 2013d).

In one particularly controversial version of the CAT plan, the SROs determined, for the purpose of allocating fees, that OTC Markets, an ATS, was the largest 'Execution Venue' in the United States (larger than NYSE and Nasdaq combined) despite reporting $10.5 million in revenue in 2016 compared to $223 and $225 million in cash equity business for the NYSE and Nasdaq, respectively.[368] OTC Markets subsequently argued that the fee structure "unfairly burdens the market for OTC Equity Securities, which is a competitor for investment capital with the markets operated by the [SROs]."[369] Representatives of OTC Markets pulled no punches, claiming that, due to their "strong financial incentive" to allocate the costs to their competitors, "The CAT Plan Operating Committee abused its discretion."[370] Thus the exchanges exhibit another incentive to support the CAT as means of imposing costs on competitors. As one SRO employee with direct knowledge of the negotiations confirmed via interview: "[the exchanges] were being pigs – they knew what they were doing."[371]

These cost-saving and cost-imposing incentives appear to have provided the exchanges with sufficient incentives to support the CAT. In contrast to the MOSS project in the early 1980s, exchanges have consistently supported the CAT in public statements and Congressional testimony.[372] Also unlike the MOSS, there is no evidence of an effort by SROs to lobby against the initiative in Congress or propose an alternative approach such as the ISG. And, as the next sub-section demonstrates, the exchanges' former

[368] OTC Markets (2017). The SROs' funding proposal was also criticized for imposing disproportionate fees on options market makers (OMMs). Market makers assume responsibility for ensuring that there is a sufficient number of orders to buy and sell any one security throughout the trading day. In return for performing this function, market makers make a small profit on the 'spread,' i.e., the differences between the bid and ask prices. In one version of the proposal, the CAT fee structure allegedly imposed fees on OMMs that would, in some cases, amount to five percent of their net revenues, an absurdly high regulatory fee (Cerny and O'Malley 2017).
[369] OTC Markets (2017, 3).
[370] Ibid, 2, 6.
[371] Interview #55.
[372] See, e.g., Bohlin (2019); Simon (2019).

member-owners, the broker-dealers, also exhibit competitive incentives to support the SEC's pursuit of independent surveillance powers.

5.3.2 Exhibited Incentives of Broker-Dealers

By 2010, U.S. broker-dealers, in some cases the subsidiaries of global banks, were heavily invested in dominating the market for markets. Numerous ATSs, with entertaining names such as Direct Edge, GETCO, LavaFlow, POSIT, and SIGMA, had acquired a significant share of securities trading.[373] Simultaneously, broker-dealers internalizing order flow captured, according to one bank's estimates, 31% of U.S. trading in NMS stocks by January 2010.[374] Therefore, by the turn of the decade, the provision of capital markets was an extremely competitive industry. This state of affairs would have been unimaginable 30 years prior when NYSE was the king of Wall Street.

The first observed incentive of broker-dealers to support the CAT is to *Save costs through centralization of task* (Incentive D). Prior to the CAT, broker-dealers were required to contribute to a complex web of duplicative legacy audit trails with incompatible data formats.[375] The CAT, by centralizing data in one central location, provides an opportunity to eliminate this inefficiency. SIFMA, the industry body representing American broker-dealers, summarized:

> CAT offers the SROs and the Industry an opportunity to introduce efficiencies into the marketplace…The cost of complying with duplicative reporting regimes,

[373] Tuttle (2013).
[374] Estimates by Macquarie Bank, quoted in Kaminska (2010).
[375] For details, see SEC (2012a, 4-6, and particularly Footnotes 1 and 2).

> with different requirements and incompatible standards across different markets, product types, and customer populations, when multiplied across each reporting firm not only complicates the task of sound regulation, but also serves as a tax on the Industry that can increase costs to the investing public, reduce shareholder value, and reduce the competitiveness of US markets. Eliminating these rules and systems, and consolidating them under a single rule with a single set of standards managed by a single central party, will be of benefit to both regulators and the Industry.[376]

Thus, despite the upfront costs of adjusting trade reporting systems, broker-dealers have viewed the CAT as an opportunity to reduce their long-run reporting costs. Industry members have also alluded to the possibility that the CAT will be able to provide broker-dealers with superior information on market quality, the behaviour of their counterparties, and whether they are obtaining the best possible prices for their trades.[377] Thus, in sum, broker-dealers have had a cost-saving incentive to support the CAT as a means of reducing their overhead.[378]

The second observed incentive of broker-dealers to support the CAT is to *Eliminate incumbent advantages* (Incentive G). As noted above, exchanges enjoy certain legal immunities by virtue of their SRO status. This status also provides exchanges with exclusive powers to shape regulatory proposals, determine the cost of data, and unilaterally impose civil fines on actors that violate exchange rules.[379] Broker-dealers

[376] SIFMA (2013b, 7).
[377] CAPCO (2018).
[378] Corroborated by Interviews #25, 50, 51.
[379] As SROs, exchanges have their own rulebooks and are granted the power to impose fines on traders, either independently or in conjunction with other entities such as FINRA.

view this system as both dangerously antiquated and antithetical to their own commercial aspirations. The CAT, by eliminating the SEC's dependence on exchanges for surveillance, may contribute to reforming this system. As one former SEC regulator summarized with respect to the CAT:

> The war is between the broker-dealers and the markets. And that will continue to be the issue. With technology, the ability of the brokers themselves to perform a lot of market-like functions – they've been at war for years on this…So the war is about what little profits are left – whose getting them?[380]

One particularly contentious point is SROs' legal immunity. Broker-dealers operating trading venues and/or internalizing order flow, despite having similar obligations to monitor their markets for abuse, enjoy no such benefit.[381] SIFMA has repeatedly attacked this arrangement, arguing: "A broker-dealer cannot fairly compete with a party that offers the same services but does not face the same risk of liability."[382]

As part of its efforts to reverse this state of affairs, SIFMA has attacked the aforementioned decision by exchanges to outsource certain aspects of their surveillance activities to FINRA. The association argues that, by outsourcing surveillance, exchanges are effectively acknowledging that they are now primarily commercial operations rather than quasi-governmental organizations deserving legal protection.[383] The CAT, from the perspective of broker-dealers, further demonstrates that the SEC no longer needs to rely on exchanges for surveillance.

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[380] Interview #51.
[381] SIFMA (2013a, 7).
[382] Ibid, 8.
[383] Ibid, 4.

Because the CAT may contribute to broker-dealers' goal of reforming the U.S. self-regulatory system, they have been particularly frustrated with its exclusionary governance structure. To the consternation of broker-dealers, they have no voting power in the CAT Plan Operating Committee. The SROs did create a secondary 'Advisory Committee' with broker-dealer representation. But, from the start, SIFMA expressed concern that this committee would be ineffective. Indicative of SIFMA's scepticism is the Association's recommendation that, when the Operating Committee rejects a request by the Advisory Committee, they should explain their decision in writing. "Without such a safeguard, the SROs would be free to ignore the Advisory Committee's suggestions without adequate consideration and analysis. *The Advisory Committee could then become a meaningless body* that the SROs routinely disregard."[384] Another industry association, the Managed Funds Association (MFA), has also called for SROs to provide industry members with representation on the operation committee:

> We believe having market participant representatives on the Operating Committee will assist with enhancing transparency to the CAT governance process and mitigating potential conflicts of interest. Otherwise, market participants will have no voice in a pricing system that affects them, with little ability to provide constructive feedback and influence changes to the CAT.[385]

These concerns reflect broker-dealers' desire to ensure that the CAT ameliorates, rather than exacerbates, SROs' incumbent advantages.[386]

[384] SIFMA (2013a, 9, emphasis added).
[385] MFA (2017, 2).
[386] On this wider goal, see SIFMA (2017, 124-8).

5.4 Outcome: Direct Ad-hoc Information-sharing

Despite a series of delays, the CAT is now 'live,' ingesting exchange data as part of the first phase of a multi-year implementation process.[387] One SRO provided the author with an onsite demonstration of the system's user interface in Washington, D.C.[388] The system provides each user with the ability to observe a single trader's activity on multiple exchanges, thereby allowing for the recognition of insider trading and market manipulation perpetrated across multiple venues. Over the course of 2020, the CAT will start absorbing data from broker-dealers (including ATSs, internalization, and standard transactional activity undertaken on behalf of third-party clients), thereby providing a truly holistic view of U.S. securities trading.[389]

The CAT was originally initiated in 2010 during the Democratic administration of President Barack Obama. By the start of the 2016 presidential election, the system was far from complete. After Republican Donald Trump's victory, oversight of the initiative transitioned to the new SEC Commissioner, Jay Clayton. Interviewees unanimously corroborated that Commission Clayton has taken significant steps to ensure that the CAT is completed as quickly as possible.[390] Clayton himself has expressed support for the system, noting that "…the CAT will facilitate cross-market oversight and analysis, thereby improving investor protection and market integrity."[391]

As a result of the CAT successfully coming to fruition, the SEC is now able to independently conduct CNS. In other words, the Commission is no longer dependent on

[387] Bullock (2018).
[388] The SRO providing this demonstration preferred not to be named.
[389] CAT NMS (2020).
[390] Interviews #21, 25, 30.
[391] Clayton (2019).

its regulatory intermediaries and can directly monitor America's securities markets. The benefits of this change are adeptly captured by SEC Chairman Elisse Walter:

> I can't overestimate the importance of CAT – comprehensive public and non-public data about the market, coming from a single system, could be the most important regulatory development in my lifetime…the consolidated audit trail will be the backbone for our future surveillance and policy-making efforts.[392]

The SEC's successful creation of the CAT subsequently empowers the Commission to engage in Direct Ad-hoc Information-sharing. In the event that foreign regulators require data on U.S. trading, the SEC will no longer have to request that data from their regulatory intermediaries. Rather, the Commission will have direct access to its own consolidated database of securities transactions, thereby allowing it to immediately respond.

5.5 Analysis

The CAT project was an attempt by a public agency to disempower its regulatory intermediaries and achieve the capacity to perform CNS. Unlike the MOSS, the CAT was initiated in the context of a competitive market structural setting. And, consistent with the expectations of the Market Structure Hypothesis, the SEC's CAT project succeeded. The SEC's regulatory intermediaries, now composed of stock exchanges, ATSs, and broker-dealers operating internalization services, exhibit numerous cost-saving and cost-

[392] Walter (2013).

imposing incentives to support the initiative. As a result, the CAT is already ingesting data as part of a multi-year implementation process.

The CAT case is also consistent with the TLCF's theoretical expectations. The SEC lacked the requisite data at time T_0 and subsequently proceeded to a domestic strategic interaction with their regulatory intermediaries at time T_1. The SEC succeeded, 'winning' the domestic game and developing the independent capacity to perform CNS. As a result, the Commission eliminated its dependency on its regulatory intermediaries for market surveillance. The ultimate outcome was the SEC engaging in a new form of international detection cooperation: Direct Ad-hoc Information-sharing.

How does the Party Politics Argument, an alternative explanation, perform against this case study? The CAT case is inconsistent with this Party Politics Argument. Like the MOSS, the CAT was initiated under a Democratic administration (Barack Obama) and concluded under a Republic successor (Donald Trump). Unlike the MOSS, however, the transition to a Republican administration is not associated with a cancellation of the public agency's attempt to obtain CNS. There is no evidence that the Administration actively intervened to protect regulatory intermediaries' exclusive surveillance powers. To the contrary, interviews and public statements corroborate that progress on the CAT actually *increased* in pace after the Trump Administration's appointment of SEC Commissioner Jay Clayton.

These results are consistent with the expectations of the Market Structure Hypothesis and decrease our confidence in the alternative explanation. Variation in market structure accurately predicts the outcome of the SEC's attempts to obtain CNS in the 1980s (MOSS) and 2010s (CAT). Process tracing also corroborates the hypothesized causal mechanism, that is: the manner in which market structure conditions regulatory

intermediaries' incentives to support or oppose the public agency's obtainment of CNS. What these cases cannot control for, however, is the possibility that there is something unique about the U.S. and/or SEC that is driving the results. To account for this possibility, we need to evaluate an additional case taking place in a non-U.S. context. It is to such a case that this thesis now turns.

6 Case Study: IIROC

In the early 2000s, Canada's 13 securities regulators, representing each province and territory, sought to obtain the independent capacity to perform Consolidated National Surveillance (CNS). Due to historical issues surrounding state independence, Canada does not have a federal securities regulator.[393] And, for similar reasons, allowing any one provincial regulator to monitor another's 'turf' is politically sensitive. Therefore, Canadian regulators sought to empower a new entity to perform CNS on their collective behalf: Market Regulation Services, Inc. (RS), which would later become the Investment Industry Regulatory Organization of Canada (IIROC).

This attempt to create a new entity capable of performing CNS took place in a competitive market structural setting. As in the U.S., Canadian capital markets were long dominated by a monopolistic regulatory intermediary, the Toronto Stock Exchange (TSE). In the 1990s, however, technological advances provided the TSE's broker-dealer members with the opportunity to establish competing trading venues. The Market Structure Hypothesis would subsequently expect that this competitive environment will provide regulatory intermediaries with incentives to support the creation of RS (later IIROC). Canadian regulators' attempt to obtain CNS should, therefore, succeed, resulting in the establishment of a federal agency (IIROC) with the capacity to surveil Canada's capital markets. The TLCF would, in turn, expect that this victory in the domestic game at time T_1 will allow IIROC to engage in Direct Information-sharing with foreign

[393] Anand and Green (2011); Fraiberg (2011); Jordan (2008).

securities regulators at time T_{1+}, both independently and on behalf of Canada's various provincial authorities.

To test these expectations, this chapter evaluates empirical evidence drawn from four primary sources. First, the author conducted 18 interviews with current and former Canadian regulators, practitioners, and trading venue staff that were involved in, or have direct knowledge of, the creation of RS/IIROC. The great majority of these interviews were conducted in Toronto in June 2018. A small portion of these interviews were conducted over the phone with individuals based in Alberta, Québec, and Anguilla. Second, the Ontario Securities Commission (OSC) Archives provided the author will access to hundreds of letters, memos, and reports on Canadian financial regulation ranging from 1944 to 2017. Third, comment letters on the creation of RS were consulted using an internet archive that allows users to consult expired webpages. Finally, data was obtained from online archives of Canadian newspapers and magazines.

The empirical results corroborate the Market Structure Hypothesis and, more generally, the TLCF. In the language of the framework, Canadian securities regulators lacked access to the requisite data at time T_0. These agencies subsequently proceeded to the 'domestic game' at time T_1, where they sought to create a new entity with the capacity to perform CNS. Canada's regulatory intermediaries exhibit numerous incentives to support this initiative. Broker-dealers exhibit incentives to *Eliminate incumbent advantages* (Incentive G) and *Save costs through centralization of task* (Incentive D). Exchanges exhibit incentives to *Save costs by no longer having to perform task* (Incentive A) and *Subject competitors to enhanced regulatory oversight* (Incentive E). As expected, Canadian regulators successfully created RS/IIROC and, in turn, obtained the capacity to engage in Direct Information-sharing.

6.1 Background and Theoretical Expectations

"Oh Gracious King, but my heart is sad
Your whole domain has gone to the bad
I cannot account for the antics strange
Of that bunch from the Standard Stock Exchange."[394]
– Banquet of the Members of Toronto's Standard Stock Exchange (1910)

Like its noisy downstairs neighbor, Canada has a rich and colorful history of securities trading. The first Canadian exchanges were created in response to the discovery of natural resources such as precious metals and oil.[395] Examples include the Toronto Mining Exchange (1897), Standard Exchange (1901), and Calgary Stock Exchange (1914). These exchanges facilitated the funding of extraction operations and allowed brokers to speculate on commodity prices.[396] Most of these exchanges would fold or merge in order to stay competitive. By World War I, user network effects (i.e., 'liquidity begetting liquidity') favored the concentration of equities trading on one venue: the Toronto Stock Exchange (TSE). Like the NYSE, the TSE was a mutual cooperative owned by its member broker-dealers. And, also like the NYSE, the TSE established an imposing headquarters on Bay Street (Toronto's version of Wall Street) with an enormous trading floor. Throughout most of the 20th century, the cost of replicating this physical space was a significant barrier to competing with the TSE.

Prior to World War II, Canadian public agencies outsourced market surveillance to exchanges by allowing them to self-regulate.[397] This arrangement was formalized in 1947, when the Ontario Securities Commission (OSC) designated the TSE a Self-

[394] Lockwood (1910).
[395] Armstrong (1997, ch. 3).
[396] Ibid, 45-53.
[397] Ibid, ch. 3.

regulatory Organization (SRO).[398] The OSC's decision to outsource market surveillance to regulatory intermediaries reflected the logic of RIT governance.[399] In the 1940s, the OSC was a fledgling organization with limited resources. By outsourcing surveillance to the TSE, the OSC could take advantage of its regulatory intermediary's expertise and compensate for its own operational weaknesses. As one historian summarizes, "Even [OSC] bureaucrats admitted that there were certain activities, such as wash trading [a form of market manipulation], which they were ill-equipped to police."[400]

Over the proceeding years, however, the TSE was consistently criticized as an 'old boys' clubs' with weak oversight mechanisms.[401] The Exchange did not, for example, appoint a full-time salaried chief executive with independent authority.[402] Rather, day-to-day affairs were overseen by 'governors' elected by the Exchange's broker-dealer members.[403] During the 1940s, 50s, and 60s, these governors rarely penalized members despite a string of highly publicized scandals involving market manipulation, fraud, and misrepresentation.[404] These issues came to a head during the infamous 'Windfall' scandal of 1964. During that year, enormous sources of copper and zinc were discovered in Northern Ontario.[405] Insiders with advanced knowledge subsequently engaged in insider trading while artificially pumping up the price of numerous stocks, most notably those of Windfall Oils and Mines Limited (Windfall).[406] Once the bubble burst, thousands of unknowing investors lost their life savings.[407]

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[398] Armstrong (2001, 8, 9).
[399] On this logic, see Abbott, Levi-Faur, and Snidal (2017).
[400] Ibid, 8.
[401] Armstrong (2001, ch. 4). This old boys' club was also accused of anti-Semitism, as one of its only enforcement actions in the mid-20th century involved a Jewish businessman (Armstrong 2001, 130).
[402] Ibid, 127-8.
[403] Ibid, 8.
[404] Ibid, ch. 4.
[405] Ontario Royal Commission (1965)
[406] Ibid, 1-2.
[407] Angus and Palu (2001, 127).

The Windfall Scandal prompted a comprehensive review of the TSE's oversight mechanisms. Justice Arthur Kelly of the Ontario Supreme Court observed that TSE members were responsible for one-third of trading in Windfall shares, and that a large portion of these members had entered into profit-sharing agreements.[408] Kelly concluded that the TSE's primary purpose appeared to be "for the personal convenience and profit of some of the persons associated with it…[the TSE is] a private gaming club maintained for their own benefit."[409] One Canadian politician argued that this raised serious questions about Canada's model of self-regulatory oversight:

> I don't believe in self-regulation, and I don't believe in self-policing; I don't believe in setting up what are in effect clubs and saying to people, 'Well, we entrust to you the responsibility for being good and obeying the law, and seeing that the investor gets a fair shake'…the self-regulating body does not police itself and a good many innocent people get hurt and hurt in such a way that they can ill afford to sustain the losses. We have seen it time and time again.[410]

These calls for reform did not, however, end Canada's self-regulatory system. Rather, laws on insider trading and manipulation were strengthened, and the TSE established an internal department dedicated to surveillance.[411] As a result, Canada's provincial securities regulators remained dependent on their regulatory intermediaries, a system that sustained for most of the 20th century. In the 1990s, however, this situation would change dramatically due to three simple words: world wide web.

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[408] Armstrong (2001, 188).
[409] Quoted in Armstrong (2001, 188).
[410] Quoted in Armstrong (2001, 229).
[411] Sawiak (1986, 1).

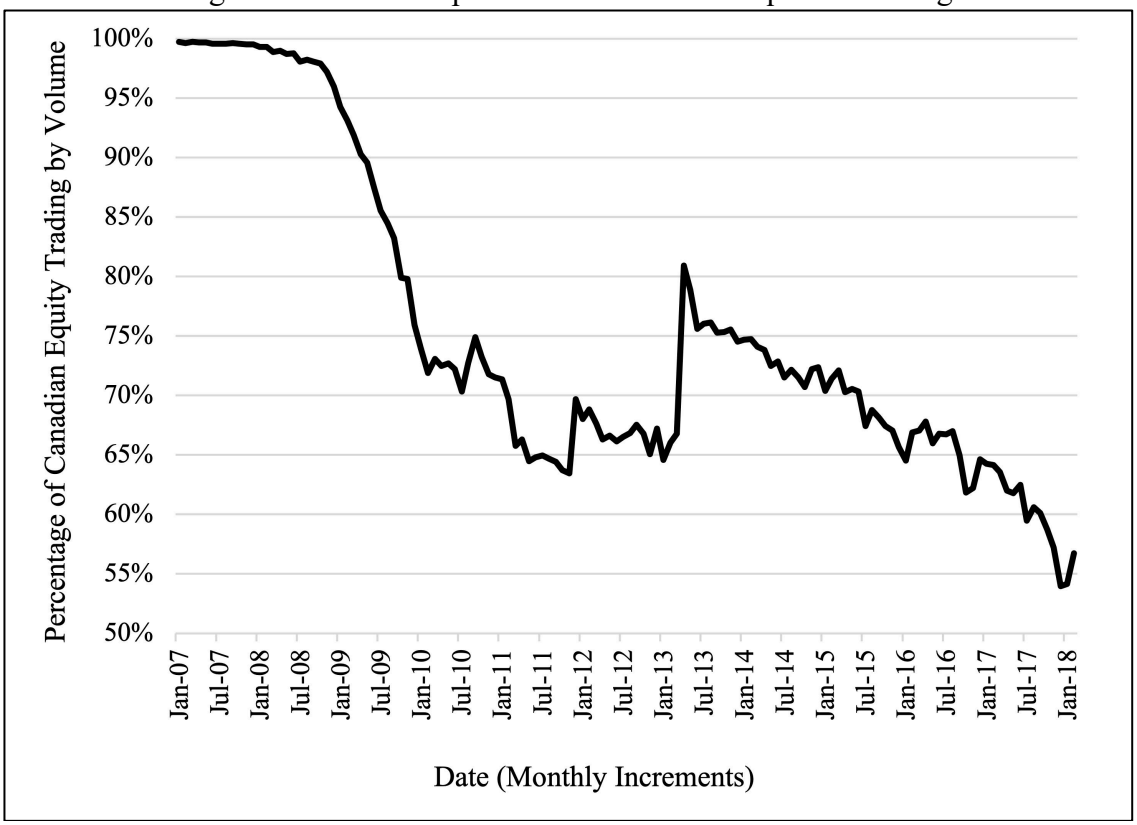
6.1.1 Electronification and Market Structural Changes

Throughout the 20th century, numerous Canadian broker-dealers were interested in trading outside the TSE. In the 1980s, for example, broker-dealers completed large transactions in the so-called 'upstairs market.'[412] The upstairs market allowed broker-dealers to trade amongst themselves and simply report the results to the exchange after transactions were complete. This was, in essence, an early version of internalization. The upstairs market was not, however, a true source of competition. User network effects ensured that the great majority of Canadian equities trading was performed on the TSE floor. And, as in the U.S., the cost of creating a comparable physical location was a substantial barrier to creating a competing trading venue.

Advances in electronic communication methods would, however, accelerate the transition of order flow from the TSE to its members. Broker-dealers increasingly sought to facilitate trades outside of the exchange, leading exchange management to complain that "…the continuous pursuit of parochial interests by member firms could act to the detriment of the TSE overall…"[413] By the turn of the century, numerous broker-dealers, many the subsidiaries of large banks, began creating electronic Alternative Trading Systems (ATSs) to directly compete with the TSE. Exchange management were highly concerned that this would undermine the TSE's traditional dominance of equities.[414] These fears were justified. From 2007 to 2018, the Toronto Stock Exchange Group (TSX) experienced a remarkable fall in market share from 99.94% to 56.74% (Figure 7). The TSE itself, once the king of Bay Street, fell to 32.85%.

[412] Majury (2007, 2197).
[413] Quoted in Majury (2007, 2198).
[414] Condon (2004, 423).

Figure 7: TMX Group's Share of Canadian Equities Trading



This figure captures the percentage of equities market share held by the TMX Group, which includes the Toronto Stock Exchange and TSX Venture Exchange. The 2013 spike reflects the TMX Group's purchase of Alpha. Calculations performed by the author based on data obtained from IIROC (2020).

Simultaneously, the TSE faced newfound competition from abroad. Throughout the 20th century, numerous Canadian companies listed their stocks in the U.S. to maximize the number of potential investors.[415] The quantity of such cross-listed stocks increased substantially toward the end of the 20th century. By 1997, 70% of the TSE 300, i.e., the 300 largest stocks listed on the TSE by market capitalization, were also available to trade outside Canada (primarily on NYSE and Nasdaq).[416] This trend toward globalization, in combination with the impending rise of broker-dealer-owned ATSs and internalization services, posed an existential threat to the future of the TSE. In 1998, the TSE's Chairwoman, Barbara Stymiest, delivered a stark warning call:

[415] See Michie (1988).
[416] TSE (1997b).

> Dramatic advances in desktop software…have spurred the development of a burgeoning number of fully electronic Alternative Trading Systems. ATSs offer fast, low-cost trading services completed away from the central auction markets operated by traditional stock exchanges…The role of the traditional stock exchange faces another threat. Improved communications technology has facilitated the increasing mobility of capital, allowing investors and issuers to seek the best market opportunities with less regard for time or distance… *The core of our revenue sources are under attack.*[417]

To combat these attacks, the TSE decided to demutualize, transitioning to a private corporation in 2000. In 2001, TSE acquired the Canadian Venture Exchange and changed its name to the TSX Group (TSX). Thus by the turn of the century, the Canadian 'market for markets' had transitioned from natural monopoly to robust competition.

6.1.2 Theoretical Expectations

Canadian securities regulators' attempt to create RS/IIROC took place in the context of a highly *competitive* market structural setting. Advances in electronic trading substantially reduced barriers to entry by allowed broker-dealers to create new ATSs at relatively little cost. Further, those broker-dealers were already performing internalization, drawing liquidity and revenue away from the exchange. And, finally, the TSX and other Canadian exchanges faced competition from abroad, powered by the increasing capability of firms to trade securities in multiple jurisdictions via electronic execution methods.

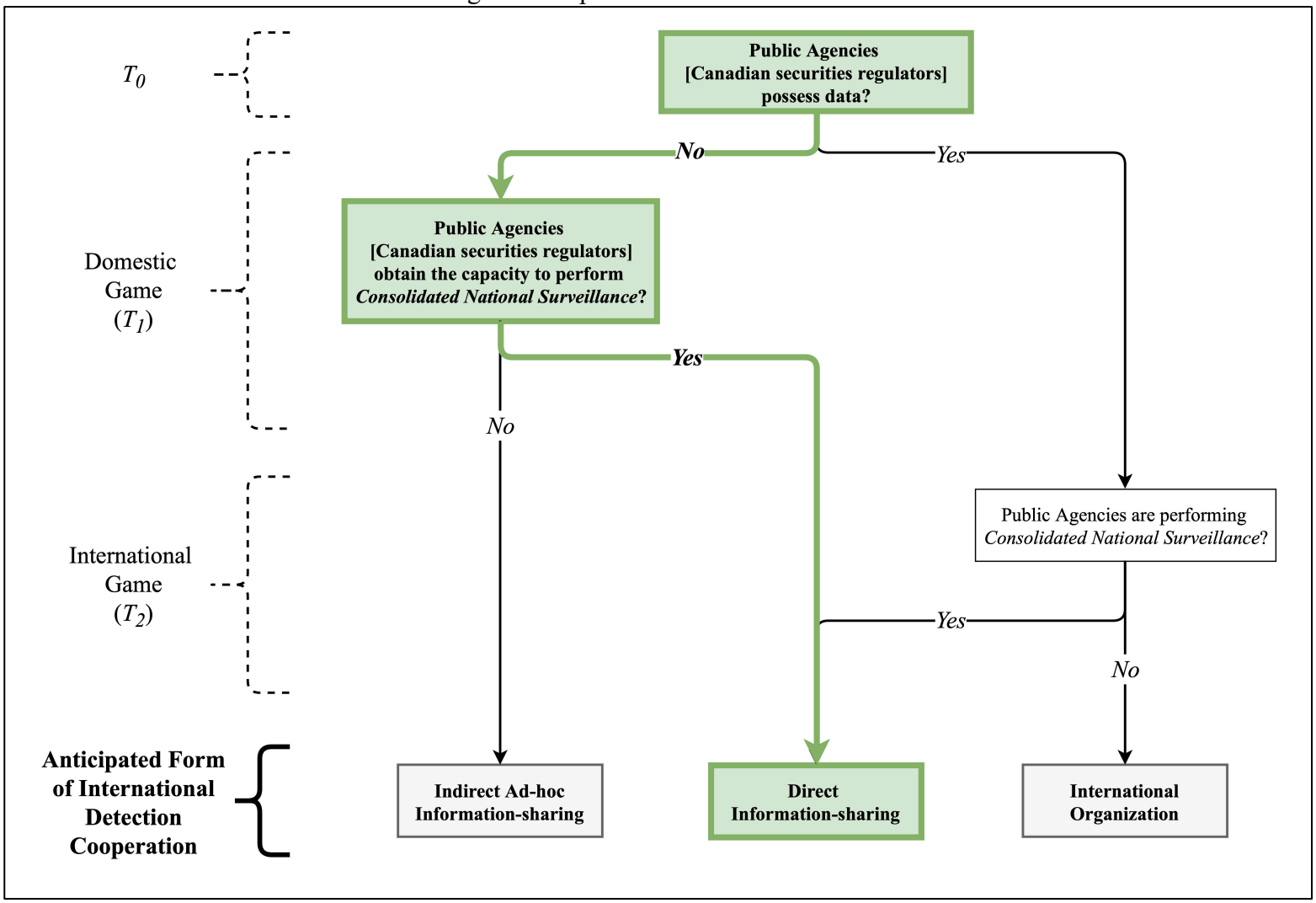
[417] TSE (1998b, 3-6, emphasis added).

This thesis has two subsequent theoretical expectations. First, in accordance with The Market Structure Hypothesis, it is expected that Canadian securities regulators will successfully achieve the capacity to perform CNS. Competition between regulatory intermediaries will create various incentives to support the transition of surveillance responsibilities to RS/IIROC. These incentives have little to do with actually improving the oversight of Canadian securities markets. Rather, regulatory intermediaries will view the transition as an opportunity to save costs and/or impose costs on competitors. To validate the presence and operation of this hypothesized causal mechanism, we should observe regulatory intermediaries exhibit and act upon multiple incentives to support the creation of RS/IIROC. Second, the TLCF anticipates that Canadian securities regulators will follow the causal pathway highlighted in Figure 8. Namely: Canadian regulators lack access to the data at time T_0 and subsequently proceed to the domestic game at time T_1. Canadian regulators are expected to win this game, resulting in RS/IIROC achieving the capacity to perform CNS. In turn, RS/IIROC should, according to the TLCF, engage in Direct Information-sharing on behalf of Canadian securities regulators.

This chapter will also evaluate the Party Politics Argument as an alternative explanation. The 36th and 37th Canadian Parliaments, covering 1997-2004, were controlled by the Liberal Party of Canada, led by Prime Minister Jean Chrétien. The Chrétien governments, consistent with the Liberal Party's progressive agenda, did not exhibit anti-regulatory positions.[418] The Party Politics Argument would not, therefore, expect these governments to intervene in Canadian regulators' attempt to obtain CNS to protect trading venues' exclusive powers.

[418] For more details on the Chrétien governments' policy priorities, see Jeffrey (2010, chs. 9-11).

Figure 8: Expectations for IIROC Case



This figure pertains to the form of international detection cooperation IIROC is expected to utilize.

6.2 Initiation of Attempt to Obtain CNS

"Yes, the referee calls the penalties and hands out the punishment. But the most important role a hockey ref plays is keeping the game fair and keeping it moving."[419]

> *– An appropriately Canadian analogy for market surveillance by Tom Atkinson, the first President and Chief Executive Officer of Market Regulation Services, Inc. (2001)*

Canadian securities regulators' attempt to obtain CNS, unlike the SEC's initiation of the CAT and MOSS projects, was not prompted by an irregular market event. Rather, the initial spark was the TSE's (now TSX) decision to demutualize. By 2000, the TSX was performing a wide range of self-regulatory tasks, including market surveillance. The decision to demutualize, however, raised questions about whether a for-profit entity could be relied upon to perform what are, in effect, public functions.[420] Further, there was widespread concern that, post-demutualization, the TSX would control regulatory tasks that directly impact their commercial competitors (namely: new ATSs and internalization services operated by broker-dealers).

The OSC, Canada's most powerful securities regulator by virtue of the fact that Toronto is within its jurisdiction, was particularly concerned. One OSC regulator present during the transition commented via interview, "Yea, regulation was a big issue at the time in terms of how regulation would continue in a for-profit entity."[421] Another OSC colleague corroborated that the potential conflict of interest of having one for-profit entity regulate its direct competitors was a substantial issue: "…we drove it [the effort to transition surveillance away from the TSX]…because around the same time the ATS rules

[419] Stewart (2001).
[420] Condon (2004, 428-9).
[421] Interview #39.

were being developed. We were concerned about who would regulate the trading on the ATSs. So, whether it was appropriate for a division of TSX to be doing it…"[422]

The OSC subsequently led an effort, in conjunction with Canada's other provincial securities regulators, to remove TSX's surveillance department and transition that task to a new entity: Market Regulation Services, Inc. (RS). RS would obtain the capacity to perform CNS on all Canadian capital markets on behalf of the nation' 13 securities regulators. The creation of RS would disempower regulatory intermediaries. Namely, it would eliminate the TSX's (and other exchanges') exclusive capacity to monitor its own market for abuse. Further, it would subject exchanges to increased oversight by their respective provincial regulators.

In the language of the TLCF, Canadian regulators lacked access to the requisite data at time T_0, proceeded to the domestic game at time T_1, and sought to disempower their regulators intermediaries by creating a new organization, RS, with the capability to perform CNS. At first glance, one might expect Canada's market operators to be highly suspicious of a new regulatory agency. But, consistent with the expectations of the Market Structure Hypothesis, Canada's intermediaries exhibit numerous cost-saving and cost-imposing incentives to support the regulators' obtainment of CNS.

6.3 Exhibited Incentives of Regulatory Intermediaries

Like the SEC's CAT project, RS was proposed at a time in which traditional exchanges (namely, the TSX) were facing new competition from ATSs and internalization services offered by their former member broker-dealers. Throughout the 1990s, the TSX sought

[422] Interview #41. Further corroborated by Interview #31, who acted on behalf of the TSX at the time.

to influence market regulation rules to discourage competition and lobbied the OSC to reject ATS applications.[423] For example, the exchange fought to prevent Instinet, a pioneer of electronic trading, from establishing a Canadian venue. One interviewee that worked for the TSX (then-TSE) at the time noted, "We [the TSE] threw a lot of firepower at their application. We took the position that they were not capable of complying with our rules and would engender dangerous market fragmentation…"[424] This effort appears to have worked: Instinet's application was ultimately rejected. The firm was, however, able to successfully reapply at a later date.[425] And, indeed, the TSX's efforts to suppress competition were ultimately futile. By 2000, the Canadian 'market for markets' had transitioned from natural monopoly to robust competition. The defining characteristic of this shift was a fierce battle between broker-dealers operating new ATSs and traditional exchanges. And, as the next sub-sections demonstrate, this battle provided both groups with incentives to support the transition of market surveillance to RS.

6.3.1 Exhibited Incentives of Broker-dealers

By 2000, Canadian broker-dealers were heavily invested in establishing new venues to compete with the TSX. Over the course of the next ten years, numerous venues such as

[423] One particularly intense battle concerned 'payment for order flow,' whereby trading venues offer rebates in return for market participating executing a certain number of orders and transactions on their venue (Condon 2004, 428). Payment for order flow is a controversial topic, as it arguably incentivizes brokers to send their clients' trades to whichever venue offers the best rebate rather than where they can obtain the best price (Bank of England, HM Treasury, and Financial Conduct Authority 2015; Marcus and Kellerman 2018; Mattli and Kellerman 2019). Canadian broker-dealers favored the allowance of payment for order flow because it enhanced their capacity to compete with the TSX. Namely, these broker-dealers could establish new trading venues and offer generous rebates to attract liquidity away from the exchange. The TSX, in turn, lobbied against payment for order flow. Ultimately, the TSX's position succeeded, and payment for order flow remains effectively banned in Canada (IIROC 2017).
[424] Interview #36.
[425] Ibid. See also Majury (2007).

Bloomberg TradeBook, Chi-X, Instinet Cross, Liquidnet, MATCH Now, Omega, Pure Trading, and Sigma X would emerge.[426] Particularly notable in the early 2000s was Alpha, a new exchange proposed by a consortium of Canada's largest broker-dealers (e.g., RBC Dominion Securities and TD Securities).[427] Alpha personified the changing nature of the Canadian market for markets, in which the former members of the exchanges were now able to create their own competing trading venues at relatively little cost.

The first observed incentive of broker-dealers to support the creation of RS/IIROC is to *Eliminate incumbent advantages* (Incentive G). Prior to 2000, the TSX was responsible for performing market surveillance on all Canadian securities trading. Broker-dealers creating new trading venues did not, however, want their markets regulated by a direct competitor. In 1998, these concerns were plainly expressed in response to the OSC's request for comments from the industry on how best to address the regulation of ATSs.[428] One broker-dealer contended that "Regulation must devolve to an impartial third party. Under a regime of competing trading systems it will no longer be feasible for one of these entities (namely The Toronto Stock Exchange) to have any role in the regulatory regime for obvious reasons…"[429] These 'obvious reasons' included the potential conflict of interest between the TSE's regulatory responsibilities and its commercial incentives. As one firm argued:

> Competitive concerns in the marketplace require that the Commission supervise all [ATSs] directly with respect to manipulative practices. The surveillance function of the exchanges should be transferred to the independent securities

[426] Stikeman Elliott (2011, Appendix B).
[427] Erman (2010).
[428] OSC (1998).
[429] Erglis (1997, 5).

> commissions, *removing the concern that the authority might otherwise be used inappropriately as a barrier to entry*….The commissions should also be more vigilant in its supervision of the exchange.[430]

Thus, in sum, Canadian broker-dealers were concerned that exchanges might misuse their regulatory authority for anti-competitive purposes.[431] The TMX might, for example, be able to tax their direct competitors by raising compulsory regulatory fees.[432] Further, they would possess detailed data on their competitors' customers.[433] And, finally, TMX's continued performance of market surveillance might provide the exchange with the legal right to impose regulatory fines on competing trading venues.

To mitigate these risks, broker-dealers preferred that surveillance responsibilities be transitioned to Canadian securities regulators or a third-party. As the OSC concluded at the end of its public consultation, "[ATSs] and PIAC [Pension Investment Association of Canada] have preferred to search for an arrangement that places [ATSs] outside the orbit of the TSE or other existing trading SROs…"[434] This desire was corroborated by interviewees. One former OSC official commented, "So obviously there was a lot of support by the banks for there to be an independent surveillance [sic] because they would not have wanted Alpha to be regulated by the TSX."[435] Another regulatory professional who represented the TSX during the negotiations confirmed:

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[430] Steiner (1997, 30, emphasis added). Corroborated by Interviews #22, 23, 38.
[431] Similar concerns were expressed by Robert A. Schwartz, Professor of Finance at New York University, during a conference on equity market regulation at the TSE: "I would like to say a word about the governance issue. It is very important and my sympathies are in the direction of demutualization…there are implications for the SRO obligations of an exchange. It is not so easy to privatize if the exchange also has self-regulatory obligations. I have come to really doubt how desirable exchanges' carriage of the regulatory role is and thinking that it should be done separately" (TSE 1997a, 125).
[432] Interview #31.
[433] This concern was expressed in part by Instinet (1998, 30).
[434] OSC (1998, 7).
[435] Interview #37. Corroborated by Interview #38.

> …the firms and members wanted it…because they felt like it would be a big spur to competition, which it did turn out to be – they were correct in that analysis. And that it would be more efficient, which they were also correct on. Because once there were multiple markets on the scene, a centralized solution makes sense. It would be one thing to have several exchanges doing market surveillance mostly trading different securities. But to have a bunch of ATSs and smaller exchanges all trying to perform that function while largely trading the same securities, made no sense whatsoever from a surveillance perspective.[436]

As the interviewee alludes to, broker-dealers viewed the transition of surveillance responsibilities as key to leveling the playing field. Firms creating new trading venues felt that they could not properly compete if the incumbent exchange continued to exercise asymmetrical regulatory authority over their commercial operations.

The above quote also alludes to the second observed incentive of broker-dealers to support the creation of RS: *Save costs through centralization of task* (Incentive D). Performing market surveillance is costly. In 1997, for example, the TSE spent $12.2 (approximately $19.6 million in 2020) on market regulation.[437] Broker-dealers creating new ATSs and/or internalization services, in their efforts to chip away at the TSX's market share, had no interest in incurring similar costs to perform surveillance on their own venues. And, as the next sub-section demonstrates, the cost of surveillance would also provide Canadian exchanges (namely, the TSX) with incentives to support the transition of that task to a new organization.

[436] Interview #36.
[437] TSE (1998a). Inflation adjustment calculated by the author via the following online tool: https://www.usinflationcalculator.com/

6.3.2 Exhibited Incentives of Exchanges

The TSX's decision to transition from a mutual cooperative to a private corporation would radically alter the exchange. As Chairwoman Stymiest noted in 1998, "…we intend to demutualize the exchange to make it more business-driven and profit-oriented, owned by shareholders who will benefit from its success rather than seat holders who do not have an economic interest in the organization."[438] And, indeed, there was a stark change in culture. One senior Vice President, for example, abruptly departed after he was asked to start preparing for competition from ATSs. Toronto newspaper *The Globe and Mail* reported that he "was perceived by insiders as 'coming at everything from a regulatory and compliance perspective, when the TSE is trying to move to more of a profit-motivated footing.'"[439] Interviewees corroborated that the TSX, for most of its history a non-profit, abruptly changed its emphasis to profit maximization:

> It became way more business focused. The policy issues that I was really there doing became less a focus of attention, which is a loss. The stock exchange as a public interest institution really in a large way was diminished. It no longer performs what I thought were positive and sound public interest roles that they had performed to improve things in the markets and build better capital markets. They became just more interested in revenue building, you know, the usually commercial aspects of running a commercial operation…So yea, there was a huge

[438] TSE (1998b, 6).
[439] Blackwell (2001).

> cultural change. New people started coming in that were more business focused.[440]

As the interviewee alludes to, the TSX, like most national exchanges, was considered by many to be a quasi-public utility. Despite accusations of the exchange being an 'old boys' club' with weak oversight, it was still considered to provide certain common goods to all investors through its provision of regulatory services.[441] This approach was sustainable when the TSX was a natural monopoly. But the entrance of new competitors presented an existential threat, leading the exchange to transform its priorities.

As part of this shift, the TSX exhibits incentives to support the creation of RS in order to *Save costs by no longer having to perform task* (Incentive A) and *Subject competitors to enhanced regulatory oversight* (Incentive E). During the debate over ATS regulation in the late 1990s, the TSX (then-TSE) expressed concerns that these new competitors would free ride off their provision of regulatory services: "The Commissions must ensure that there is a level playing field with properly regulated markets that can compete…Unless an acceptable cost-sharing arrangement is in place, the TSE's regulatory expenses will subsidize the operations of its competitors…"[442] The exchange expressed particular concerns about free riding by ATSs, which, at the time, were referred to as Non-SRO Electronic Trading Systems (NETS):

[440] Interview #36.
[441] These regulatory services are common goods because they are non-excludable (all investors benefit from the provision of these services) but rivalrous (the exchange's institutional capacity to provide those services, which is a function of resources, staffing, and expertise, is not unlimited).
[442] TSE (1998a, 16).

> If permitted, NETS will 'free-ride' on the TSE's investment in regulation and information dissemination. Details of trades and orders in the TSE Book will be used to price trades in those NETS. NETS could rely on the TSE to spot pricing irregularities and to vet potential listings to ensure they meet certain standards of quality. NETS can choose to trade only the more liquid TSE issuers, rather than the entire stock list. As NETS will not have to bear the costs of regulation, they will be able to offer a lower-cost service and attract greater order flow from the TSE.[443]

This attitude was a significant departure from the exchange's traditional character as a non-profit mutual cooperative that provides public goods. It reflected the TSX's new commercial approach, involving both an emphasis on reducing costs and an interest in ensuring that competitors are operating on a level playing field.[444]

Initially, the TSX proposed that ATSs contribute to their regulatory costs and/or be obligated to perform similar surveillance tasks: "NETS should be required to become TSE members or establish themselves as an exchange/SRO."[445] But as the negotiations trended toward the establishment of an independent third-party, the TSX recognized an opportunity to not just save costs, but also to potentially make profit.[446] Namely, it was proposed that the TSX's Market Regulation department serve as the basis of RS. In return, the TSX was granted 50% ownership of the newly created entity, with the other half owned by the Investment Dealers Association (IDA), an SRO responsible for overseeing

[443] TSE (1998a, 16).
[444] One interviewee that worked at the TSX before demutualization and within RS after its creation corroborated: "It was all about costs" (Interview #24).
[445] Ibid, 21.
[446] See also Condon (2004, 429), who writes, "The TSX moved quickly, as it were, to capture the market for regulation…"

Canada's broker-dealers.[447] Further, TSX would act at the supplier of information technology and administrative services to RS and have two seats on its Board.[448]

One interviewee speculated, "I do think there were [sic] probably some sort of quid pro quo. That's why they got to have the surveillance system used by the new entity at the cost-plus thing. So I think that there were probably a few deals made."[449] Regardless of what occurred behind the scenes, the TSE reported revenue from RS from 2001 onwards.[450] Thus the exchange was able to reduce the cost of performing surveillance itself, acquire a direct commercial interest in the services offered by RS, and ensure that ATSs were subject to equivalent oversight. As a result, the TSX supported the initiative, and RS was successfully established.

6.4 Outcome: Direct Ad-hoc Information-sharing

In 2001, the OSC and its fellow Canadian securities regulators successfully transferred surveillance responsibilities from the TSX to RS.[451] The TSX was transparent about its purpose: "As an independent service provider…RS Inc. will remove any perception that the TSE might favor its own interests over its competitors in fulfilling regulatory functions."[452] RS established offices in Toronto and Vancouver, and began collecting data on all trading occurring on Canadian exchanges and ATSs.[453] Thus Canadian securities

[447] TSE (2001, 62).
[448] Marotte (2001).
[449] Interview #37.
[450] See TSE (2001, 40; 2002, 60).
[451] Stewart (2001).
[452] TSE (2001, 22).
[453] IDA (2007, 8-9).

regulators successfully disempowered their regulatory intermediaries and created a new organization with the capacity to perform CNS.

Over the course of the 2000s, RS' operations gradually expanded and, by 2007, the organization featured 83 full-time staff and an operating budget of approximately CAN $23 million.[454] In 2008, RS merged with the IDA to form the Investment Industry Regulatory Organization of Canada (IIROC).[455] Interviewees unanimously indicated that this merger was driven be efficiency considerations rather than politics.[456] IIROC now performs near-real-time surveillance on all equities and fixed income trading occurring on Canadian exchanges, ATSs, and over-the-counter (i.e., outside of an organized exchange, including internalized order flow).[457] Because IIROC has jurisdiction over Canadian broker-dealers, it has the capacity to take administrative actions against brokers that engage in market manipulation.[458] If the manipulation is performed by a client of the broker, or involves insider trading, that information is forward to the relevant Canadian securities regulator.[459] To this day, Canada has no federal securities regulator with national jurisdiction. Canada does, however, have a federal agency with the capacity to perform CNS: IIROC.

As a result, IIROC is able to engage in Direct Ad-hoc Information-sharing with foreign authorities, both independently and on behalf of Canada's provincial securities regulators. Though technically a separate entity, IIROC's authority is granted by Canadian regulators and the organization is subject to their oversight.[460] The capacity of

[454] IDA (2007, 9).
[455] Martin (2014, 10).
[456] Interviews #31, 36, 39, 40, 41.
[457] Interviews #32, 33, 34.
[458] Interview #34.
[459] Interview #34.
[460] On the details of this relationship, see, e.g., OSC (2018).

Canadian securities regulators to engage in Direct Ad-hoc Information-sharing via IIROC is integral, as approximately 80% of Canadian securities are cross-listed in the U.S.[461] In the event that, for example, the U.S. SEC requires data on trading activity in Toronto, the OSC can immediately respond by drawing on IIROC's database or directing IIROC to respond itself. The agency does not, in order words, need to first request that data from Canadian trading venues (i.e., private regulatory intermediaries) before responding to information requests from abroad.

6.5 Analysis

In the late 1990s, Canadian securities regulators sought to disempower their regulatory intermediaries by creating a new entity with the capacity to perform CNS: RS (later IIROC). This initiative took place in the context of a competitive market. The TSE, which long held a natural monopoly on Canadian securities trading, suddenly faced competition from their own member broker-dealers. Advances in electronic trading reduced barriers to entry by allowing these broker-dealers to create new trading venues without having to invest in costly physical infrastructure.

Consistent with the expectations of the Market Structure Hypothesis, Canadian securities regulators successfully created RS. Canadian regulatory intermediaries, now composed of stock exchanges (namely, the TSX) and broker-dealers operating ATSs and internalization services, exhibit numerous cost-saving and cost-imposing incentives to support the initiative. And, as a result, RS/IIROC was successfully created and now performs surveillance on all Canadian securities trading.

[461] Interview #33. Canadian stocks also trade in Australia, the UK and Germany.

The IIROC case is also consistent with the TLCF's theoretical expectations. Canadian securities regulators lacked the requisite data at time T_0 and subsequently proceeded to a domestic strategic interaction with their regulatory intermediaries at time T_1. These regulators succeeded, 'winning' the domestic game and creating a new entity with the capacity to perform CNS: RS/IIROC. This new organization could, in turn, engage in Direct Ad-hoc Information-sharing with foreign agencies, both independently and on behalf of Canadian regulators.

How does the Party Politics Argument, an alternative explanation, perform against this case study? The IIROC case is, at face value, consistent with the Party Politics Argument. RS/IIROC was proposed and concluded under successive Liberal Party governments. There is no evidence that these governments intervened to protect regulatory intermediaries' exclusive powers. The Party Politics Argument does not, however, provided any insight into the causal mechanisms by which this relationship operates. If, hypothetically, the Canadian government were to try and intervene, we could reasonably expect regulatory intermediaries to *reject* this intervention. As this chapter's analysis demonstrates, these intermediaries had numerous incentives to *support* the transition of surveillance responsibilities to RS/IIROC.

Might IIROC and Canadian securities regulators be interested in allocating surveillance powers to an IO? Interviews with regulatory practitioners indicated that this would have various functional benefits.[462] As one senior OSC official commented: "That's a great idea, an international surveillance system would be wonderful…I think it would be really interesting to have some kind of INTERPOL-like agency that looks at fraudulent and criminal activity on the markets globally. Because I think there's a lot

[462] Interviews #32, 33, 34, 35.

going on…"[463] Another regulator corroborated, "I think to a certain degree, we put a huge amount of reliance on our equals in other jurisdictions. Could you do a better job if you could stitch it all together? I think the answer likely is yes…"[464]

This thesis' Bureaucratic Self-interest Hypothesis would, however, anticipate that IIROC and Canadian securities regulators would not participate in such an arrangement. After having acquired the capacity to perform CNS, these agencies would have little interest in sacrificing that exclusive power to an IO they cannot fully control. One of the interviewees quoted above speculated that this is correct: "…I just don't see how it's ever going to occur. Because nobody wants to give up their oversight to a third-party body or something that is so integral to the economy of the country."[465] We cannot test this claim here because Canada has never been presented with such an opportunity. What we need, therefore, is a case in which national public agencies considered allocating surveillance powers to an IO. It is to just such a case that this thesis now turns.

[463] Interview #35.
[464] Interview #33.
[465] Interview #35.

7 Case Study: ACER

In the late 2000s, European Union (EU) energy regulators considered allocating market surveillance powers to a new International Organization (IO), the Agency for the Cooperation of Energy Regulators (ACER). At the time, each EU energy regulator had access to data on the trading of electricity, gas, and related derivative products within their respective national jurisdictions. They used this data to perform various regulatory functions, such as conducting research and estimating consumer energy prices.[466] Surveilling that data for market abuse is, however, another task entirely, requiring sizeable investments in technological infrastructure and expert staff. When EU energy regulators considered allocating surveillance powers to ACER, they had not made these investments. In other words, they had access to the requisite data but were not performing Consolidated National Surveillance (CNS) on that data.

This case provides us with an opportunity to test The Bureaucratic Self-interest Hypothesis and the aggregate TLCF framework. This hypothesis contends that public agencies performing (not performing) CNS will, all things equal, engage in Direct Information-sharing (an International Organization). The causal mechanism is bureaucratic self-interest. Public agencies with the exclusive capacity to perform CNS will have numerous incentives to maintain the powers and benefits it affords. Thus the hypothesis anticipates that such agencies will reject sacrificing that exclusivity to an International Organization they can neither fully control nor prevent from absorbing jobs, expertise, and global stature.

[466] CESR/ERGEG (2008).

By the mid-2000s, however, EU energy regulators had *not* achieved the capacity to perform CNS. The hypothesis subsequently anticipates that these regulators will allocate surveillance powers to ACER. Because these regulators had not invested the time and resources into performing surveillance, they will not view the IO as a threat to their (non-existent) capabilities. Thus we should observe these regulators exhibit zero bureaucratic, self-interested incentives to reject the IO. In the language the TLCF, EU energy regulators had access to the requisite data at time T_0 and proceed directly to the 'international game' at time T_2. Because these regulators are *not* performing CNS, the framework would subsequently expect them to cooperate via an IO at time T_{2+}.

One potential confounding variable that is important to consider is the 2007-09 Global Financial Crisis (GFC). EU regulators debated allocating surveillance powers to ACER two years after the GFC. This crisis was, by multiple measures, the largest of its kind since the 1930s.[467] EU energy markets were not immune to its effects; suppliers and traders were hit by sharp decreases in energy prices and a credit crunch that substantially increased borrowing costs.[468] Further, the crisis has been found to have significantly increased the quantity of EU citizens classified as living in 'energy poverty,' i.e., lacking basic access to affordable electricity and gas on a consistent basis.[469]

The GFC subsequently created increased political will within the EU (and abroad) to more stringently regulate the financial sector.[470] One might subsequently expect that this exogenous shock increased the likelihood of national energy regulators supporting the allocation of surveillance powers to ACER. If true, this would raise questions as to whether our inability to 'control' for the GFC undermines our capacity to infer the causal

[467] Wheelock (2010).
[468] Fritz-Morgenthal et al. (2009); Lewiner (2010).
[469] Oliveras et al. (2020).
[470] For a review of the EU's policy responses, see Eubanks (2010).

accuracy of the Bureaucratic Self-interest Hypothesis. Worse, it might suggest that the outcome is driven by anomalous, GFC-induced circumstances favouring increased regulation of the financial sector rather than the hypothesized independent variable. To evaluate whether this is the case, this chapter will assess whether EU energy regulators (a) allocate surveillance powers to ACER and (b) make substantial references to the GFC as a primary motivating factor for this decision.

To test the Bureaucratic Self-interest Hypothesis, this chapter evaluates empirical evidence drawn from three primary sources. First, the author conducted elite interviews with approximately 35 regulatory practitioners specializing in surveillance, enforcement, and EU regulatory cooperation. Of these interviews, approximately 25 were conducted in London, Paris, Frankfurt, Bonn, Amsterdam, and The Hague. Additional telephone interviews were conducted with individuals based in Rome, Milan, Berlin, Stockholm, Oslo, Vienna, Zurich, and ACER's headquarters in Ljubljana. The second source of data is publicly available reports and legislative debates related to the creation of ACER. Finally, the author consulted letters composed in response to EU agencies' requests for comments on ACER and the regulation of European energy markets.

The empirical results corroborate the Bureaucratic Self-interest Hypothesis and, more generally, the TLCF. In the language the framework, EU energy regulators had access to the requisite data at time T_0 and proceeded to the 'international game' at time T_2. They subsequently considered allocating surveillance powers to ACER as an alternative to engaging in Direct Ad-hoc Information-sharing. These regulators were *not* performing CNS and, accordingly, exhibit no bureaucratic self-interest to maintain their (non-existent) surveillance powers. The empirical evidence clearly indicates that, rather than considering ACER a threat, EU energy regulators viewed the allocation of

surveillance powers to an IO as an appropriate, functional solution to the detection of transnational market abuse. As a result, ACER was granted the capacity and mandate to perform consolidated surveillance of European energy markets. Thus, in the terminology of the TLCF, EU energy regulators had access to the requisite data at time T_0, proceeded to the international game at time T_2, and ultimately cooperated via an IO at time T_{2+}.

7.1 Background and Theoretical Expectations

From the end of World War II to the late 1970s, most European states featured a single, state-run energy supplier.[471] These suppliers were natural monopolies, with full horizontal and vertical integration of energy provision.[472] States desired to monopolize energy infrastructure because it was considered an essential component of statehood and had direct ties to security (e.g., nuclear power).[473] Therefore, European states had national, closed systems for producing and transporting energy.[474] Cross-border connections existed, but each national supplier maintained monopoly rights within their respective jurisdiction.[475]

In the 1990s, EU states began privatizing their energy markets in an effort to construct a single European energy market.[476] This effort was closely tied to the 1987 Single European Act, which sought to encourage the free movement of goods, persons, services, and capital within the Union.[477] To facilitate this process, EU states engaged in

[471] Mez, Midttun, and Thomas (1997, 3-6).
[472] Hancher and de Hauteclocque (2010, 307).
[473] Mez, Midttun, and Thomas (1997, 4).
[474] Ibid.
[475] Ibid.
[476] Haverbeke, Naesens, and Vandorpe (2010). See also Eberlein (2003).
[477] See Ehlermann (1987).

a gradual process of increased regulatory harmonization. This began with the 'First Energy Package,' covering electricity (1996) and gas (1998).[478] The Second Energy Package was introduced in 2003 and involved a substantial expansion of these common rules.[479] Further, it required that each member state have an independent National Regulatory Authority (NRA) with the mandate to oversee energy market regulation.[480] The 2003 Directives did not, however, require that these NRAs perform surveillance to detect market abuse.[481] In 2009, the EU introduced the Third Energy Package, which introduced further harmonization measures, solidified the independent of NRAs, and created ACER.[482] Whether ACER should perform market surveillance would not be decided, however, until regulators debated the 2011 Regulation on Wholesale Energy Market Integrity and Transparency (REMIT).[483]

NRAs have played an essential role in negotiating European energy integration, often through transnational regulatory networks. In the late 1990s, the European Commission created the European Forum for Electricity Regulation, often referred to as the 'Florence Process' because of its biannual meetings in Italy.[484] Through the Florence Process, EU agencies, NRAs, and industry representatives collaborate to produce non-binding (but highly influential) policy recommendations.[485] One important participant is the Council of European Energy Regulators (CEER), which represents all energy NRAs

[478] Gouardères (2019).
[479] Ibid.
[480] European Council (2003).
[481] The only monitoring requirements pertained to the supply and balance of energy and assuring network quality (see, e.g., European Council 2003, Article 4). These are fundamentally different tasks from market surveillance, which requires the creation of sophisticated algorithms, overseen by expert staff, with the capacity to recognize complex methods market manipulation and insider trading.
[482] European Commission (2020).
[483] European Union (2011).
[484] Eberlein and Grande (2005, 100).
[485] Ibid.

in the EU and European Economic Area (EEA).[486] Another key organization, prior its replacement by ACER, was The European Regulators Group for Electricity and Gas (ERGEG), a formal advisory body to the European Commission.[487]

The creation of ACER was an evolution of this growing ecosystem of international regulatory networks.[488] As one study neatly summarizes, its original purpose was to "provide a framework for the cooperation of NRAs, complement their actions at EU level to address regulatory gaps on cross-border issues, and provide greater regulatory certainty."[489] ACER was, in other words, conceived as a coordinating actor with limited decision-making power.[490] Whether ACER should be invested with the capacity to perform consolidated surveillance of European energy markets to identify insider trading and manipulation was another question entirely.

When this question was considered in the mid to late-2000s, European energy regulators (i.e., NRAs) had access to data on the trading of electricity, gas, and related derivative contracts within their respective jurisdictions.[491] This data was essential to a key responsibility of energy regulators, that is, to ensure that consumers have consistent access to electricity and gas. Prior to the 1990s, this task was straightforward: the state itself normally controlled the production and transportation of energy. But, as a result of privatization, electricity and gas became tradeable assets subject to speculation by self-interested actors. These transactions would, in turn, determine the daily fluctuations in energy prices paid by consumers. Energy regulators subsequently began collecting this

[486] CEER currently has 39 members, including nine observers.
[487] IPE scholars have pointed toward this process as an archetypical example of transnational regulatory networks 'filling governance gaps' to address issues that are too sensitive to be decided within formal International Organizations (Eberlein 2003; Eberlein and Grande 2005; Eberlein and Newman 2008).
[488] Hancher and de Hauteclocque (2010, 313).
[489] Ibid, 314.
[490] On ACER's decision-making power, see Hancher and de Hauteclocque (2010, 318-21).
[491] The precise details of this access naturally varied by member state (CESR/ERGEG 2008).

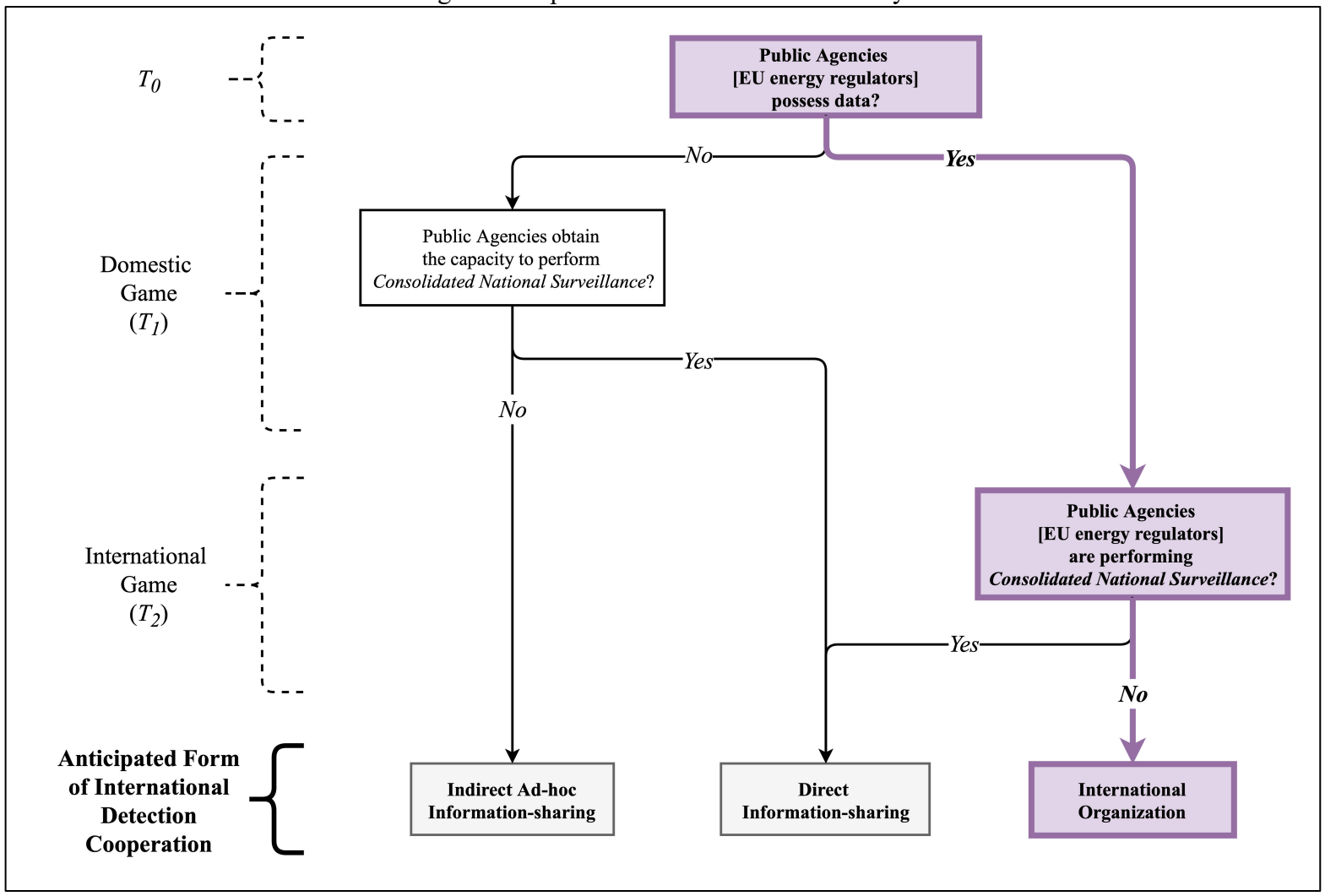
trading data to ensure that these fluctuations continued to provide electricity and gas to consumers safely, consistently, and at reasonable prices.[492]

European energy regulators were not, however, performing CNS on this data to identify market abuse. In 2008, the CESR and ERGEG undertook a joint fact-finding mission, and found that EU energy regulators left the identification of market abuse to their respective energy exchanges.[493] And, for certain types of contracts, such as over-the-counter (OTC) gas derivatives, there was simply no oversight at all.[494] Francesca Favero, Senior Economist in the U.K. Office of Gas and Electricity Markets' (Ofgem) Oversight department, confirmed via interview: "before ACER, there were no rules, no obligations for firms to report...Some regulators had no experience looking at this stuff."[495] Kirsten Bouwens, Coordinator at The Netherlands Authority for Consumers and Markets (ACM), confirmed: "…NRAs weren't doing that yet."[496] Therefore, EU energy regulators were *not* performing CNS when they considered investing ACER with the capacity and mandate to conduct pan-European market surveillance.

This thesis has two subsequent theoretical expectations. First, in accordance with the Bureaucratic Self-interest Hypothesis, it is expected that EU energy regulators will allocate surveillance powers to ACER. Because these regulators had yet to develop the exclusive capacity to perform CNS, they had yet to accrue the power, material benefits, or ideational benefits it affords. Therefore, it is anticipated that they will not see ACER as a threat to their (non-existent) bureaucratic self-interests. Second, the TLCF anticipates

[492] On the development of these challenges, see von Danwitz (2006).
[493] CESR/ERGEG (2008, responses to question C3). Responses were not received from Bulgaria, Cyprus, and Ireland. Subsequent research by the author resulted in no evidence that these countries' NRAs were performing market surveillance prior to 2008.
[494] Ibid, responses to question C3.
[495] Interview #61.
[496] Interview #62.

Figure 9: Expectations for ACER Case Study



This figure pertains to the form of international detection cooperation EU energy regulators are expected to utilize.

that EU energy regulators will follow the causal pathway highlighted in Figure 9. Namely: EU energy regulators possess the requisite data at time T_0 and subsequently proceed to the 'international game' at time T_2. These regulators are not performing CNS, and, therefore, it is expected that they will cooperate via an IO at time T_{2+}: ACER.

7.2 Initiation of International Game

"He just f***s California. He steals money from California to the tune of about a million."
"Will you rephrase that?"
"OK, he, um, he arbitrages the California markets to the tune of a million bucks or two a day."[497]
– Enron Traders discussing their manipulation of California energy markets (late 1990s)

In the mid-2000s, EU energy regulators began debating the potential allocation of market surveillance powers to ACER. Regulators' primary concern was identifying transnational insider trading and manipulation occurring across European markets. The origins of this fear lie, however, 5,000 miles away in sunny California. Over the course of the 1990s and 2000s, California led a nationwide trend of deregulating energy markets.[498] This process was driven in part by lobbying efforts by Enron, the infamous energy trading firm known for, among other transgressions, highly-questionable accounting practices.[499] Enron traders subsequently bought and sold energy products and related derivative instruments as a means of manipulating California electricity prices.[500] The result was rolling blackouts and, in turn, anger over what was widely perceived as a tepid response by the California state government.[501] In response to this 'Western U.S. energy crisis,' voters

[497] Roberts (2004).
[498] Warwick (2002).
[499] Berenson and Oppel Jr. (2001). See also, more generally, McLean and Elkind (2004).
[500] FERC (2003).
[501] T. Patterson (2003).

recalled Governor Gray Davis, who would ultimately be replaced by Republican Arnold Schwarzenegger.[502] Thus, in true Hollywood fashion, Enron's market manipulation scheme indirectly led to the election of 'The Governator.'

European regulators were well aware of the California electricity crisis, and an additional scandal closer to home raised fears that EU markets were vulnerable to Enron-like manipulation schemes.[503] In the mid-2000s, E.ON, the German electricity company, was accused of withholding energy production as a means of artificially increasing prices.[504] In Germany, like many deregulated European energy markets, suppliers and traders constantly transact energy products on exchanges. These transactions, in turn, determine the fluctuating price of electricity.[505] Allegedly, E.ON withdrew or refrained from bidding certain amounts of electricity in order to push prices higher.[506] Further, the European Commission contended that E.ON discouraged third parties from supplying energy by offering them contracts in, or shares of, E.ON projects.[507] The case, which was ultimately settled, raised new concerns about whether EU energy regulators were able to identify and prosecute transnational market abuse.[508]

In response to these concerns, and in conjunction with wider efforts to create a single European energy market, EU regulators began debating REMIT. This Directive would, *inter alia*, clarify the definitions of market abuse in energy markets and strengthen transactional reporting requirements.[509] While debating these measures, a European

[502] Gerston and Christensen (2004).
[503] In the European Commission' Impact Assessment of REMIT, the 'Problem Definition' section begins with a summary of the Enron scandal (European Commission 2010a, 9).
[504] Chauve et al. (2009).
[505] For more details on this complicated process, see Warwick (2002).
[506] Chauve et al. (2009, 51).
[507] Ibid, 53.
[508] It also raised substantial competition concerns, as E.ON was accused of abusing its dominant position in the market to impact electricity prices. See Chauve et al. (2009).
[509] European Union (2011).

Commission impact assessment determined that EU energy prices were increasingly interconnected, but that the current organization of surveillance responsibilities precluded regulators from identifying transnational market abuse:

> EU energy markets increasingly cross national boundaries…As a result price setting is not tied to a particular market as prices are set based on supply and demand in several countries…What this means is that energy bids and offers in one country affect prices in each of its neighbors. *These bids and offers are not easily visible to those charged with market oversight*. Even where information can be exchanged between countries, the process is cumbersome and does not lend itself to early and efficient identification of suspicious trading patterns.[510]

The report goes on to detail how nefarious actors might engage in transnational market abuse. For example, one might suppress energy capacity in France as a means of manipulating the price of related derivative contracts trading in Germany.[511] Any one exchange performing surveillance would not be able to recognize this scheme. "Only by combining knowledge of the market participant's actions on both the French and German markets, can the market abuse be detected."[512] In other words, the EU's siloed system of *national* surveillance by exchanges was no longer sufficient to oversee what was now an *international* market for electricity and gas.

To address this issue, it was proposed that ACER's headquarters in Ljubljana, Slovenia, be provided with the capacity to perform consolidated surveillance of all EU

[510] European Commission (2010a, 6-7).
[511] Ibid, 9.
[512] Ibid.

energy markets to identify transnational abuse.[513] It was not proposed, however, that ACER be granted the power to take enforcement actions. Rather, ACER would perform pan-European surveillance, undertake initial investigations, and forward suspicious cases to the relevant EU energy regulator(s). As the next section details, EU energy regulators did not view this as a threat to their bureaucratic self-interests. To the contrary, evidence collected from interviews, publicly available letters, and EU reports indicate widespread support for allocating surveillance powers to an IO.

7.3 Exhibited Incentives of EU Energy Regulators

After identifying faults in the EU's system of energy market oversight, the European Commission requested comments on how best to proceed. ERGEG, which represented all EU energy regulators, corroborated that EU-level surveillance was necessary: "Pure wholesale trade monitoring should be coordinated at EU-level in close cooperation with national entities…"[514] And, when asked about allocating this power to ACER, ERGEG expressed support while noting that this would require political approval:

> The issue of responsibility is a political issue. Thus, it has to be discussed between Member States, European Commission and European Parliament. In any case, the Almunia proposals [proposals by European Commissioner Joaquín Almunia to strengthen EU financial regulation in response to the 2008 global financial crisis]…have to be taken into account. However, given the envisaged regulatory

[513] European Commission (2010b, 24-5).
[514] ERGEG (2010, 7).

> structure under the 3rd Package it seems natural that ACER plays a vital role in coordinating monitoring activities…Moreover, ACER should perform 'central monitoring tasks'…[515]

As demonstrated by the above reference to the Almunia proposals, EU energy regulators were discussing the allocation of surveillance powers in the midst of the GFC, the largest crisis of its kind in decades.[516] Available evidence indicates, however, that the original motivation for the proposal is more directly tied to the experience of Enron and, closer to home, the highly-publicized E.ON manipulation case. Neither EU reports nor responses from energy regulators make substantial references to the crisis.[517] Nor is there mention of the crisis in REMIT's recitals, i.e., opening paragraphs that summarize the justification for, and primary motivations of, EU Directives.[518]

ERGEG also supported the idea of ACER or another EU-level institution performing consolidated surveillance of carbon trading.[519] The French Government corroborated this support:

> The European nature of the CO_2 market militates for a harmonized supervision at [sic] European level, whatever the selected architecture is. From an operational point of view, a system with several national oversight authorities without any

[515] ERGEG (2010, 7).
[516] On the impact of the global financial crisis in Europe, see European Commission (2009b).
[517] The European Commission Impact Statement makes no mention of the global financial crisis, despite its 2010 publication date (European Commission 2010a).
[518] Instead, it highlights the problem of transnational market abuse: "Wholesale energy markets are increasingly interlinked across the Union. Market abuse in one Member State often affects not only wholesale prices for electricity and gas across national borders, but also retail prices to consumers and micro-enterprises. Therefore the concern to ensure the integrity of markets cannot be a matter only for individual Member States. Strong cross-border market monitoring is essential for the completion of a fully functioning, interconnected and integrated internal energy market." (European Union 2011, Recital 4).
[519] Ibid, 9-10.

> central steering or coordination would risk resulting in heterogeneous rules or inconsistent implementation of these rules in various states, in increased market surveillance costs and reduced inefficiency, and in possible regulatory arbitrages…As regards the reporting of market information, a European surveillance system would also be more practical and less expensive for market players.[520]

The UK Government also noted that "ACER would be an appropriate monitoring body" while stressing that it should work in close cooperation with national energy regulators, financial regulators, and other EU agencies.[521] The only other governmental agencies to provide separate responses to the European Commission's request for comments were the Swedish Ministry of Industry and the Federal Republic of Germany.[522] The Swedish Ministry does not comment on the allocation of surveillance responsibilities to ACER.[523] The Federal Republic of Germany notes that there may be advantages to endowing NRAs with surveillance responsibilities given their knowledge of local markets, but does not explicitly oppose the initiative.[524] Thus the available textual evidence indicates widespread support among EU energy regulators and their respective governments (with the potential exception of Germany's skepticism). Most important for our purposes, there is no evidence of EU energy regulators exhibiting bureaucratic self-interests to prevent the allocation of surveillance powers to an IO.

Interviewees corroborated that allocating surveillance powers to ACER was viewed as a functional solution rather than a threat. ACER's Director, Alberto Pototschnig, noted: "If you

[520] French Authorities (2010, 8).
[521] UK Government (2010, 5).
[522] Federal Republic of Germany (2010); Swedish Ministry of Industry (2010).
[523] The Swedish contribution was translated using Google Translate. Though not a perfect tool, this indicated that there was no mention of ACER (the acronym does not appear in their letter).
[524] Federal Republic of Germany (2010, 5). This letter, which was written in German, was translated using Google Translate.

have an internal energy market with cross-border trading is seems almost obvious that you would have some kind of European-wide surveillance of market transactions."[525] Kirsten Bouwens, REMIT Coordinator for ACM, the Netherlands' energy regulator, agreed:

> Well ACER was already there, right. So, ACER was created with the Third Package, which is the gas and electricity regulation. So, ACER was there already, it already had a role. And then REMIT came along and I think it was quite logical that because there is coordination work to be done, that ACER would take up the coordination work…it wasn't too controversial…[ACER was not viewed as a threat], especially not because not everyone was doing their own surveillance.[526]

This was further corroborated by Nora Meray, Senior Enforcement Officer at the ACM, who noted, "I think we all see the added value in ACER."[527] Representatives of Germany's energy regulator, the German Regulatory Authority for Electricity, Gas, Telecommunications, Post and Railway (BNetzA), confirmed this notion. Dr. Annegret Groebel, Director of International Relations at BNetzA, remarked that the allocation of surveillance powers to ACER "was not perceived as threatening" but rather as a functional solution to the integration of European energy markets.[528] This was further confirmed by Francesca Favero, Senior Economist at the UK's Ofgem, which was, prior to Brexit, an EU energy regulator.[529]

Thus, in sum, elite interviews, consistent with the written views expressed by ERGEG, indicate widespread support among EU energy regulators for allocating surveillance powers to

[525] Interview #27.
[526] Interview #62.
[527] Interview #63.
[528] Interview #80.
[529] Interview #61.

ACER. Interviewees neither exhibit nor report any bureaucratic self-interests to prevent this initiative. Nor is there evidence that GFC-specific circumstances drove their decision and/or led them to override reservations about granting ACER surveillance powers. Rather, EU energy regulators viewed the initiative as a natural functional response to (a) increased integration of European energy markets and (b) energy-specific scandals such as Enron and E.ON.

7.4 Outcome: International Organization

The European Commission, after concluding its consultation process, added to REMIT an obligation for ACER to perform market surveillance. EU states unanimously approved the Directive in 2011.[530] As a result, ACER is now obligated to "monitor trading activity in wholesale energy products to detect and prevent trading based on inside information and market manipulation."[531] To facilitate this surveillance, REMIT requires market participants to continuously report their orders and transactions to ACER, thereby creating a consolidated database of European energy trading.[532] ACER also receives "fundamental data," which refers to information related to the production, storage, consumption, and transmission of energy. This data allows the agency to determine if traders may be acting on inside information of price-sensitive fundamental data, such as forthcoming disruptions to energy supply.[533]

ACER's performance of market surveillance is no small undertaking. The agency receives approximately two million records per day and applies algorithms to detect

[530] European Council (2011).
[531] European Union (2011, Article 7).
[532] Ibid, Article 8.
[533] European Commission (2014a, ch. 3).

irregular trading behavior.[534] Once suspicious activity is identified, staff review alerts and, where deemed appropriate, undertake an initial analysis.[535] Alerts deemed legitimate are forwarded to the relevant national energy regulator(s).[536] These regulators maintain responsibility for bringing civil and/or criminal enforcement actions in response to violations of REMIT. For cases of transnational market abuse, ACER may play an orchestrating role, facilitating the sharing of ancillary information and coordinating national energy regulators' actions.[537] Further, it can distribute data to NRAs, some of whom, such as France's Energy Regulatory Commission, started developing their own domestic surveillance capabilities after the passage of REMIT.[538]

Interviewees with direct knowledge of ACER's work indicated that its capacity to conduct pan-European surveillance is highly beneficial. One ACER staff member, who preferred to speak on the condition of anonymity, noted that the agency is able to identify suspicious activity that no one exchange or energy regulator could observe: "…if NRAs only looked at their national markets they would not see the other side because they can't see the cross-border aspect."[539] Dr. Annegret Groebel of Germany's BNetzA corroborated that "ACER can see activity that no one regulator would be able to."[540] In so doing, ACER facilitates a form of international detection cooperation that is fundamentally different from Indirect Ad-hoc Information-sharing or Direct Information-sharing. Namely, the agency can directly surveil all EU energy trading for transnational market abuse.

[534] Interview #27, 28.
[535] Interviews #27, 28, 63, 80.
[536] Interview #63.
[537] Interviews #27, 28, 63, 80.
[538] CRE (2016). Representatives of the CRE's surveillance and International Relations departments did not respond to the author's repeated requests for an interview.
[539] Interview #28.
[540] Interview #80.

7.5 Analysis

In the late 2000s, EU energy regulators considered allocating surveillance powers to an International Organization, ACER, as a means of cooperating on the detection of transnational market abuse. This debate was inspired by a string of high-profile energy market scandals, most notably Enron and, closer to home, E.ON's alleged scheme to suppress energy production as a means of manipulating prices. These events raised concerns that *national* surveillance by energy exchanges was no longer sufficient to monitor Europe's increasingly *international* energy markets.

At the time, EU energy regulators possessed domestic energy trading data, which they used to ensure that consumers had consistent access to electricity and gas at reasonable prices. These regulators were not, however, surveilling that data for insider trading and market manipulation. In other words, they had yet to acquire the requisite hardware, software, staff, and expertise necessary to perform CNS. As a result, these regulators had no surveillance-based bureaucratic self-interests (power, material benefits, and ideational benefits) to protect.

Consistent with the expectations of the Bureaucratic Self-interest Hypothesis, EU energy regulators granted ACER surveillance powers. Textual evidence, in combination with elite interviews in 11 European states, indicate that EU energy regulators viewed this allocation of surveillance powers as an appropriate functional solution to the problem of transnational market abuse. There is no evidence that these regulators viewed ACER as a threat to their bureaucratic self-interests. As a result, unelected bureaucrats in Ljubljana, Slovenia have the capacity and mandate to directly surveil energy trading occurring in all EU member states. Interviewees unanimously indicated that this has had

a positive impact on market oversight; ACER can surveil transnational activity that no one exchange or NRA can observe.

What about the potential confounding effect of the GFC? EU energy regulators were, naturally, well aware of the crisis as they negotiated the potential allocation of surveillance powers to ACER. Available empirical evidence does not indicate, however, that the GFC was a primary motivating factor. Nor is there evidence of regulators suppressing reservations about the initiative because of GFC-related considerations. Neither EU energy regulators, the European Commission, nor REMIT text make substantial references to the GFC. Rather, the evidence clearly indicates that more specific concerns about European energy market integration, in combination with the Enron and E.ON scandals, inspired the debate.

The ACER case indicates that the Bureaucratic Self-interest Hypothesis provides a convincing explanation for the outcome of the international game. It is difficult, however, to make strong conclusions on the basis of one case. What would be helpful is to have an additional case occurring in the same states and in the same time period (specifically, after the GFC) but with a different ultimate outcome. Such variation on the independent and dependent variables allows for the pursuit of confirmatory evidence rather than mere exploratory analysis.[541] Happily, there is such a case. Not long after the allocation of surveillance powers to ACER, EU securities regulators considered providing similar powers to ESMA. Unlike the ACER case, however, numerous EU securities regulators had invested the time and resources to obtain the capacity to perform CNS on their domestic markets. And, as the next chapter demonstrates, this created bureaucratic self-interests to reject allocating surveillance powers to an IO.

[541] Gerring (2008); Seawright and Gerring (2008).

8 Case Study: ESMA

EU securities regulators twice considered allocating market surveillance powers to an International Organization. The first instance took place from approximately 2008-2012, when EU regulators debated the details of the Market Abuse Regulation (MAR). The second instance took place from approximately 2018-2019, when the European Securities and Markets Authority (ESMA) reviewed the early performance of MAR and re-considered the possibility of performing pan-European surveillance.

Like their contemporaries in the energy sector, EU securities regulators had a pre-existing IO in mind: ESMA. But, unlike EU energy regulators, multiple EU securities regulators were performing Consolidated National Surveillance (CNS) by 2010. Most notable during the first round of negotiations was the UK Financial Conduct Authority (FCA) The FCA had invested substantial time and resources into building an in-house market surveillance system operated by expert staff. And, by the time ESMA re-visited this debate in the late 2010s, numerous additional regulators, such as the Netherlands Authority for the Financial Markets (AFM) and Germany's Federal Financial Supervisory Authority (BaFin) had developed their own systems.

The Bureaucratic Self-interest Hypothesis would expect EU securities regulators to reject allocating surveillance powers to ESMA. The exclusive capacity to perform CNS is a significant source of power, material interests, and ideational interests. Therefore, it is expected that, during the first round of negotiation, the FCA will oppose the ESMA initiative in order to protect their exclusive surveillance powers. The result should be the same in 2019, as more EU securities regulators acquire the exclusive capacity to perform

CNS and, in turn, develop bureaucratic self-interests to maintain the powers and benefits that exclusivity affords. In the language of the TLCF, EU regulators lack access to the requisite data at time T_0 and proceed to the 'domestic game' at time T_1. These regulators win the domestic game, thereby achieving the capacity to perform CNS. As a result, EU securities regulators are expected to reject the allocation of surveillance powers to ESMA and cooperate via Direct Information-sharing at time T_{2+}. This chapter will focus specifically on the international game as a means of testing The Bureaucratic Self-interest Hypothesis and the TLCF's second 'phase.'

This chapter will also consider the potential mitigating role of the Global Financial Crisis (GFC). The GFC was an exogenous shock that created substantial political will to more stringently regulate the financial sector. One might subsequently expect that this exogenous shock increased the likelihood of national securities regulators supporting the allocation of surveillance powers to ESMA. If true, this would raise questions as to whether we are truly observing the independent variable's hypothesized impact on the outcome of the international game. It might suggest, in contrast, that the outcome is driven by anomalous circumstances favouring increased regulation. To evaluate whether this is the case, this chapter will assess whether EU securities regulators (a) allocate surveillance powers to ESMA and (b) make substantial references to the GFC as a primary motivating factor. Such evidence would decrease our confidence in the Bureaucratic Self-interest Hypothesis (but not eliminate it from contention).

To undertake this test, this chapter evaluates empirical evidence drawn from three primary sources. First, the author conducted elite interviews with approximately 40 regulatory practitioners specializing in surveillance, enforcement, and EU regulatory cooperation. Of these interviews, approximately 30 were conducted in London, Paris,

Frankfurt, Bonn, Amsterdam, and The Hague. Additional telephone interviews were conducted with individuals based in Rome, Milan, Berlin, Stockholm, Oslo, Vienna, Zurich and Ljubljana. The second source of data is publicly available reports and legislative debates related to the creation of MAR. Finally, the author consulted letters composed in response to ESMA's requests for comments on MAR and related EU regulations such as the Markets in Financial Instruments Directive II (MiFID II).

The empirical results corroborate the Bureaucratic Self-interest Hypothesis, and, more generally, the TLCF. In the language of the framework, EU securities regulators lacked access to the requisite data at time T_0 and proceeded to the 'domestic game' at time T_1. Multiple EU securities regulators 'won' these games and obtained the capacity to perform CNS. EU securities regulators subsequently proceeded to the 'international game' where they were presented with a choice between two forms of international detection cooperation: Direct Information-sharing versus allocating surveillance powers to an IO (ESMA). Regulators that had obtained the capacity to perform CNS exhibited numerous bureaucratic incentives to reject the allocation of surveillance powers to ESMA. Specifically, regulators in the United Kingdom, France, Italy, Germany, and the Netherlands exhibit incentives to avoid the loss/reduction of *Internal power over domestic market, policy, and investigations* (Incentive I); *employment* (Incentive K); *expertise* (Incentive L); *sunk costs* (Incentive M); and *control over 'turf'* (Incentive O). And, as a result, these regulators rejected cooperating via an IO, preferring instead to engage in Direct Information-sharing.

8.1 Background and Theoretical Expectations

Europe features some of the most liquid securities markets in the world.[542] In February 2020 alone there were approximately 262 billion equities transactions in Europe with a total value of more than EUR 1.8 trillion.[543] In the same month, European traders completed approximately 128 million transactions in equities derivatives with a total value of more than EUR 4.3 trillion.[544] These markets are also highly transnational. CBOE Global Markets, for example, provides a single venue facilitating trading in more than 6,000 stocks listed in 18 European states.[545] Another exchange, Euronext, offers trading in stocks listed in France, Brussels, Ireland, Portugal, and the Netherlands.[546] Even exchanges traditional focused on their domestic market provide opportunities to trade foreign stocks. Germany's Deutsche Börse, for example, reported that in January 2020 its venues facilitated trading in 8,494 non-German stocks, approximately 2,100 of which are listed in other European states.[547] Thus, in sum, there are ample opportunities for European investors to engage in cross-border trading.

These characteristics make EU capital markets highly vulnerable to transnational market abuse. Nefarious actors can, for instance, trade the same financial instrument in different national markets to secretly manipulate its price. An example is the 2015

[542] Liquidity generally refers to the ease with which one can buy or sell a particular asset. In the context of market structure, a market is generally referred to as 'liquid' if there are a large number of buy and sell orders at any one time for a single financial instrument or group of financial instruments. The precise measure of what constitutes a liquid market depends on the instrument(s) in question. For more details on measuring liquidity in financial markets, see Sarr and Lybek (2002).
[543] Fidessa (2020b). These figures include all transactions in primary listings undertaken through trading venues, over-the-counter trading, systematic internalization, and auction matching processes.
[544] FESE (2020). These figures include all transactions in stock options, single stock futures, stock index options, and stock index futures on Europe's derivatives exchanges.
[545] CBOE (2019).
[546] Euronext (2019).
[547] Deutsche Börse (2020).

enforcement action levied by France's AMF against Virtu Financial Europe (Virtu), a hedge fund specializing in HFT strategies. Virtu allegedly manipulated the prices of 27 stocks by simultaneously placing orders for those stocks in up to five different markets. According to the AMF, this allowed Virtu to manipulate prices while masking that their various orders were part of an orchestrated scheme.[548] Further, Europe's highly interconnected markets for securities and related derivative contracts provides plentiful opportunities to engage in cross-product manipulation. One could, for example, manipulate the price of an instrument in one state (e.g., a French stock) as a means of manipulating a related derivative instrument trading in another state (e.g., a futures contract in Belgium whose price is based on that French stock).[549]

Most EU states lacked formal legal prohibitions of insider trading and market manipulation until the 1980s and 1990s.[550] But European exchanges had established their own rules against misconduct long before. In 1814, for example, English traders spread rumors about the death of Napoléon Bonaparte in order to manipulate the price of government bonds.[551] The London Stock Exchange (LSE) deemed this fraudulent, seized their profits, and distributed the proceeds to an unrelated charity.[552] Identifying such activity, i.e., performing market surveillance, was the responsibility of European exchanges (regulatory intermediaries) throughout the 20th century.[553]

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[548] AMF (2015).
[549] ESMA (2015, 11-2).
[550] D. Bach and Newman (2010).
[551] Davis, Neal, and White (2004, 12).
[552] Ibid.
[553] For a high-level review of global market oversight practices in the mid-late 20th century, see Michie (2006, ch. 7). One abnormal case is Germany. Prior to World War II, Berlin was the dominant financial center. After Germany's defeat, however, power dissipated, and various state exchanges arose to dominate their respective regions (e.g., the Hamburg and Frankfurt Stock Exchanges). Arguably, for the purpose of understanding German capital market development, each of these states can be conceptualized as a separate nation. Each regional exchange established (and continues to operate) market surveillance departments referred to as 'HÜSts.' And, as discussed in greater detail in this chapter, Germany's federal regulator would only acquire national surveillance capabilities in the late 2010s.

Until the 1990s, EU capital markets, much like the U.S. and Canada, were largely monopolistic.[554] Most EU states featured one dominant exchange organized as a mutual cooperative. Higher barriers to entry existed, including network effects favoring the concentration of trading on one exchange (liquidity begetting liquidity) and the cost of maintaining physical floors where traders can interact. As a result of these barriers, entrance threat was, in most EU states, largely dormant throughout the 20th century. This situation would radically change, however, in the 1990s. Electronic trading reduced barriers to entry to the 'market for markets.' The result was a rapid transition from natural monopoly to robust competition. And, as the next section details, numerous EU securities regulators would develop the capacity to perform CNS to monitor their increasingly fragmented domestic markets.

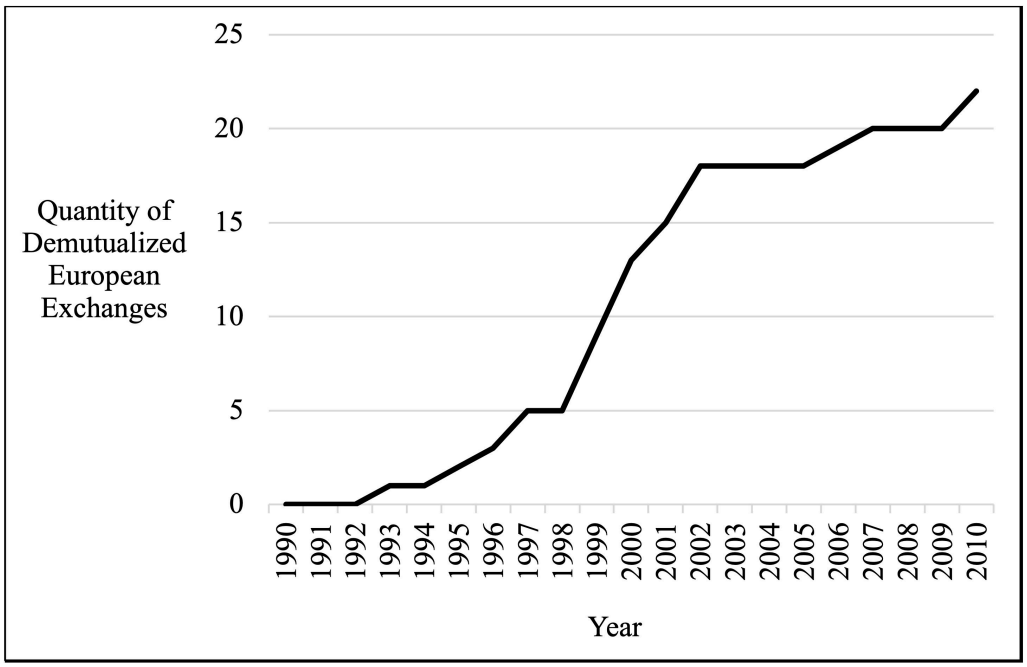
8.1.1 Electronification and Oversight Issues in Europe

EU securities markets, much like those in the U.S. and Canada, were transformed by advances in electronic trading. Broker-dealers began creating electronic trading venues in late 1990s to directly compete with traditional exchanges. The oldest such venue still in existence, created in Poland in 1997, is BondSpot S.A.[555] Ten years later, the EU's Markets in Financial Instruments Directive (MiFID) would provide these venues with a new regulatory label: Multilateral Trading Facilities (MTFs).[556] The number of MTFs

[554] Marcus and Kellerman (2018); Mattli (2019); Mattli and Kellerman (2019); Michie (1987, 2006).
[555] ESMA (2020).
[556] MiFID's 2014 successor, creatively termed MiFID II, would add an additional category: Organized Trading Facilities (OTFs). The primary difference between the two is that the operators of OTFs, unlike MTFs, can exercise discretion when matching trades (Glowacki 2020). Thus, rather than allowing traders to freely interact, OTFs can set rules over the types of transactions they want to facilitate. In so doing, they perform broker-like tasks (e.g., assessing whether a particular transaction is suitable for their clients) and have similar regulatory obligations (Reed Smith 2017).

rapidly proliferated over the course of the decade. By 2010, when securities regulators were debating the potential allocation of surveillance power to ESMA, there were 139 MTFs in the EU.[557] Further, many of these MTFs had captured a significant share of trading. In the UK, for example, three MTFs, Chi-X Europe, BATS, and Turquoise, facilitated 22.31% of trading in FTSE 100 stocks in 2010.[558] LSE, long the dominant player in Britain, saw its market share fall to 32.09%.[559] In response to this newfound competition, most European exchanges demutualized. This trend began in 1993 with the demutualization of the Stockholm Stock Exchange, soon followed by the Helsinki (1995), Copenhagen (1996), Amsterdam (1997), and Milan (1997) exchanges.[560] By 2010, 22 major European exchanges had demutualized to remain competitive (Figure 10).

Figure 10: Demutualization of European Stock Exchanges

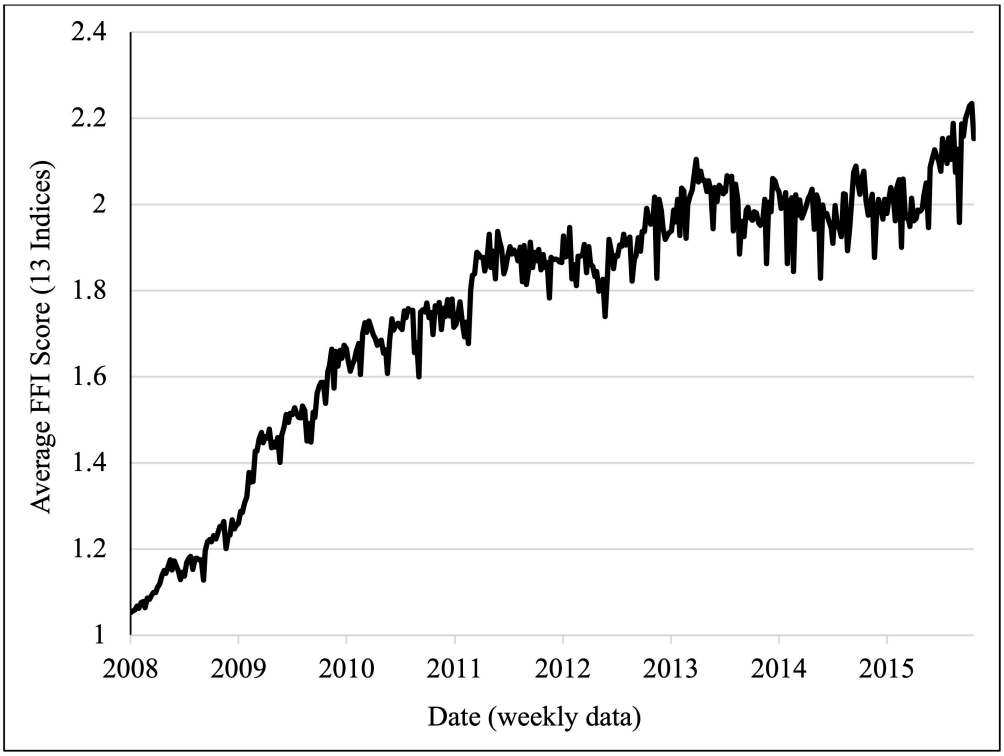


Calculations performed by the author based on data obtained from exchange websites.

[557] AFM (2010, 10).
[558] Buckle et al. (2018, 146). The FTSE 100 refers to the 100 largest stocks trading in the UK by market capitalization.
[559] Ibid.
[560] Licht (2000); Rydén (2010).

This tremendous increase in competition led to a rapid fragmentation of European securities markets. Figure 11 presents data on the Fidessa Fragmentation Index (FFI) score for 13 indices in nine European states. The FFI score, which is measured on a weekly basis, reflects the number of separate venues on which any index, i.e., group of stocks, trades.[561] As Figure 11 indicates, the average FFI score for 13 European indices increased from 1.1 in 2008 to 2.2 in 2016. In other words, the average number of venues on which European stocks traded effectively doubled during this period.

Figure 11: Average FFI Score for 13 European Indices, 2008-2016



Calculations performed by the author based on data provided by Fidessa, Inc. This is the average FFI score for 13 European indices, i.e., indices representing the largest stocks trading in any one jurisdiction by market capitalization: BEL 20 (Belgium), CAC 40 (France), DAX (Germany), FTSE 100 (UK), FTSE 250 (UK), FTSE MIB (UK), IBEX (Spain), OMX C20 (Denmark), OMX H25 (Denmark), OMX S30 (Denmark), OSLO OBX (Norway), PSI 20 (Portugal), and SMI (Switzerland).

[561] A low FFI score (e.g., 1.1) indicates that the index is almost exclusively traded on a single venue. A higher FFI score (e.g., 1.9) indicates that the average number of venues on which the index traded was close to two. In more technical terms, "The FFI is defined as the inverse of the sum of the squares of the market shares of each individual trading venue: i.e. the inverse of (the average market share, weighted by market share)" (Fidessa 2020a).

The fragmentation of European capital markets, in combination with the demutualization of stock exchanges, raised substantial oversight concerns. First, could private venues be relied upon to perform effective surveillance? This concern pertained to the conflict of interest between exchanges' regulatory role and their commercial aspirations.[562] As the former President of the Stockholm Stock Exchange writes, "This conflict of interest can influence the allocation of resources to the self-regulatory functions of the exchange…In an increasingly competitive environment, exchanges may want to minimize resources to these regulatory functions."[563] Interviewees corroborated this concern.[564] One former compliance specialist at a major UK exchange explained how commercial interests can override regulatory duties:

> When I was working, if I battled with [a large hedge fund] over an instance of manipulation, is that in my commercial interests? No. It was not unheard of for someone on the business side to complain to the CEO about the surveillance activities. It's not just an optics problem—there's a big conflict of interest.[565]

This problem also applies to MTFs and broker-dealers internalizing order flow. These firms are required to surveil their venues and, where appropriate, submit Suspicious Transaction and Order Reports (STORs) to national regulators.[566] There is a strong incentive, however, to report the minimum number of STORs necessary to demonstrate

[562] Aggarwal (2002); Carson (2003); IOSCO (2000); Karmel (2002). See also Yadav (2019).
[563] Rydén (2010, 243). This former President also provides insight into how demutualization altered exchanges' priorities: "…my view [at the time of demutualization] that members, issuers, and investors should be regard and treated as customers was a matter of some conflict. At the time, in the early 1990s, no stock exchange even talked about customers; the word did not exist in the stock exchange vocabulary." (Rydén 2010, 242).
[564] Interviews #3, 4, 5, 6, 7, 9, 14.
[565] Interview #14.
[566] European Union (2014b, Article 5).

that one is taking their monitoring obligations seriously. One provider of surveillance software summarized this incentive bluntly: "[firms] only submit STORs to prove they're doing something."[567] This may be somewhat of an overstatement. Nevertheless, regulators and industry participants alike clearly view this conflict of interest as a substantial impediment to effective market surveillance.

The second concern was that, as a result of fragmentation, no one venue would be able to identify cross-market abuse. Any one individual exchange, MTF, or broker-dealer can only observe a fraction of total trading. Multiple interviewees confirmed that EU trading venues' surveillance departments are only able to observe detailed data on cross-market activity if it occurs on venues within the same corporate group.[568] Because these groups battle intensely for market share, they have little interest in sharing their valuable proprietary data with their direct competitors.[569] The natural solution, from the perspective of many EU securities regulators, was to develop their own independent powers to perform CNS. And, as the next sub-section discusses, numerous EU securities regulators successfully acquired such capabilities.

8.1.2 CNS and Theoretical Expectations

In response to the oversight problems posed by market fragmentation, numerous EU securities regulators sought to obtain the independent capacity to perform CNS. Much like the MOSS, CAT, and IIROC cases, these proposals would disempower regulatory

[567] Interview #4.
[568] Interviews #1, 3, 4, 5, 6, 9, 11, 17, 18, 19.
[569] Marcus and Kellerman (2018); Mattli (2019); Mattli and Kellerman (2019).

intermediaries by eliminating their exclusive capacity to monitor their own markets. As Table 12 indicates, numerous EU securities regulators' attempts succeeded.

Table 12: Successful Attempts by EU Securities Regulators to Obtain CNS

State	Regulator	Approximate Time period	Monopolistic or Competitive Market
U.K.	Financial Conduct Authority	2007-2010	Competitive
France	Autorité des Marchés Financiers	2008-2010	Competitive
Belgium	Financial Services and Markets Authority	2010-2012	Competitive
Netherlands	Autoriteit Financiële Markten	2010-2017	Competitive
Italy	Commissione Nazionale per le Società e la Borsa	2010-2017	Competitive
Germany	Bundesanstalt für Finanzdienstleistungsaufsicht	2018-2019	Competitive
Belgium	Financial Services and Markets Authority	2010-2012	Competitive

Data collected by the author through publicly available documentation and interviews.

The UK's FCA, for example, constructed a proprietary in-house market surveillance system in the late 2000s called 'SABRE,' replaced by ZEN in 2011.[570] Through SABRE/ZEN, the FCA obtained the ability to collect and analyze data on all transactions in most asset classes occurring on UK trading venues.[571] Developing such a system was no small task; for FY 2011/12, the FCA's operating costs ran approximately GBP 17 million over budget, due primarily to the costs of developing ZEN.[572] By 2014, ZEN was ingesting data on 13 million trades per day.[573] And, to identify suspicious transactions, the FCA established a dedicated surveillance unit which now features 25 full-time staff members.[574] These staff members design algorithms to scan for abuse, undertake initial investigations of suspicious activity, and forward cases to the FCA's enforcement

[570] Sullivan (2011). At the time, the FCA was called the Financial Services Authority (FSA).
[571] Spens (2013). One important exclusion is foreign exchange (Marcus and Kellerman 2018).
[572] FSA (2012, 85).
[573] Ibid.
[574] Interview #9.

team.[575] The FCA has since replaced ZEN with a new, more sophisticated system called the 'Market Data Processor' (MDP). The MDP allows the FCA to scan 30-35 million transactions per day to detect market abuse.[576]

Another EU securities regulator to obtain CNS was France's AMF. By the time regulators debated allocating surveillance powers to ESMA, AMF had developed an in-house surveillance system that ingested approximately 1.6 million transaction reports per day, leading to, on average, 30 investigations of suspicious activity per year.[577] Like the FCA, the AMF has engaged in numerous updates and has now moved to a new system called 'ICY' ("I see why"). ICY ingested approximately three million transaction reports in its first dive days of live operation.[578] The AMF plans to apply machine learning and other advanced analytical methods to this data in order to further improve their surveillance capabilities.[579]

Over the course of the 2010s, more regulators would obtain the ability to perform CNS. The Netherlands' AMF, for instance, has separate teams surveilling trading data for insider trading and market manipulation.[580] One representative of the AMF, who preferred to remain anonymous, confirmed that the agency's decision to develop surveillance capabilities was driven in part by concerns about conflicts of interest: "…we really feel that the specific goals and specific ways in which platforms [i.e., trading venues] can have a look at manipulation could not be 100% aligned with what we as supervisors feel needs to be done. So there's a principal-agent problem."[581]

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[575] Durston and Zaidi (2018, 34); Interview #6.
[576] Hoggett (2017); Wilson and Malin (2017).
[577] AMF (2017).
[578] Andreou (2018).
[579] See ESMA (2018, 22).
[580] Interviews #66, 67. The AMF also has a third team specifically dedicated to the analysis of Suspicious Transaction and Order Reports submitted by industry participants.
[581] Interview #66.

Germany's regulator, BaFin, was, according to interviewees, somewhat slow to develop oversight capabilities. One compliance officer at a multinational hedge fund remarked via interview that BaFin is infamously lax, and very rarely approaches the firm with queries about trading activity.[582] This was corroborated by current and former regulators in the UK and France.[583] But, in the late 2010s, BaFin developed the so-called Automated Alarm and Market Monitoring System (ALMA), which provides them with the ability to surveil German securities markets for abuse.[584]

These successful attempts to acquire CNS were all undertaken in the context of competitive market structural settings. This is consistent with the Market Structure Hypothesis. But we cannot assume correlation equals causation. A comprehensive test would require process tracing empirical evidence on each case to assess whether the hypothesized causal mechanism (namely, regulatory intermediaries exhibiting and acting upon incentives to support the public agency's obtainment of CNS) operated as expected. Performing seven additional case studies is beyond the scope of one dissertation. This chapter will, therefore, concentrate on how these regulators' successful acquisition of CNS impacts the outcome of the international game.

The Bureaucratic Self-interest Hypothesis would expect at least one of these regulators to exhibit and act upon bureaucratic incentives to reject allocating surveillance powers to ESMA. Public agencies performing CNS have multiple incentives to reject allocating surveillance powers to an International Organization. These incentives are tied to preserving the powers, material benefits, and ideational benefits afforded by the exclusive capacity to monitor national markets.

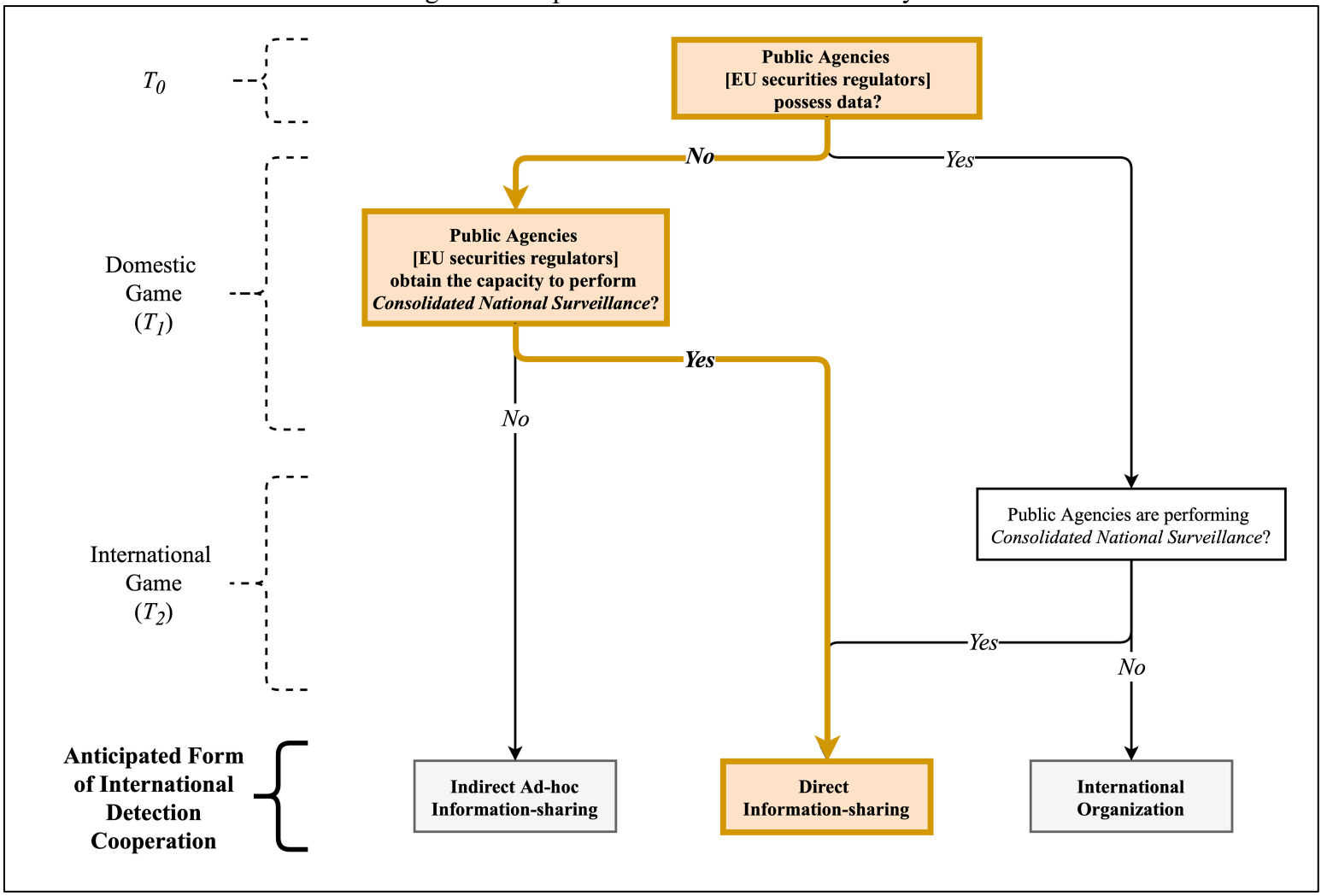
[582] Interview #10.
[583] Interviews #14, 75, 76.
[584] Hufeld (2019); Interviews #81, 82.

First, these regulators may reject allocating surveillance powers to ESMA in order to preserve the internal and external powers afforded by their exclusive surveillance capabilities (*Incentives I and J*). Internally, CNS allows the regulator to control their domestic markets, policy priorities, and investigations of undesirable activity. Externally, it allows the regulator to act as an informational gatekeeper by controlling what data is made available to foreign actors (e.g., securities regulators in other states). These powers would be lost or reduced if public agencies allow an IO to perform surveillance within their jurisdiction.

Second, EU securities regulators may reject an IO in order to preserve material benefits. These regulators must invest considerable resources into developing their surveillance systems and hiring expert staff. Therefore, they may reject allocating surveillance powers to an IO in order to avoid wasting sunk costs (*Incentive M*), losing employment (*Incentive K*) and/or losing expertise (*Incentive L*). Third, EU securities regulators may desire to retain the ideational benefits afforded by CNS, including prestige (*Incentive N*) and the perception that the regulator is in total control of, and the primary responsibility to govern, its jurisdictional 'turf.' (*Incentive O*).

As a result of these incentives, it is anticipated that EU securities regulators will reject allocating surveillance powers to ESMA. In the terminology of the TLCF, EU securities regulators lack access to the data at time T_0, win the domestic game, achieve the capacity to perform CNS, and proceed to the international game at time T_2. Because these regulators have incentives to protect the powers, material benefits, and ideational benefits afforded by CNS, they will reject cooperating via an IO (ESMA). Instead, they will ultimately engage in Direct Information-sharing at time T_{2+} (Figure 12).

Figure 12: Expectations for ESMA Case Study



This figure pertains to the form of international detection cooperation EU securities regulators are expected to utilize.

8.2 Initiation of International Game

EU member states began discussing cooperation of the prevention of transnational market abuse in the late 1990s. The European Commission released an 'Action Plan' in 1999 that included measures to strengthen safeguards against market manipulation that had arisen as a result of "new developments and technologies."[585] The result was the Market Abuse Directive (MAD), which notes that the prevention of market abuse "…cannot be sufficiently achieved by the Member States and can, therefore, by reasons of scale and effects of the measures, be better achieved at Community level…"[586] This did not, however, result in the allocation of surveillance power to an IO. Such discussions would have to wait until the late 2000s and early 2010s, when EU regulators negotiated MAD's successor, the Market Abuse Regulation (MAR) and Directive on Criminal Sanctions for Insider Dealing and Market Manipulation (CSMAD).

The negotiation of MAR/CSMAD commenced in 2008, when the European Commission held a public conference to review Europe's anti-market abuse rules.[587] One of the key topics of this conference was the identification of market manipulation.[588] This was followed by a request for evidence in 2009 and a formal public consultation on revisions to MAD in 2010.[589] In 2011, after having received responses from industry associations, firms, and governmental agencies, the Commission composed draft policy proposals for MAR and completed an economic impact assessment.

[585] European Commission (1999, 6).
[586] European Union (2003, Recital 41).
[587] European Commission (2008a).
[588] The conference program included a dedicated discussion on market manipulation, including the "Definition and detection of market manipulation" (European Commission 2008b, 2).
[589] European Commission (2009a, 2010c).

In its impact assessment, the Commission expressed concerns about the capacity of national regulators to surveil Europe's increasingly fragmented and transnational securities markets. The assessment specifically warned that "the increasing trend for trading of a single instrument to be spread across a number of different markets…may make it more difficult for a single market operator to detect possible abuse."[590] CSMAD's text corroborated: "Increased cross-border activities require efficient and effective cooperation between national authorities which are competent for the investigation and prosecution of market abuse…"[591] And, indeed, the Commission clearly expressed that international cooperation would be necessary. The impact assessment concluded: "…there is a real risk of national responses to market abuse being circumvented or ineffective in the absence of EU level action."[592]

To solve this problem, EU securities regulators considered allocating surveillance powers to an IO. As one interviewee notes, "A mandate for cross-venue surveillance [across Europe] was discussed during the design of MAR."[593] Like EU energy regulators, EU securities regulators had an existing IO in mind: ESMA.[594] ESMA, which replaced the Committee of European Securities Regulators (CESR) in 2011, is an EU agency that carries out the design of pan-European financial regulation.[595] ESMA collects trading data from European exchanges, MTFs, and broker-dealers to monitor market stability.[596] By the early 2010s it did not, however, have the capacity or mandate to surveil that data for transnational market abuse.

[590] European Commission (2011, 33).
[591] European Union (2014a, Recital 26).
[592] European Commission (2011, 33).
[593] Interview #3.
[594] Interviews #3, 6, 14.
[595] For more information on ESMA's regulatory role, particularly post-2008, see Moloney (2011).
[596] European Commission (2014b, Article 27(1)).

When EU securities regulators discussed this proposal, there was successful precedent for allocating surveillance powers to an IO. Namely, ACER had just been tasked with performing cross-border surveillance of Europe's energy markets. Further, an independent study commissioned by the EU had found that the surveillance performed by MTFs was "unsophisticated" in comparison to that performed by exchanges.[597] And, finally, there was widespread consensus that the existing system of *national* surveillance was no longer sufficient to monitor Europe's increasingly *transnational* markets. But, consistent with the expectations of the Bureaucratic Self-interest Hypothesis, regulators performing CNS did not respond favorably to the idea of allocating monitoring powers to an International Organization.

8.3 Exhibited Incentives of EU Securities Regulators

EU securities regulators discussed allocating surveillance powers to ESMA on two occasions: 2008-2012 and 2018-2019. Interviewees that were involved in, or had direct knowledge of, these discussions indicated that these proposals were viewed by many as a functional solution to the problem of transnational market abuse. As the head of market surveillance at one major European exchange commented, "It's insane really. It doesn't make sense for every regulator to set up their own unique surveillance system."[598] One former regulator corroborated that, in many practitioners' eyes, 'federal' surveillance is more practical than having 27 regulators monitor their individual jurisdictions.[599]

[597] Vroonhof and Boog (2011).
[598] Interview #3.
[599] Interview #14. See also the comments by Fabrice Peresse of NYSE Euronext, as summarized by ESMA: "He also discussed the potential difficulty that has arisen for monitoring market abuse of a financial instrument now that trading in a single instrument is now spread across a number of different financial

By the time these negotiations took place, however, numerous EU securities regulators had obtained the capacity to perform CNS on their domestic markets. The empirical evidence indicates that these regulators had little interest in allocating surveillance powers to ESMA. To the contrary, they exhibit numerous incentives to avoid losing the powers, material benefits, and ideational benefits afforded by their exclusive surveillance capabilities. The remainder of this sub-section will examine these incentives for each round of negotiation.

8.3.1 Exhibited Incentives: First Round of Negotiations (2008-12)

During the first round of negotiations, The UK's FCA did not respond favorably to the idea of allocating surveillance powers to ESMA. Specifically, the FCA exhibits bureaucratic incentives to avoid the loss/reduction of *Internal power over domestic market, policy, and investigations* (Incentive I); *employment* (Incentive K); and *control over 'turf'* (Incentive O). One former regulator at the FCA summarized:

> [Allocating surveillance power to ESMA] would obviously by more efficient. But national regulators want to maintain sovereignty over their markets…*It's not about efficiency, it's politics and ingrained interests*. Regulators in 28 countries don't want to lose their jobs. And they want to be able to say that they monitor their own markets.[600]

markets…Previously, real time monitoring was done by a single exchange but now a single venue could not see all the trading of a single instrument" (European Commission 2011, 91).
[600] Interview #6, emphasis added.

As the interviewee alludes to, EU securities regulators performing CNS had numerous incentives to reject empowering ESMA. Doing so might, for example, threaten local jobs. Further, it would threaten the perception that national regulators were in control of their local jurisdictions (i.e., 'turf').

And, as another former FCA regulator noted, empowering ESMA to monitor securities markets would, in turn, disempower national regulators:

> …a European SEC [Securities and Exchange Commission] is a red line. To lose [the] power to regulate your own market is too much to swallow…Locally, in order to have more power, *you need to maintain that power*. Politically, people want control.[601]

Interviewees confirmed that the FCA was strongly opposed to the idea of allocating surveillance powers to ESMA.[602] The FCA also pushed back against a more moderate proposal involving STORs, i.e., reports of suspicious activity by private firms. Regulators discussed the possibility of automatically sharing STORs through a centralized mechanism.[603] Although not equivalent to an IO with the ability to perform cross-border surveillance, this would at least provide regulators with the independent capacity to observe STORs reported in other jurisdictions. In the terminology of this thesis' classification exercise, it would amount to a form of Direct Information-sharing facilitated by an IO (not unlike INTERPOL's role in facilitating the direct exchange of facial recognition data between national police agencies).

[601] Interview #14, emphasis added.
[602] Interviews #6, 9, 11, 14.
[603] Interview #9.

But, according to one regulator, the FCA "pushed back because it would be overwhelming."[604] And, as a result of opposition by the FCA, ESMA was not allocated surveillance powers.[605] Rather, MAR required that (a) market operators and (b) any person professionally arranging or executing transactions monitor for abuse and submit STORs to their local regulator.[606] In other words, it outsourced market surveillance to a wider range of private regulatory intermediaries. National regulators, in turn, retained the option (but not the obligation) to perform CNS on their domestic markets.[607] These measures came into force on July 3rd, 2016.

But MAR did feature one important concession. Namely, it required the European Commission to report on potential modifications and extensions of MAR by 2019.[608] This included reporting on "the possibility of establishing a Union framework for cross-market order book surveillance in relation to market abuse…"[609] When ESMA undertook this report on behalf of the Commission from 2018-19, it revisited the idea of performing pan-European surveillance as a means of identifying transnational market abuse. But, by this time, numerous additional EU securities regulators would, like the FCA, obtain the capacity to perform CNS on their domestic markets. And, as expected by the Bureaucratic Self-interest Hypothesis, this further strengthened opposition to the idea of allocating surveillance powers to ESMA.

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[604] Interview #9.
[605] European Union (2014b). A 'market operator' includes any firm operating an exchange, MTF, OTF, or systematic internalization system. The term, 'person professionally arranging and executing transactions,' refers to any natural or legal person that places trades on their own account (acting as a dealer) or for clients (acting as a broker).
[606] Ibid, Article 16.
[607] Ibid. EU securities regulators (referred to in MAR as 'competent authorities') were provided with obligation to cooperate with ESMA, ACER, and each other to enforce MAR's provisions (Article 25). MAR did not, however, obligate national regulators to perform market surveillance themselves.
[608] European Union (2014b, Article 38)
[609] Ibid, Article 38(d).

8.3.2 Exhibited Incentives: Second Round of Negotiations (2018-19)

"To delegate [market surveillance] is to make you naked."[610]
– German regulator on the prospect of ESMA performing pan-European market surveillance

From approximately 2018-19, ESMA, as part of its review of MAR, explored the possibility of establishing a framework for cross-border surveillance of Europe's securities markets.[611] The nature of that framework was open to debate.[612] One proposed option was for ESMA to maintain a consolidated database of all European trading data.[613] EU securities regulators, in turn, would be able to access that data to identify and investigate cases of transnational market abuse. This is, in essence, a system of Direct Information-sharing facilitated by an IO. Another proposed option was to endow ESMA with the capacity and mandate to surveil that data itself as a means of identifying transnational market abuse.[614] Thus EU securities regulators were presented with a choice between two forms of international detection cooperation: Direct Information-sharing versus the allocation of surveillance powers to an IO.

EU securities regulators performing CNS exhibit numerous incentives to reject the latter option. The first observed incentive is to avoid the loss/reduction of *Internal power over domestic market, policy, and investigations* (Incentive I). One ESMA staff member noted via interview that, in order for the Authority to perform surveillance, "NRAs [National Regulatory Authorities] would have to give up some of their

[610] Interview #81.
[611] ESMA (2019, 75-82).
[612] Ibid, 79.
[613] Ibid.
[614] Ibid; corroborated by Interviews #75, 76, 78, 79, 81, 82.

prerogatives, which they may not be inclined to do."[615] Numerous interviewees corroborated this disinclination. One example is Germany's BaFin. By the time ESMA initiated the second round of negotiations, BaFin had achieved the capacity to perform CNS through its ALMA system. This appears to have provided the German regulator with an incentive to reject the allocation of surveillance powers to ESMA. As one staffer corroborated, "we were against it because we have our own risk-based supervisory approach."[616] Representatives of BaFin explained via interview that, if ESMA were to perform surveillance, it might not prioritize certain topics important to German supervision. One example is the German automobile sector, which has been hit with a series of insider trading and market manipulation scandals connected to violations of emissions standards.[617] BaFin is highly concerned with such cases, but ESMA may not share these priorities. This provided BaFin with an incentive to reject the allocation of surveillance powers to ESMA so that they can maintain internal control of policy priorities and individual investigations of market abuse.[618]

Representatives of France's AMF, one of the earliest regulators to achieve CNS, corroborated this concern. AMF staff members also expressed reservations about wasting *sunk costs* (Incentive M). The AMF has invested substantial resources into developing its surveillance capabilities and creating a dedicated department full of expert staff. The idea of allocating similar powers to ESMA is, according to interviewees, difficult, especially "when we think of the IT efforts we have put in…"[619] These interviewees also exhibit an incentive to avoid a loss/reduction of *expertise* (Incentive L):

[615] Interview #78; corroborated by Interview #79.
[616] Interview #81.
[617] Associated Press (2017); Ewing (2019); Kopplin and Henning (2016).
[618] Interviews #81, 82.
[619] Interview #75.

> Some countries want to keep surveillance. Surveillance…gives, allows [sic] authorities to understand what's going on, to compare business intelligence with other conditions. It allows [us] to defend the marketplace. We would not be so familiar with our exchanges [without it]. It provides a lot of insight that may be good for policy aspects. Outsourcing surveillance to ESMA would deprive AMF of a valuable source of knowledge.[620]

Representatives of the Netherlands' AFM, another regulator that has developed the capacity to perform CNS, corroborated these concerns about expertise:

> I think you come into the argument again that ESMA, having really qualified people there, but with lack of knowledge of the local knowledge [sic] and lack of network as well…we as the local regulator know more about our market than ESMA does. And we know what parameters to tweak to get the least amount of false positives…[621]

This notion was confirmed by staff members of yet another EU securities regulator performing CNS: Italy's Commissione Nazionale per le Società e la Borsa (CONSOB). Interviewees noted that CONSOB obtains substantial information about Italian markets through its performance of surveillance, creating local expertise that ESMA would not be able to replicate.[622] This has provided CONSOB with an incentive to reject the allocation of surveillance powers to an IO.

[620] Interview #75.
[621] Interview #67.
[622] Interview #86.

Thus, in sum, during the second round of negotiations from 2018-19, multiple EU securities regulators performing CNS (BaFin, AMF, AFM, CONSOB) exhibit numerous bureaucratic incentives to reject the allocation of surveillance powers to ESMA (Incentives I, M, L). The result, in direct contrast to the ACER case, was the rejection of an IO. EU securities regulators would choose instead to engage in a continuous method of Direct Information-sharing.

8.4 Result: Direct Information-sharing

After conducting its review of MAR, ESMA is poised to facilitate an enhanced system of Direct Information-sharing (to be confirmed in Spring 2020).[623] Data reporting obligations for regulated firms will be enhanced, and ESMA will oversee a consolidated database of securities transactions not unlike that maintained by ACER for energy markets.[624] Unlike ACER, however, ESMA will not surveil that data itself to identify transnational market abuse. Rather, the data will be made accessible to EU securities regulators, thereby allowing them to access information from other jurisdictions when investigating insider trading and market manipulation. Thus, unlike ACER, where surveillance is primarily performed at the *supranational* level, EU securities regulators will maintain their exclusive capacity to perform CNS. ESMA, by maintain a shared database of European securities transactions, will facilitate instead a continuous form of Direct Information-sharing between public agencies performing *national* surveillance.

[623] Interview #78, 79. At the time of writing, it is unclear how the COVID-19 global health emergency will impact ESMA's timeline for confirming these arrangements.
[624] ESMA (2019, 80).

8.5 Analysis

Over the course of the 2010s, EU securities regulators twice considered allocating surveillance powers to an IO, ESMA, as a means of cooperating on the detection of transnational market abuse. This debate was inspired by market structural changes in European securities markets, which had become both fragmented and highly interconnected. These trends raised concerns that surveillance performed at the *national* level (whether by regulators or trading firms) was no longer sufficient to monitor Europe's increasingly *international* securities markets.

By the early 2010s, numerous EU securities regulators (e.g., the UK's FCA and France's AMF) had developed the exclusive capacity to perform CNS on their domestic markets. The number of such regulators would grow over the course of the decade, including agencies such as the AFM (Netherlands), CONSOB (Italy), and BaFin (Germany). Developing surveillance capabilities was no small task. It required substantial investments in technological infrastructure and the creation of surveillance departments staffed by expert analysts. But, in return for these investments, EU securities regulators obtained multiple benefits. For example, they enhanced their internal power over their domestic markets and obtained the ability to focus their surveillance activities on certain areas (i.e., policy prioritization). Performing surveillance also provided regulators with new tools to obtain knowledge about their local markets and trading conditions. Further, CNS afforded certain ideational benefits, such as prestige and the perception that each regulator has total control over the trading venues within their jurisdictional 'turf.'

Consistent with the expectations of the Bureaucratic Self-interest Hypothesis, these benefits provided multiple EU securities regulators with incentives to reject the

allocation of surveillance powers to ESMA. During the first round of negotiations, the UK, in particular, exhibited incentives to avoid the loss/reduction of *Internal power over domestic market, policy, and investigations* (Incentive I); *employment* (Incentive K); and *control over 'turf'* (Incentive O). Interviewees involved in, or with direct knowledge of, these negotiations universally corroborated that the FCA had self-interested motivations to maintain its exclusive surveillance powers. The regulator exhibits no desire to allow an EU agency to surveil trading within UK markets. To the contrary, the empirical evidence clearly indicates that the FCA viewed this proposal as a threat. Specifically, it would undermine their ability to exert control over UK markets, set oversight priorities, and manage the initiation of investigations. Further, staff members expressed concerns that job opportunities and resources might gravitate toward ESMA, threatening their career prospects within the UK.

By the time ESMA re-visited this topic in the late 2010s, numerous additional EU securities regulators had achieved CNS. And, consistent with this thesis' expectations, this strengthened opposition to the idea of ESMA performing pan-European surveillance. Interview evidence indicates that the AMF (France), AFM (Netherlands), BaFin (Germany), and CONSOB (Italy) all had developed bureaucratic incentives to maintain the powers, material benefits, and ideational benefits afforded by their newfound surveillance capabilities. Specifically, we observe incentives to avoid the loss/reduction of *Internal power over domestic market, policy, and investigations* (Incentive I); *expertise* (Incentive L); and *sunk costs* (Incentive M).

As a result of these incentives, EU securities regulators rejected the allocation of surveillance powers to ESMA. Instead, ESMA plans to maintain a shared database of European securities transactions. ESMA ingests a significant amount of transactional data

from private firms, which it uses to monitor market stability. Over the last 10 years, these data reporting requirements have been continuously enhanced and standardized.[625] In its review of MAR, ESMA has recommended further enhancements to this process so that it can develop a consolidated database of European securities trading.[626] But rather than surveil that data for abuse, ESMA will maintain that database and make it accessible to EU securities regulators. This arrangement will allow those regulators to access data on trading occurring in other member states, enhancing their capacity to detect and investigate transnational market abuse. In other words, ESMA, an IO, will help facilitate a continuous system of Direct-Information sharing.

What about the potential confounding effect of the GFC? EU securities regulators first debated the allocation of surveillance powers to ESMA from 2008-12. One might expect that that the GFC, an exogenous shock that increased general political will for more stringent regulation of the financial sector, would increase the likelihood of ESMA obtaining surveillance capabilities. But this is not what occurred. EU securities regulators performing CNS exhibit and act upon bureaucratic incentives to reject the proposal. And, despite the presence of the GFC, these regulators ultimately rejected the allocation of surveillance power to ESMA.

[625] Most notably via the European Market Infrastructure Regulation (EMIR) and MiFID II.
[626] As noted in their report, "ESMA deems that the first step towards the surveillance of cross-market order data is to revise the current regulatory framework designed by Article 25(2) of MiFIR [Markets in Financial Instruments Regulation, a counterpart to the MiFID II regulatory regime] to ensure that trading venues record and report order book data in an electronic and machine-readable format and using a common template." (ESMA 2019, 80).

9 Analysis

To test the TLCF, this thesis performed process-tracing on five case studies. Each case concentrated on either the 'domestic' or 'international' games as means of testing, respectively, the Market Structure Hypothesis or Bureaucratic Self-interest Hypothesis. The cases also examined if the outcome of each game impacted the form of international detection cooperation public agencies utilized in a manner that is consistent with the TLCF's theorized causal pathways. Each case was 'structured' in a systematic manner to allow for comparison and 'focused' on the relevant empirical evidence (in accordance with the method of 'structured-focused comparison').[627] The structure of the analysis proceeded according to the following format: (a) background information and classification of independent variable; (b) outline of theoretical expectations; (c) process tracing of relevant empirical evidence; and (d) analysis.

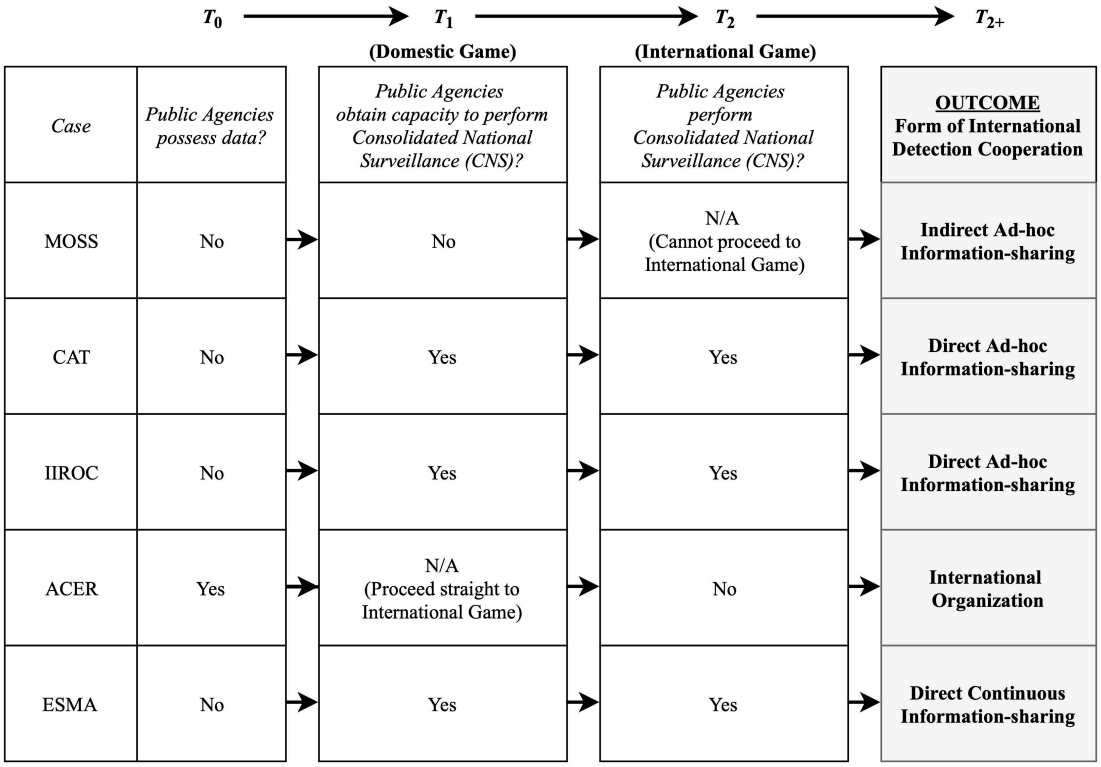
These case studies, in accordance with process-tracing methodology, involved *within*-case analysis. This chapter will now conduct a *cross*-case analysis to evaluate the aggregate performance of the Market Structure Hypothesis, Bureaucratic Self-interest Hypothesis, and TLCF. Sections 9.1, 9.2, and 9.3 will undertake these respective cross-case analyses. These sections will also address the performance of an alternative explanation (the Party Politics Argument) and whether the results were impacted by a confounding variable (The Global Financial Crisis). As Tables 13 and 14 demonstrate, the empirical results are consistent with both Hypotheses, and each case follows the causal pathways predicted by the TLCF.

[627] George and Bennett (2005).

Table 13: Summary of Empirical Results: Hypotheses

Hypothesis	Case	Independent Variable	Causal Mechanism	Dependent Variable
Market Structure Hypothesis (*Domestic Game*)		*Market Structure*	*Observed Incentives of Regulatory Intermediaries*	*Public Agency Obtains Consolidated National Surveillance (CNS)?*
	MOSS	Monopolistic	None	No
	CAT	Competitive	C, D, F, G	Yes
	IIROC	Competitive	A, D, E, G	Yes
Bureaucratic Self-interest Hypothesis (*International Game*)		*Public Agencies perform Consolidated National Surveillance (CNS)?*	*Observed Incentives of Public Agencies*	*Form of International Detection Cooperation*
	ACER	No	None	International Organization
	ESMA	Yes	I, K, L, M, O	Direct Ad-hoc Information-sharing

Table 14: Summary of Empirical Results: TLCF Causal Pathways



9.1 The Domestic Game: Cross-case Analysis

To evaluate the Market Structure Hypothesis, Chapters 4 (MOSS), 5 (CAT), and 6 (IIROC) performed process tracing on three cases in which a public agency sought to obtain the independent capacity to perform Consolidated National Surveillance (CNS) on their domestic markets. The MOSS case took place in the context of a monopolistic market structural setting. The CAT and IIROC cases, in contrast, took place during a period in which there was robust competition between regulatory intermediaries. The Market Structure Hypothesis contends that market structure will, all things equal, determine whether public agencies successfully obtain CNS. The hypothesized causal mechanism is the manner in which market structure conditions regulatory intermediaries' incentives to support or oppose the initiative.

Accordingly, the Hypothesis would predict that, for the MOSS case, the SEC will fail to obtain CNS. The SEC's monopolistic regulatory intermediary should exhibit zero cost-saving or cost-imposing incentives to support the project. To the contrary, the Hypothesis anticipates that this regulatory intermediary will actively oppose the initiative to protect its exclusive surveillance powers. In contrast, the Hypothesis would predict that, for the CAT and IIROC cases, each public agency will successfully obtain the capacity to perform CNS. Further, it would expect the regulatory intermediaries in each case to exhibit cost-saving and/or cost-imposing incentives to support the agency's attempt to achieve surveillance capabilities.

The empirical evidence corroborates these expectations. In the MOSS case, the SEC's monopolistic regulatory intermediary, NYSE, exhibits zero incentives to support the regulator's pursuit of CNS. Rather, the evidence clearly indicates that NYSE viewed

the MOSS as a threat. The exchange had no interest in allowing the government to perform market surveillance, which the organization viewed as an unnecessary intrusion into their internal affairs. To prevent this from occurring, NYSE used delay tactics, lobbying, and the strategic recommendation of an alternative approach to prevent the MOSS from being implemented. These efforts were effective and ultimately led the SEC to cancel its pursuit of CNS.

The CAT and IIROC projects, in contrast, succeeded. These cases took place in the context of a highly competitive 'market for markets,' pitting exchanges against their former broker-dealer members. This market structural setting provided regulatory intermediaries with various cost-saving and cost-imposing incentives to support each regulator's attempt to obtain CNS. In the CAT case, regulatory intermediaries exhibit incentives to *Save costs by no longer having to rely on third-party services to perform task* (Incentive C); *Save costs through centralization of task* (Incentive D); *Impose costs on competitors and/or raise barriers to entry* (Incentive F); and *Eliminate incumbent advantages* (Incentive G). In the IIROC case, regulatory intermediaries exhibit incentives to *Save costs by no longer having to perform task* (Incentive A); *Save costs through centralization of task* (Incentive D); *Subject competitors to enhanced regulatory oversight* (Incentive E); and *Eliminate incumbent advantages* (Incentive G). And, consistent with the expectations of the Market Structure Hypothesis, each regulator successfully obtained the capacity to perform CNS.

9.1.1 Assessing an Alternative Explanation: Party Politics Argument

Chapters 4, 5, and 6 also evaluated the Party Politics Argument as an alternative explanation for the outcome of the domestic game. The Party Politics Argument contends that the success of such attempts depends on whether the political party in power generally favors or opposes government regulation. The causal mechanism is political interference. More specifically, the hypothesis anticipates that, in order to protect regulatory intermediaries' exclusive surveillance powers, political parties opposed to government regulation will interfere in public agency's attempt to obtain CNS. Executive political actors might, for example, replace the public agency's senior officials with individuals sharing their ideological views. Further, they may, in cooperation with legislative actors, seek to influence the public agency's behavior by threatening to reduce or withhold government appropriations.

The only case that corroborates the Party Politics Arguments' expectations is IIROC. The creation of RS/IIROC took place during the 36th and 37th Canadian Parliaments, which were controlled by the Liberal Party of Canada led by Prime Minister Jean Chrétien. The Chrétien governments were generally in favor of government regulation. And, consistent with the Party Politics Argument, there is no evidence that Chrétien sought to interfere in Canadian regulators' attempt to create RS/IIROC. The Party Politics Argument does not, however, provided any insight into the causal mechanisms by which this relationship operates. If, hypothetically, the Canadian government were to intervene, we could reasonably expect regulatory intermediaries to *reject* this intervention. As Chapter 6 demonstrated, these intermediaries had various incentives to support the creation of RS/IIROC.

At first glance, the MOSS case appears to fit the narrative of the Party Politics Argument. The project was initiated under the Democratic administration of Jimmy Carter and ultimately cancelled when Republic Ronald Reagan came to power. Reagan appointed John Shad as SEC Commissioner, a business executive with strong anti-regulatory views. Ultimately, Shad agreed to end the MOSS project and allow U.S. exchanges to share information amongst themselves (via the ISG) as an alternative. Archival evidence indicates, however, that Shad may have been motivated not just by his deregulatory ideology, but also the more politically neutral desire to shirk responsibility for the SEC operating MOSS effectively.

More problematic for the Party Politics Argument is the CAT case. Like the MOSS, the CAT was initiated under a Democratic administration (Barack Obama) and concluded under a Republican successor (Donald Trump) with strong anti-regulatory policy positions. But, in contrast to the Party Politics Argument's expectations, progress actually accelerated when Trump appointed Jay Clayton as SEC Commissioner. And, unlike the MOSS, the CAT project succeeded and is currently in the early stages of a multi-year implementation process.

This empirical evidence decreases our confidence in the explanatory power of the Party Politics Argument. Further, a cross-case comparison indicates that the Market Structure Hypothesis is a more convincing explanation for the cases analyzed here (Table 15). An appropriate next step for future research is to evaluate the Market Structure Hypothesis against more cases, particularly cases in which public agencies have sought to obtain the independent capacity to perform CNS in other issue areas. In Chapter 10, I provide more specific recommendations on future avenues for evaluating the full explanatory power of the Hypothesis and aggregate TLCF.

Table 15: The Market Structure Hypothesis versus the Party Politics Argument

Hypothesis	Case	Independent Variable	Causal Mechanism	Dependent Variable
Market Structure Hypothesis		*Market Structure*	*Observed Incentives*	*Public Agency obtains Consolidated National Surveillance (CNS)?*
	MOSS	Monopolistic	N/A	No
	CAT	Competitive	C, D, F, G	Yes
	IIROC	Competitive	A, D, E, G	Yes
Party Politics Argument (Alternative Explanation)		*Political Party in Power Supports Government Regulation?*	*Intervention in Public Agencies' pursuit of surveillance powers?*	*Public Agency obtains Consolidated National Surveillance (CNS)?*
	MOSS	No (Reagan)	Unclear	No
	CAT	No (Trump)	No	Yes
	IIROC	Yes (Chrétien)	No	Yes

The grey shading highlights empirical results that are inconsistent with the expectations of the Market Structure Hypothesis or Party Politics Argument.

9.2 The International Game: Cross-case Analysis

To evaluate the Bureaucratic Self-interest Hypothesis, Chapters 7 (ACER) and 8 (ESMA) performed process tracing on two cases in which public agencies considered allocating surveillance powers to an International Organization. The Bureaucratic Self-interest Hypothesis anticipates that public agencies that are performing (not performing) Consolidated National Surveillance will choose to cooperate via Direct Information-sharing (an International Organization). When EU energy regulators considered allocating surveillance powers to ACER, they were *not* performing CNS. In contrast, multiple EU securities regulators were performing such surveillance when they debated allocating monitoring powers to ESMA.

The Bureaucratic Self-interest Hypothesis has clear expectations for both case studies. First, it would expect EU energy regulators to allocate surveillance powers to ACER. Because these EU energy regulators were *not* performing CNS, they should exhibit zero bureaucratic incentives to maintain their (non-existent) surveillance capabilities. Second, the Hypothesis would expect EU securities regulators performing CNS to reject allocating surveillance powers to ESMA. After having acquired the powers and benefits afforded by their exclusive capabilities to perform CNS, these regulators will have little interest in sacrificing that exclusivity to an IO. Therefore, they will choose instead to engage in Direct Information-sharing.

The empirical evidence corroborates these expectations. In the ACER case, EU energy regulators exhibit zero bureaucratic incentives to oppose allocating surveillance powers to an IO. Rather, textual evidence and elite interviews indicate that these regulators viewed the proposal as an appropriate functional solution to the problem of transnational market abuse. And, consistent with the expectations of the Hypothesis, EU energy regulators ultimately proceeded to cooperate by allocating surveillance powers to an IO. In the ESMA case, in contrast, EU securities regulators performing CNS exhibit various incentives to protect their exclusive monitoring powers. Namely, the FCA (UK), AMF (France), Germany (BaFin), CONSOB (Italy) and AFM (Netherlands) exhibit incentives to avoid the loss/reduction of *Internal power over domestic market, policy, and investigations* (Incentive I); *employment* (Incentive K); *expertise* (Incentive L); *sunk costs* (Incentive M); and *control over 'turf'* (Incentive O). And, as a result, EU securities regulators rejected allocating surveillance powers to ESMA. Rather, they chose to preserve their exclusive surveillance powers at the domestic level by engaging in a continuous method of Direct Information-sharing.

9.2.1 Assessing the Confounding Effect of the GFC

The ACER and ESMA case studies both took place in the wake of the GFC, the largest crisis of its kind since the Great Depression.[628] The GFC created widespread support in the EU (and abroad) to more stringently regulate the financial sector. Is it possible, therefore, that the GFC is an exogenous shock that increased the likelihood of EU regulators allocating surveillance powers to IOs? If true, this would raise questions as to whether we can observe the independent variable's hypothesized impact on the outcome of the international game. Worse, it may suggest that these outcomes are driven by anomalous, GFC-induced circumstances rather than the independent variable.

The empirical evidence does not, however, support this claim. First, the evidence clearly indicates that the debate to allocate surveillance powers to ACER was driven by energy-specific scandals that pre-date the GFC. This includes, most notably, the Enron scandal in the U.S. and, closer to home, E.ON's alleged manipulation of European energy markets. These events raised widespread concerns about the inability of Europe's energy exchanges to identify transnational market abuse. Neither textual evidence nor interviews indicate that the GFC motivated the debate.

Second, the ESMA case is inconsistent with the premise that the GFC significantly enhanced the likelihood of regulators allocating surveillance powers to an IO. EU securities regulators were deeply impacted by the GFC; the capital markets under their supervision experienced tremendous instability.[629] Nevertheless, these regulators objected to the idea of empowering ESMA. The empirical evidence indicates that this

[628] At the time of writing, the economic fallout of the COVID-19 global pandemic is threatening to overtake both events as the most severe financial and monetary crisis in modern history.
[629] See Eubanks (2010) for details.

was driven by bureaucratic incentives to maintain the powers, material benefits, and ideational benefits afforded by their exclusive surveillance capabilities. These incentives appear to have been strong. Despite experiencing the most severe financial crisis in generations, EU regulators performing CNS viewed supranational surveillance as a threat to their bureaucratic self-interests.

9.3 The TLCF: Cross-case Analysis

After reviewing the performance of the Market Structure Hypothesis (domestic game) and Bureaucratic Self-interest Hypothesis (international game), how does the aggregate TLCF framework perform against the five case studies undertaken here? The TLCF seeks to anticipate the conditions under which public agencies will engage in three different forms of international detection cooperation: *Indirect Ad-hoc Information-sharing*, *Direct Information Continuous* (Continuous or Ad-hoc), and the allocation of surveillance powers to an *International Organization*. As summarized in Table 14, each case follows the causal pathways predicted by the TLCF.

For the MOSS case, the SEC lacked access to the requisite data at time T_0 and subsequently proceeded to the domestic game at time T_1. Because the SEC failed to achieve CNS, it was constrained to the status quo mode of international detection cooperation: Indirect Ad-hoc Information-sharing. The CAT and IIROC cases follow similar initial paths. For these cases, neither the SEC nor Canadian securities regulators had access to the requisite data at time T_0. They were, however, able to win the domestic game and achieve CNS. And, consistent with the TLCF's expectations, this led both groups to engage in Direct Ad-hoc Information-sharing at time T_{2+}.

The ACER case presents a situation in which the public agencies (EU energy regulators) had access to the relevant data at time T_0 but had not achieved the capacity to perform CNS on that data. Because they had access to the relevant data, they were able to, in the language of the TLCF, proceed directly to the 'international game' at time T_2. Consistent with the framework's expectations, these agencies ultimately decided to cooperate on the detection of transnational market abuse at time T_{2+} by allocating surveillance powers to an IO: ACER.

The ESMA case, in contrast, featured public agencies (EU securities regulators) that lacked access to the relevant data at time T_0. Multiple members of this group successfully won the domestic game and achieved CNS at time T_1. These regulators then proceeded, in the language of the TLCF, to the international game at time T_2. Here they were presented with an opportunity to choose between two forms of international detection cooperation: Direct Continuous Information-sharing versus an International Organization. EU securities regulators that had obtained the exclusive capability to perform CNS were strongly opposed to the latter option. Thus 'winning' the (prior) domestic game at time T_1 altered these agencies' preferences in the (subsequent) international game at time T_2. This demonstrates how temporal sequencing impacts not just public agencies' capacity, but also their preference, to engage in one form of cooperation or another.[630] And, consistent with the expectations of the framework, EU securities regulators ultimately decided to preserve their exclusive powers and engage in Direct Continuous Information-sharing.

[630] I.e., the 'eventfulness' of preference formation (P. Hall 2005, 126).

10 Conclusion

"We have a lot of legacy systems, rules, and whenever you go back in and try to adapt them in some way, each of those exercises is so much work. And you can imagine all of the self-interest where everyone's view depended on what their own structure was…So it's very difficult. And when you have legacy systems like this, it becomes highly politically charged and costly."

"I think we're all living with our own history, let's put it that way."

> *– Interviewees #51 and #35 on how history has impacted the manner in which they cooperate with foreign agencies to detect transnational market abuse*

For many of the world's most pressing international policy issues, one of the primary practical challenges is *detection*. At the time of writing, the COVID-19 pandemic has spread like wildfire and brought the globe to its knees. Detecting the movement of the virus across borders has been undermined, in part, by national inconsistencies in testing capabilities, slow information-sharing, and, allegedly, the purposeful withholding of data by certain states.[631] But disease outbreak is hardly the only issue area that features barriers to international detection cooperation. Public agencies have also struggled to detect transnational methods of money laundering, terrorist financing, immigration, wildlife trade, and human trafficking, among others.[632] More specifically, public agencies have used various *forms* of international detection cooperation to address these problems, many of which have been criticized as ineffective and/or sub-optimal. Nowhere is this issue more apparent than in global capital markets, where national regulatory agencies have engaged in various institutional arrangements to detect transnational market abuse.

[631] Albert (2020); BBC (2020); Belluz (2020); Brunnstrom (2020); Buckley and Myers (2020); Rauhala (2020).
[632] Batt, Feltham, and Becker (2017); Clawson and Dutch (2008); Deflem (2000, 2004, 2006); Friedrichs (2008); Jojarth (2009); Lahav (1998); Rosen and Smith (2010); Smith (2011); Tambs (1989); Zimmerman (2003).

To understand why public agencies engage in different forms of international detection cooperation, I have constructed and tested the Two-level Cooperation Framework (TLCF). The TLCF's core argument is that public agencies' decision to outsource surveillance to regulatory intermediaries in the *past* (at time T_{-1}) impacts the form of cooperation they utilize in the *future* (T_{1+}). Specifically, the outsourcing decision triggers a series of domestic and international political contests, or what can also be referred to as *surveillance games*. The sequential outcomes of these surveillance games will, the TLCF contends, determine the form of international cooperation public agencies utilize to detect transnational phenomena.

The TLCF theorizes various causal pathways by which public agencies are expected to proceed through the Framework. These pathways include a 'domestic game' (occurring in the first phase) and 'international game' (occurring in the second phase). To predict the outcome of these games, I have also introduced, respectively, the Market Structure Hypothesis and Bureaucratic Self-interest Hypothesis. To test these hypotheses and the TLCF, process-tracing was performed on five case studies structured in a systematic manner to allow for cross-case comparison. A wealth of novel evidence was collected from various sources, including the archives of the NYSE and OSC; a FOIA request to the SEC; and 86 elite interviews conducted in Oxford, London, Toronto, New York, Washington, D.C., Paris, Bonn, Frankfurt, Amsterdam, and The Hague.

The empirical results corroborate the thesis' expectations. In the first case study, the SEC sought to obtain the independent capacity to perform Consolidated National Surveillance (CNS) through its MOSS project. But, as predicted by the Market Structure Hypothesis, the SEC's monopolistic regulatory intermediary, NYSE, did not respond favorably to this initiative. NYSE used delay tactics, lobbying, and the strategic proposal

of an alternative to kill the MOSS before it saw the light of day. These efforts were effective and resulted in the cancellation of the project. And, consistent with the causal pathways anticipated by the TLCF, the SEC was subsequently limited to the status quo mode of international detection cooperation: Indirect Ad-hoc Information-sharing.

The second (CAT) and third (IIROC) case studies, in contrast, featured public agencies seeking to obtain CNS in the context of competitive market structural settings. Consistent with the expectations of the Market Structure Hypothesis, this competitive setting provided regulatory intermediaries with various incentives to support each public agency's pursuit of CNS. And, as the TLCF would predict, each agency succeeded and thus obtained the capacity to engage in Direct Information-sharing.

The fourth (ACER) and fifth (ESMA) case studies featured instances in which multiple public agencies considered allocating surveillance powers to an International Organization as a method of detecting transnational abuse. The Bureaucratic Self-interest Hypothesis contends that public agencies will only do so where they have access to the requisite data but are not performing CNS on that data. Consistent with this expectation, EU energy regulators supported the allocation of surveillance powers to ACER. EU securities regulators, in contrast, rejected a similar proposal to grant ESMA the authority to perform pan-European surveillance of capital markets. Many of these securities regulators had obtained the exclusive capacity to perform CNS. And, consistent with the expectations of the Hypothesis, they exhibit numerous incentives to maintain the powers, material benefits, and ideational benefits afforded by that exclusivity. In response to these incentives, they rejected cooperating via an IO, preferring instead to preserve their exclusive surveillance powers and engage in Direct Information-sharing.

The remainder of this concluding chapter will proceed as follows. Section 10.1 will review this thesis' contribution to contemporary debates in IR, IPE, and related fields. Section 10.2 will discuss future avenues for research and provide recommendations for testing the TLCF against a wider universe of cases. Section 10.3 discusses what I term the 'Surveillance Dilemma,' i.e., the difficult tradeoffs presented by existing options to address transnational market abuse. To address this dilemma, Section 10.4 will present a novel, albeit preliminary, proposal for a new institutional approach to the identification of insider trading and market manipulation perpetrated across national borders.

10.1 Contributions to the Literature

The TLCF and its associated hypotheses make numerous contributions to contemporary debates in IR, IPE, and related fields. First, the TLCF challenges a widely held implicit assumption that states and sub-state actors are *able* to share information. Numerous IR and IPE scholars have theorized why actors engage in different forms of international cooperation. Transgovernmental networks, for example, have been theorized to provide a faster, more flexible, and less invasive alternative to formal IOs.[633] Implicit in these arguments is an assumption that the relevant actors are *in a position* to engage in one institutional arrangement or another.

The TLCF demonstrates, however, that this assumption is incorrect in many cases because the requisite data remains in the hands of regulatory intermediaries to whom public agencies have previously outsourced certain tasks. In other words, public agencies'

[633] See, e.g., Ahdieh (2015); Newman and Zaring (2013); Raustiala (2002); Slaughter (2004); Slaughter and Hale (2011). See also the theorized benefits of informal intergovernmental organizations (Vabulas 2019; Vabulas and Snidal 2013).

decision to outsource tasks in the *past* (T_{-1}) impacts their capacity to engage in certain forms of cooperation in the *future* (T_{1+}). Of particular interest here is the manner in which public agencies' previous decision to outsource surveillance impacts their future capacity to engage in different forms of international detection cooperation.

By relaxing the assumption that actors have access to the requisite data, the TLCF unveils novel causal pathways by which sequencing effects determine the institutional arrangements public agencies utilize. In so doing, the TLCF improves our understanding of when, why, and how sub-state actors engage in different forms of cooperation. Further, it draws a novel causal connection between domestic RIT governance dynamics and international regulatory cooperation.[634] Specifically, the TLCF shows how regulators' (previous) decision to outsource tasks to regulatory intermediaries at the domestic level impacts how they (subsequently) cooperate with foreign counterparts. This observation contributes to our understanding of how domestic regulatory politics impact the nature of international cooperation.[635] More specifically, it shows how public-private partnerships can inadvertently prevent public agencies from engaging in what may be, from a broader societal perspective, the optimal method of cooperation. This insight is potentially applicable to a wide range of issue areas in which private firms are expected to perform what are, in effect, public tasks.[636] Through its analysis of transnational market abuse, the TLCF pushes the field of IR to consider the potential consequences of this trend for the form and effectiveness of global governance.

[634] Abbott, Levi-Faur, and Snidal (2017).
[635] See, e.g., Efrat and Newman (2018); Farrell and Newman (2019); Fioretos (2001); Gourevitch (1996); Milner and Rosendorff (1997); Raustiala (1997).
[636] See, e.g., Favarel-Garrigues, Godefroy, and Lascoumes (2011); Sutton (2009); Tan (2018); Wu (2015).

Second, the TLCF contributes to our understanding of how sequencing effects impact not just public agencies' capacity, but also their preference, to engage in certain institutional arrangements. The Framework demonstrates that 'winning' the domestic game (T_1) alters public agencies' preferences in the international game (T_2), and, in turn, the ultimate form of cooperation utilized. In so doing, the TLCF corroborates previous insights from historical institutionalism on the manner in which temporal sequencing impacts actors' preferences.[637] Unlike rational-choice perspectives that treat preferences as exogenously given, the TLCF's sequential domestic and international games endogenize preference change.[638] In other words, the Framework theorizes what one scholar refers to as the 'eventfulness' of preference formation.[639]

Third, the Market Structure Hypothesis advances our understanding of RIT strategic dynamics and public-private partnerships.[640] Specifically, this Hypothesis is the first to draw a causal connection between market structure and the capacity of public agencies to disempower their regulatory intermediaries (i.e., reversing a public-private partnership).[641] Scholars of IPE, economics, and business studies have noted that, under certain circumstances, private firms have competitive incentives to support increased regulation/oversight.[642] This thesis advances our understanding of this dynamic by (a) mapping the spectrum of these incentives, (b) theorizing how they are shaped by variations in market structure, and (c) examining the downstream consequences of those conditions for the manner in which public agencies engage in international detection

[637] Fioretos (2017); Fioretos, Falleti, and Sheingate (2016); P. Hall (2010); Katznelson and Weingast (2005); Mahoney and Thelen (2010); Peters, Pierre, and King (2005); Pierson (2000b, 2000a, 2004). See also Jupille, Mattli, and Snidal (2013); Kellerman (2019).
[638] On historical institutionalism's superior capability to explain such endogenous processes of preference formation, see Farrell and Newman (2010).
[639] P. Hall (2005, 126).
[640] It may also speak to the literature on Political Corporation Social Responsibility (see Eberlein 2019).
[641] This argument has been published as a standalone article (Kellerman 2020).
[642] Büthe (2010a); Green (2014, 51); Haddock and Macey (1987); Mattli and Woods (2009, 35).

cooperation.[643] In so doing, the Market Structure Hypothesis and TLCF contribute to our understanding of how industrial organization impacts domestic regulatory politics and, in turn, the nature of international regulatory cooperation.[644]

Fourth, this thesis sheds new historical and empirical light on the understudied topic of market surveillance. Despite an extensive literature on market manipulation and insider trading, very few scholars have examined surveillance, the primary method by which such crimes are identified.[645] This thesis ameliorates this gap in the literature by examining how politics impacts the nature of market surveillance at both the domestic and international levels. Further, it presents empirical evidence collected from the archives of the NYSE and OSC that, to the author's knowledge, have not been previously published. And, finally, this thesis generates a wealth of novel empirical evidence through its performance of 86 interviews in six countries. This includes timely insights into contemporary events such as the SEC's controversial CAT project and the behind-the-scenes politics of EU regulatory cooperation. Through this research, I hope to encourage additional work on the international political economy of market surveillance. To that end, the next sub-section outlines next steps for further testing the TLCF and discusses some specific avenues for future research.

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[643] See also Mattli and Seddon (2015), who, in their analysis of international organizations as orchestrators, note that an orchestrator's relative power vis-à-vis an intermediary actor depends in part on the number of intermediaries available. This could also be interpreted as an analysis of how the 'market supply' of agents impacts their strategic interrelationship with their principal.

[644] Following, broadly, D. Bach and Newman (2014); Drezner (2008); Efrat and Newman (2018); Fioretos (2001); Gourevitch (1996); Mattli (1999); Putnam (1988); Ramanna (2015); Raustiala (1997); Simmons (2001); Singer (2004).

[645] On the history and economics of insider trading, see Chauhan, Chaturvedula, and Iyer (2014); Clacher, Hillier, and Lhaopadchan (2009); Doffou (2007). On market manipulation, particularly in relation to algorithmic trading, see Mattli (2018). For historical accounts of market surveillance, see Austin (2015b, 2017); Mattli (2019, ch. 5); Shapiro (1984, 60, 181); Williams (2009, 2015). Legal analyses that discuss surveillance include Dolgopolov (2018); Rider (1990); Yadav (2016b, 2016a, 2019). For models and econometric analyses of market surveillance, see Aitken, Cumming, and Zhan (2015); Chen et al. (2017); Comerton-Forde and Rydge (2006); Cumming and Johan (2008); Cumming, Peter Groh, and Johan (2018).

10.2 Avenues for Future Research

The TLCF is, I contend, applicable to any situation in which public agencies seek to cooperate on the detection of some transnational phenomenon. To more fully evaluate the Framework's explanatory power, it would be prudent to test its expectations against additional case studies. A natural first step would be to evaluate if and how securities and energy regulators not studied here proceed through the TLCF's theorized causal pathways. Future work should also evaluate the Framework's performance in other issue areas, such as the detection of transnational money laundering, fraud, human trafficking, drug trafficking, and infectious diseases. Any corroborative empirical evidence from other fields would strengthen our confidence in the TLCF's explanatory power. Further, this research may yield new insights into how the framework might be adjusted to account for intervening variables not identified here. Only through such work can we determine the full scope of the TLCF's generalizability.

In addition to more extensive empirical testing, there are a number of related research questions worthy of further inquiry. The TLCF seeks to explain why public agencies engage in different forms of international detection cooperation. But public agencies are not the only actors that cooperate internationally. Private actors, for example, collaborate to set industry standards, adjudicate disputes, and influence the design of domestic and international rules.[646] What determines the form of international cooperation private actors utilize? Might the TLCF yield any insights into this question? In certain circumstances, private actors might outsource tasks or authority to private

[646] Auld, Renckens, and Cashore (2015); Büthe (2010a); Büthe and Mattli (2011); Graz and Nölke (2008); Green (2014); R. B. Hall and Biersteker (2002); Nölke and Perry (2007); Ramanna (2015); Vogel (2008).

international regimes that they cannot fully control.[647] Examples include transnational industry bodies that formulate highly influential standards, such as the International Council of Chemical Associations (ICCA) or the Association of Certified Anti-Money Laundering Specialists (ACAMS).[648] If private firms outsource tasks and/or authority to such bodies in the *past* (T_{-1}), how does this affect their capacity to influence international rules or standards in the *future* (T_{1+})?

Another category of actors that engage in international cooperation is non-governmental organizations (NGOs) and advocacy groups.[649] These actors engage with formal IOs, form transnational alliances, and participate in influential advocacy networks (i.e., epistemic communities of policy experts) to achieve their goals.[650] When will NGOs and advocacy groups decide to engage in different forms of international cooperation? And, in the spirit of the TLCF, might their previous decisions to outsource tasks or decision-making authority to external actors influence this decision?

Scholars might also explore research questions related to the Market Structure Hypothesis. The Hypothesis simplifies the concept of market structure by making a binary distinction between 'competitive' and 'monopolistic' markets. This does not account for intermediate scenarios such as oligopoly. Nor does it account for alternative market structural states such as monopsony and oligopsony in which there are many sellers but only a small number of buyers.[651] How might these conditions impact public agencies capacity to disempower their regulatory intermediaries? This thesis also examined a case study, IIROC, in which there were multiple public agencies operating

[647] Cutler (2002). See also Bradley (1939).
[648] Haufler (1999); Schneider (2006); Tsingou (2018).
[649] For a review of the literature on this topic, see Hale (2020).
[650] Edwards (1999); Farrell and Newman (2019); Haas (1992); Keck and Sikkink (1998); Martin (1999, 59-62); Slaughter (2004); Tallberg et al. (2013).
[651] Bhaskar, Manning, and To (2002).

within one state. As detailed in Chapter 6, jurisdictional rivalries between these agencies led them to allocate CNS to a new, federal organization under their control rather than allowing any one agency monitor another's 'turf.' Are there other cases in which competing interests between public agencies might impact whether and/or how they seek to disempower their regulatory intermediaries? In other words, how does the 'market supply' of public agencies impacts RIT governance dynamics? Exploring such questions would contribute to our understanding of public-private partnerships and, more generally, the politics of indirect governance.

10.3 The Surveillance Dilemma

This thesis has examined why national regulators engage in one form of cooperation or another to detect transnational market abuse. Further, it has demonstrated that temporal sequencing effects and domestic regulatory politics can lead those regulators to engage in certain forms of cooperation that are arguably ineffective and/or sub-optimal. But, from a public policy perspective, what exactly are these faults? And is there one form of international cooperation that regulators *should* be using? Here I contend that each existing form of cooperation has advantages and disadvantages, and thus regulators are faced with what I term the *Surveillance Dilemma*. This sub-section will explain this dilemma by discussing the tradeoffs presented by Indirect Ad-hoc Information-sharing, Direct Information-sharing, International Organization, and an additional form of private cooperation not involving regulators. Finally, I will conclude the thesis by presenting a preliminary proposal for a new method of international cooperation that, I contend, would improve our collective capacity to identify transnational market abuse.

The Surveillance Dilemma refers to the policy tradeoffs presented by different forms of international detection cooperation. It shares characteristics with (and derives inspiration for its name from) what scholars refer to as the 'Governor's Dilemma.'[652] The Governor's Dilemma describes the tradeoff governors face when they consider delegating tasks to intermediaries. These intermediaries may have greater competence in the relevant issue area, but delegation requires sacrificing control.[653] Therefore, governors must decide between control and competence.[654] The Surveillance Dilemma features a wider set of tradeoffs between what I will term *local knowledge*, *coverage*, *expertise*, and *positive incentives*. I contend that any one form of international cooperation can only provide two of these benefits at one time (Figure 13).[655] The advantages of each method are relative rather than absolute; an IO, for instance, does not feature *zero* expertise. But this exercise demonstrates the relative advantages and disadvantages of each option.

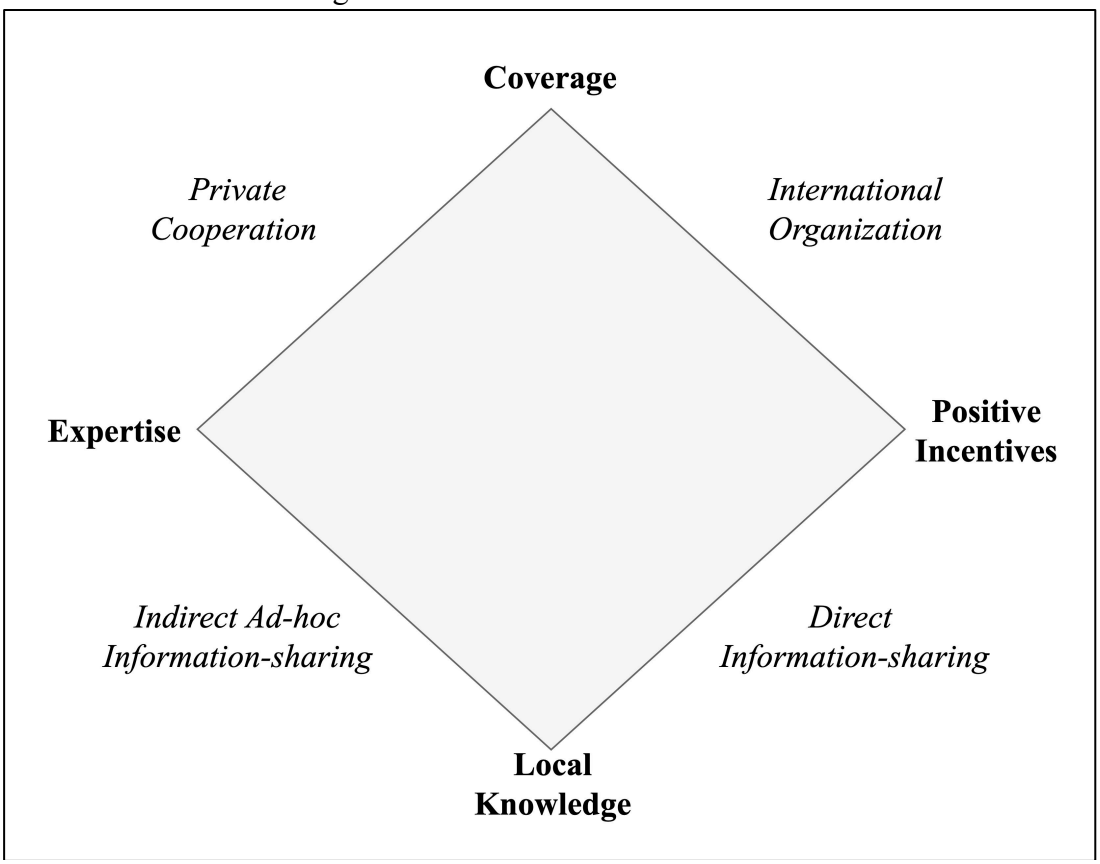
Local knowledge refers to information about local markets (e.g., domestic trading conditions, rules, norms, and industry actors) that improves one's capacity to accurately identify insider trading and manipulation. Someone with local knowledge about Japanese securities markets, for example, is better placed than a German regulator to determine if certain activity is suspicious. They know the local players, their reputations, and the manner in which their market normally operates.

Coverage refers to the scope of surveillance. For transnational market abuse, coverage refers to the capacity to simultaneously surveil multiple national markets to identify cross-border schemes. Identifying certain methods of transnational abuse is

[652] Abbott et al. (2019, 2020).
[653] Abbott et al. (2019, 2).
[654] Governors can, however, utilize management strategies to maintain partial control (Abbott et al. 2019).
[655] This approach is similar to the underlying logic of the Monetary Trilemma (i.e., the 'Impossible Trinity'), which claims that it is impossible for states to simultaneously have a fixed exchange rate, free capital movement, and independent monetary policy (Boughton 2003).

virtually impossible without such coverage. This is because such schemes involve trades in separate national markets, each of which may appear innocent in isolation. Only when viewed together does the cross-border scheme reveal itself.

Figure 13: The Surveillance Dilemma



Benefits are in bold and forms of international detection cooperation are italicized. The diamond demonstrates that any one form of cooperation can only provide two benefits at one time. The underlying logic of this figure is similar to the Monetary Trilemma, sometimes referred to as the 'Impossible Trinity.'

Expertise refers to the competence and training necessary to detect market abuse. As noted in Chapter 2, market abuse is a highly complex area, particularly when it comes to algorithmic and high-frequency trading strategies. In order to identify algorithmic-driven market abuse schemes in FX markets, for example, one must have expertise in foreign exchange market dynamics, market structure, trading mechanisms, order types, brokerage

systems, alert thresholds, and all relevant rules and regulations.[656] Note that expertise, which refers to generalizable competence and training, is distinct from local knowledge, which pertains to the unique characteristics of domestic jurisdictions.

Positive incentives refer to one's incentives to accurately detect and report suspicious activity. In financial services, remuneration largely drives incentive structures. The structure of bonuses, for example, can impact employees' and firms' risk-taking behavior.[657] Certain regulators have sought to mitigate this effect by, for instance, tying employee bonuses to firm-wide performance (rather than individual or team-wide performance).[658] In the context of detecting market surveillance, certain firms or organizations may be more or less incentivized to detect abuse. Of particular interest here are situations in which regulatory intermediaries may have perverse incentives to ignore abuse or underinvest in their surveillance capabilities.

10.3.1 The Policy Tradeoffs of Different Cooperation Forms

The first option, Indirect Ad-hoc Information-sharing, provides expertise and local knowledge but lacks coverage and positive incentives. In this system, the primary actors performing front-line surveillance are trading venues (i.e., private regulatory intermediaries). These trading venues possess unrivaled expertise by virtue of their work and proximity to everyday trading. Further, they have high local knowledge of domestic markets (they *are* the market).

[656] On the complexities of market manipulation schemes in FX, see Marcus and Kellerman (2018).
[657] Bannier, Feess, and Packham (2012); Efing et al. (2015); Hartmann and Slapničar (2015).
[658] For a review of remuneration regulations in the UK, see Fieldfisher (2016).

Trading venues lack, however, coverage. Individual trading venues can only monitor the trading that occurs on their platforms. Similarly, an individual broker-dealer operating internalization services can only keep track of those orders and transactions that pass through its system. That broker-dealer has no way of knowing if their clients are also conducting transactions through other brokers to engage in abuse. And, indeed, such approaches are common. As the Chief Compliance Officer of one hedge fund writes, "The response of some illicit traders [to advances in detection methods] has been to slice their tell-tale patterns into multiple pieces and then send each piece through a different broker."[659] Thus Indirect Ad-hoc Information-sharing, by placing the onus on regulatory intermediaries to perform surveillance, sacrifices the coverage necessary to identify certain types of cross-market and cross-border schemes.

Equally concerning is that regulatory intermediaries may have perverse incentives to ignore market abuse or underinvest in surveillance capabilities.[660] As previously noted, there is a conflict between private trading venues' regulatory responsibilities and their dominating interest to maximize profit. Regulatory enforcement actions corroborate that numerous trading venue operators have succumbed to this perverse incentive to look the other way in order to attract and maintain customers.[661]

The second option, Direct Information-sharing, provides local knowledge and positive incentives but lacks coverage and expertise. In this system, national regulators have acquired the capacity to perform surveillance and thus can directly exchange data with their foreign counterparts. Generally speaking, regulators have positive incentives

[659] Friedman (2017).
[660] Aggarwal (2002); Carson (2003); IOSCO (2000); Karmel (2002); Mattli (2018, 2019); Yadav (2019). Aggarwal (2002); Carson (2003); IOSCO (2000); Karmel (2002). See also Yadav (2019).
[661] See Mattli (2019).

to detect and punish financial crime.[662] Detecting suspicious activity may be a marker of professional success and contribute to career advancement. Further, national regulators tend to have robust local knowledge of the markets under their jurisdiction, particularly in comparison to foreign actors or IOs.

But Direct Information-sharing lacks the coverage necessary to detect certain methods of transnational market abuse. Regulators in this system have the capacity to perform CNS. They do not, however, have the capacity to perform the same level of surveillance on foreign markets. Thus, much in the way individual trading venues' siloed views prevents them from detecting cross-*market* abuse, national regulators' siloed view of their jurisdictions prevents them from detecting cross-*border* abuse. Interviewees corroborated that sophisticated actors can exploit these international oversight gaps to manipulate foreign markets.[663] Finally, Direct Information-sharing lacks (relative) expertise. Regulators are knowledgeable, highly skilled professionals. But it is accurate to state that, generally speaking, private sector actors possess superior specialized expertise on their own commercial operations. This expertise (i.e., competence) is precisely why governors outsource tasks to intermediary actors.[664]

The third option, allocating surveillance powers to an International Organization, provides coverage and positive incentives but lacks expertise and local knowledge. IOs performing market surveillance are uniquely positioned to detect cross-border schemes that no one trading venue or national regulator would be able to observe. This is the primary justification for endowing an IO with the capacity and mandate to simultaneously

[662] With the caveat that some regulators may be vulnerable to being 'captured' by the industry they are meant to oversee (Dal Bó 2006). This risk is very real, but it is nevertheless accurate to state that, generally speaking, regulatory agencies are institutionally incentivized to detect and prevent misconduct.
[663] Interviews #1, 3, 4, 5, 10, 17, 18, 19, 33, 35.
[664] Abbott et al. (2019); Abbott, Levi-Faur, and Snidal (2017). See also Bawn (1995).

surveil multiple national markets. Further, IO surveillance staff have positive incentives to detect and report suspicious trading activity. Like regulators, IO staffs' professional success and career advancement may be tied, in part, to their capacity to accurately identify transnational market abuse.[665]

IOs performing market surveillance lack, however, local knowledge. Numerous interviewees indicated that it would be extremely difficult for an IO to replicate national regulators' knowledge about their local markets.[666] Their supranational vantage point, in combination with their responsibility to monitor multiple domestic markets, precludes the obtainment and maintenance of such knowledge. Further, IOs, like regulators, are less likely to possess the same level of professional expertise as private sector actors.

The fourth option is cooperation between private sector actors. This form of cooperation is not covered by the TLCF because the Framework seeks to explain why *public* agencies engage in different forms of international detection cooperation. Private cooperation refers to the capacity of private actors to perform cross-border surveillance on multiple venues in different states within the same corporate group. Nasdaq, for example, owns trading venues not just in the U.S., but also in Denmark, Sweden, Finland, Iceland, Estonia, Lithuania, and Armenia, among others.[667] Therefore, Nasdaq can direct its headquarters in New York City to simultaneously surveil these markets to detect transnational market abuse.[668]

Private cooperation provides coverage and expertise but lacks local knowledge and positive incentives. Such arrangements are limited to single corporate groups, and thus their coverage is less comprehensive than IOs. Nasdaq cannot, for instance, surveil

[665] With the caveat that regulatory capture is also a risk at the international level.
[666] Interviews #66, 67, 75, 76, 81, 82, 83, 86.
[667] See Nasdaq (2020).
[668] Corroborated by Interviews #3 and 43.

trading venues owned by their competitor, Intercontinental Exchange (the owner of, amongst others, NYSE). Nevertheless, they do have the capacity to conduct cross-border surveillance on their own venues and thus this form of cooperation features international coverage. Private cooperation also features expertise. Like Indirect Ad-hoc Information-sharing, the actor with primary responsibility for surveillance also possess the highest level of specialized knowledge: private trading venues.

Private cooperation lacks, however, local knowledge. Nasdaq's office in New York, for example, is unlikely to possess local knowledge about trading conditions, rules, norms, and industry actors in Armenia. Thus, like IOs, there is a tradeoff between vantage point (coverage) and familiarity with domestic markets (local knowledge). Private cooperation also lacks positive incentives. These actors face the aforementioned conflict of interest between oversight and profit maximization. Therefore, despite their capacity to observe transnational market abuse, they face perverse incentives to ignore that abuse as a means of attracting and retaining customers.

As this section demonstrates, each form of international cooperation to detect transnational market abuse features tradeoffs. IOs provide the international coverage necessary to detect certain methods of cross-border abuse. They lack, however, the local knowledge afforded by Indirect and Direct Information-sharing. Forms of cooperation in which private trading venues are primarily responsible for front-line surveillance feature superior levels of expertise. Such methods suffer, however, from conflicts of interest that may undermine effective detection. To address this Surveillance Dilemma, the next section presents a novel, albeit preliminary, proposal for an alternative method of detecting transnational market abuse.

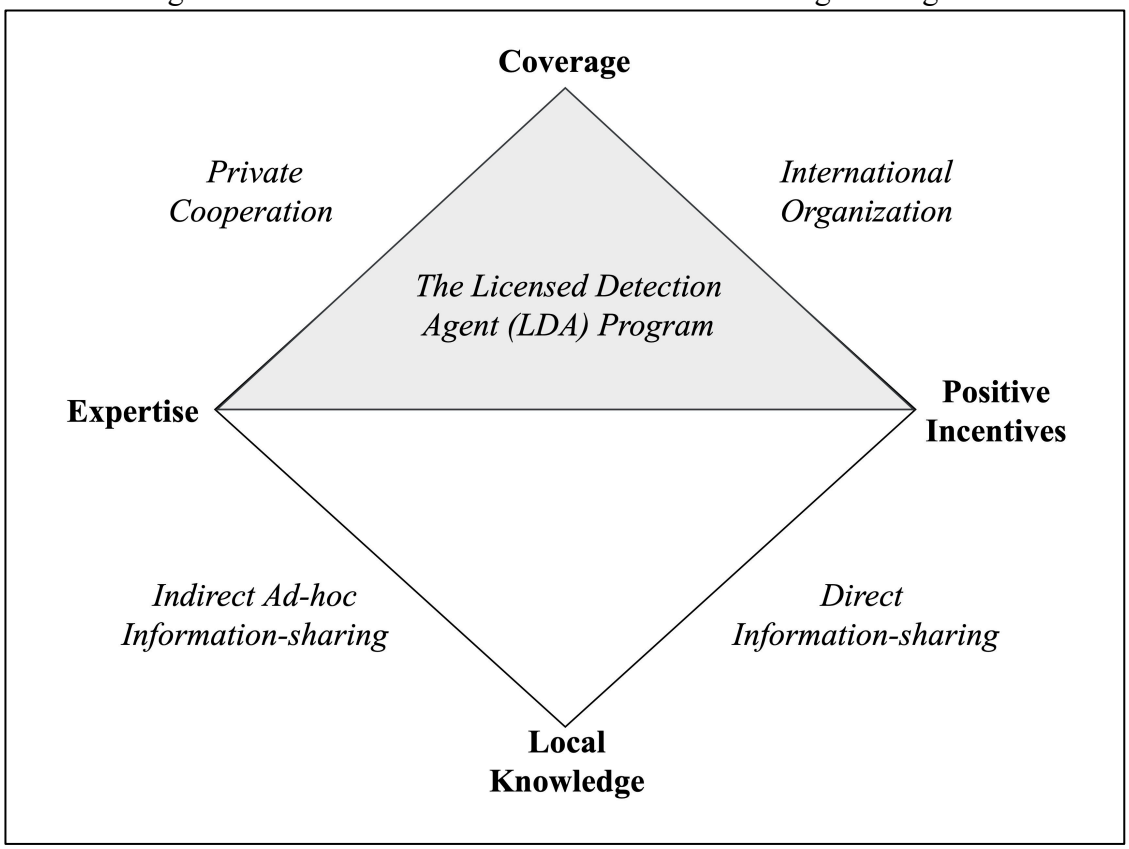
10.4 A Preliminary Policy Proposal: Licensed Detection Agents

The most successful enforcement program in SEC history is, arguably, the Securities Whistleblower Incentives and Protection rule. This rule, which was introduced by The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank), provides whistleblowers with 10-30% of any monetary sanctions collected as a result of their disclosures (as long as those sanctions exceed at least $1 million).[669] Since the introduction of this rule in 2010, whistleblower leads have resulted in over $2 billion in total monetary sanctions collected by the SEC, including the return of approximately $500 million to harmed investors.[670] Over the course of the program, the SEC has paid 67 whistleblowers approximately $387 million as compensation for their tips.[671]

To address the Surveillance Dilemma, I propose a new approach that builds on the logic of remunerating whistleblowers: the Licensed Detection Agent (LDA) Program. Under the LDA Program, licensed firms would be provided with the ability to directly surveil capital markets in multiple national jurisdictions. Those firms would, in turn, be provided with monetary rewards for reporting suspicious transactions that lead to an investigation and/or monetary sanction. Through this program, regulators can, I posit, obtain at least three of the aforementioned benefits at one time: coverage, expertise, and positive incentives (Figure 14). And, as will be discussed below, it may be possible under certain circumstances for LDAs to provide all four. In so doing, the LDA Program would improve upon existing methods of international cooperation and enhance our capacity to detect and deter transnational market abuse.

[669] SEC (2019, 4).
[670] Ibid, 1. This number includes approximately $1 billion in disgorgement of ill-gotten gains and interest.
[671] Ibid.

Figure 14: The Benefits of the Licensed Detection Agent Program



This section will provide a preliminary outline of the LDA Program. The primary issue the Program seeks to address are the disadvantages of existing cooperation options. Its goal is to improve upon these options by providing a new approach to the detection of transnational methods of insider trading and market manipulation. Section 10.4.1 will discuss the theoretical and empirical precedent for the LDA Program. This will be followed by a preliminary outline of the Program in Section 10.4.2. This outline is organized around three phases of implementation: Preparation, Licensing, and Monetary Structure. Section 10.4.3 will discuss the benefits afforded by the LDA. Section 10.4.4 will address potential risks and, finally, Section 10.4.5 will conclude. Future work will be required to fully evaluate the proposal's legal viability, projected costs, and funding arrangements, tasks that are beyond the scope of this thesis.

10.4.1 Theoretical and Empirical Precedent for the LDA Program

LDAs are, in a sense, securities fraud bounty hunters. The term 'bounty hunter' generally refers to a person who captures fugitives or criminals in return for a monetary reward. This term is often associated with U.S. bail bond agents who have the legal right to arrest and transport defendants that fail to appear in court (i.e., 'skip' their bail).[672] U.S. bail bond agents are controversial, as they endow private persons with quasi-police powers vulnerable to abuse.[673] Previous work has used the term 'bounty hunter' in reference to domestic whistleblower programs.[674] Scholars have also suggested empowering private firms to act as bounty hunters in other policy arenas, such as arresting war criminals and pirates.[675] But, to the author's knowledge, this thesis is the first to suggest licensing private actors to surveil multiple national markets to detect transnational methods of insider trading and manipulation.

Unlike bail bondsmen, private firms under the LDA Program would not be arresting or transporting individuals. Rather, they would, like whistleblowers, bring attention to suspicious behavior. As noted above, the SEC's whistleblower program has been highly successful. And, in 2019, the SEC received whistleblower submissions from individuals in 70 foreign countries (Canada, Germany, and the United Kingdom were the top three foreign locations).[676] Similar programs have been put in place by other U.S. agencies (e.g., the CFTC) and Canadian securities regulators.[677]

[672] Baker, Vaughn, and Topalli (2008).
[673] For a review of these critiques, see Joiner (1998).
[674] Arnold (2009); Blount and Markel (2012); Rose (2013).
[675] Bornick (2005); Supernor (2001).
[676] SEC (2019, 25).
[677] See, e.g., OSC (2020). (OSC 2020)

Monetary rewards for whistleblowers provide individuals with an incentive to come forward. Numerous empirical studies corroborate that monetary incentives are an important driver of whistleblowing activity.[678] Monetary incentives are not, however, just a profit motive. They can also compensate for the losses sustained by whistleblowers, which often include loss of employment, demotion, lawsuits, and/or social stigma within their industry. The LDA Program, however, mitigates these risks by professionalizing the practice of whistleblowing. Rather than relying on individuals to take the enormous risk of blowing the whistle on their employer, the LDA Program, as discussed in the next sub-section, provides firms with a commercial incentive to openly monitor international capital markets for transnational abuse.

10.4.2 A Preliminary Outline of the LDA Program

Under the LDA Program, national regulators would provide private firms (LDAs) with a license to perform market surveillance on all trading venues within their respective states. LDAs would monitor capital markets and report suspicious activity (both domestic and international) to the relevant national regulator(s). These regulators would maintain responsibility for undertaking investigations and imposing enforcement penalties. In other words, LDAs' role is limited to market surveillance. The LDA Program's implementation can be usefully separated into three phases: Preparation (Phase I), Licensing (Phase II), and Monetary Reward (Phase III). The remainder of this sub-section will provide a preliminary outline of each phase.

[678] Andon et al. (2018); Butler, Serra, and Spagnolo (2019); Dyck, Morse, and Zingales (2010); Mesmer-Magnus and Viswesvaran (2005). Another important incentive is a sense of public duty, ethics, and/or justice (Brewer and Selden 1998; R. L. Sims and Keenan 1998). For a general discussion of incentives to blow the whistle, see Callahan and Dworkin (1992).

Phase I (Preparation) would require legislative and/or regulatory changes to facilitate the LDA Program. Most importantly, regulatory agencies would need to ensure that LDAs have access to detailed trading data in each relevant national jurisdiction.[679] If regulators are performing CNS, they may be able to provide that data directly. In other cases, this may require new rules compelling trading venues operators to provide LDAs with access to their data. These venue operators may fear, however, that this process exposes them to legal risk. For example, LDAs may determine that the trading venue itself is failing to fulfil its regulatory obligations. To ameliorate these concerns, the LDA Program would provide trading venue operators with legal immunity from civil liability for any misconduct discovered by the LDA in the course of its surveillance. Regulators might also consider eliminating trading venues' surveillance obligations in return for allowing LDAs to access their data. This would provide a cost-saving incentive to support the transfer of surveillance responsibilities to third-party.

Phase II (Licensing) would involve the process of approving private firms to act as LDAs. The details of this process would, naturally, have to be agreed upon by all participating regulatory agencies in Phase I (IOSCO may be an appropriate forum to debate and finalize these rules). Like standard regulatory approval processes, firms would need to demonstrate that they have the expertise, personnel, and financial resources to perform market surveillance.[680] Most importantly, it must be established that LDAs cannot perform any regulated services (e.g., operating a trading venue, performing brokerage services, or trading) that would present a conflict of interest. Key to the LDA Program is that licensed firms are positively incentivized to detect transnational market

[679] Note that this does not require the LDA to have a physical presence at the regulator or any trading venues. That data can be transmitted digitally to the LDA's own offices.
[680] In the UK, for example, acting as an LDA could be classified as a regulated task (similar to, for example, handling client money) requiring FCA approval.

abuse. In practice, LDAs are likely to be specialist regulatory consultancies.[681] Many of these consultancies currently offer market surveillance software to clients. Further, they often perform corporate monitorships of financial institutions on behalf of public agencies such as the U.S. DOJ.[682] Acting as an LDA would be a natural extension of these firms' commercial operations.

Phase III (Monetary Reward) pertains to LDAs' remuneration structure. Like whistleblowers, LDAs should be entitled to a percentage of any monetary sanction imposed as a result of their surveillance and reporting. The methodology for determining this percentage must be consistent across states to eliminate any incentive for LDAs to prioritize one regulatory agency or another. Following the SEC's precedent, one option would be to offer between 10% and 30% of the monetary sanction, depending on various factors such as the significance of the information and timeliness.[683] Regardless of the specifics, it is important that the compensation is structured as a range, which (a) provides LDAs with incentives to perform efficient surveillance, and (b) provides regulators with an option to punish LDAs for subpar practices.

One fault of whistleblower compensation systems, however, is that it can take years for the rewards to materialize.[684] Regulatory investigations are slow processes, and the final result can be derailed by a wide range of factors. This is a very high-risk business model for LDAs. These firms would have to spend considerable resources in the hope that, in a few years' time, they receive large payouts. To address this fault, I propose that LDAs should also be provided with small awards for every tip they provide that is deemed worthy of further investigation. The precise details of how this is determined would need

[681] Examples include Kroll, Exiger, Stoneturn, Bovill, and various law firms.
[682] See Spivack and Raman (2008).
[683] SEC (2010).
[684] Michaels (2018).

to be hashed out between national regulators. It is important, however, that these rules be designed in a manner that encourages a steady influx of legitimate tips while reducing false reports that lead to wasted time and resources. To further mitigate the risk of false reports, regulators might adopt mechanisms for punishing LDAs that submit erroneous alerts, such as fines, suspensions, and revocations of their licenses.

10.4.3 The Relative Benefits of the LDA Program

Unlike the four existing forms of international cooperation, the LDA Program affords three benefits simultaneously. First, the LDA Program features *coverage*. Because LDAs are granted the capacity to surveil multiple trading venues located in different states, they are in a position to identify transnational market abuse. This improves upon Indirect and Direct Information-sharing, both of which rely on the surveillance performed by actors (regulatory intermediaries and regulators, respectively) that lack consolidated views of multiple national markets. Second, the LDA Program features *expertise*. LDAs are likely to be staffed by industry practitioners with extensive experience in trading, financial regulation, and market surveillance. Third, LDAs have *positive incentives* to detect and report transnational market abuse. Unlike trading venues operators, LDAs are explicitly prohibited from engaging in any other commercial operations that would present a conflict of interest. They are neither hired by trading venues nor seek to provide goods or services to market participants. Rather, their client is the regulator, and thus they are incentivized to detect and report suspicious activity that will result in small short-term payouts and large, long-term rewards.

LDAs' only weakness is a lack of *local knowledge*. LDAs headquartered in New York are unlikely to have detailed knowledge about domestic trading conditions, rules, norms, and industry actors in foreign jurisdictions (at least in comparison to those jurisdictions' local trading venues and regulators). It is possible that LDAs might establish local offices in each relevant jurisdiction to obtain and maintain local knowledge. But, generally speaking, this is likely to be the one relative fault of the LDA Program in comparison to other methods of international cooperation.

10.4.4 Addressing Potential Risks

The LDA Program, once operational, does feature risks.[685] Many of these risks are similar to those associated with standard whistleblowing remuneration programs.[686] The first risk, alluded to above, is the potential for LDAs to submit false reports to regulators. Such false reports might lead to wasted time and resources, undermining the efficient detection of transnational market abuse. But, as noted above, this risk can be mitigated by providing regulators with tools to deter erroneous reporting practices. This might include fines, suspensions, or revocations of LDA licenses.

The second risk often associated with whistleblowing remuneration is entrapment, i.e., the ethically dubious method of inducing a person to commit a crime.[687] The risk of entrapment is lower, however, in the LDA Program. LDAs are externally surveilling market activity, and thus it would be very difficult for them to induce an actor to engage

[685] Note that this sub-section addresses the risks of the LDA once operational. It does not address the risks associated with its initial design, implementation, and approval, details which are beyond the scope of this chapter's preliminary outline.
[686] Maslen (2018, 5).
[687] Dworkin (1985).

insider trading or market manipulation. In the rare event that they might be able to do so, regulators would be able to take this into account when deciding to reward the tip and/or determine the total reward to be granted.

The third risk is regulatory capture. It is possible that individual staff members of LDAs might be influenced by the market participants they are supposed to be monitoring. For example, a hedge fund might offer an LDA staff member employment as a quid pro quo for turning a blind eye to their trading behavior (a version of the infamous 'revolving door' problem).[688] This risk can be addressed in part through contract design. Regulators might specify, for example, that LDA staff members performing surveillance are forbidden from obtaining employment at a trading outfit for a certain amount of time (e.g., one year) after leaving their firm. Further, the risk of regulatory capture here is mitigated by the fact that these staff members' bonuses would likely be tied to the successful identification of suspicious trading activity.

10.4.5 Conclusion

The LDA Program is, I posit, a viable approach to detecting cross-border methods of insider trading and market manipulation. Unlike Indirect Ad-hoc Information-sharing and Direct Information-sharing, LDAs feature *coverage*. And unlike systems that rely on private trading venues to perform surveillance, the LDA Program facilitates *positive incentives* to detect transnational market abuse without sacrificing *expertise*. Through its simultaneous provision of these three benefits, the LDA Program is a potentially superior alternative to existing methods of international detection cooperation.

[688] Lucca, Seru, and Trebbi (2014); Shive and Forster (2016).

Designing and implementing the LDA Program is far easier said than done. Such a proposal is likely to encounter legal, practical, and political speedbumps, the details of which are beyond the scope of this chapter. But further exploring this proposal and other proposals to improve market surveillance is a worthy endeavor. Market abuse is neither theoretical nor victimless; these schemes impose real-world harm on investors. Nefarious actors that manipulate markets can engender wild swings of prices and, in some cases, flash crashes that directly impact retirement savings, pensions funds, and unsophisticated retail investors. And this is far from the only form of transnational misconduct that poses economic and security threats to the public. Money laundering, drug trafficking, and cybercrime, among others, ignore national boundaries, creating complicated detection problems for national public agencies. It is essential, therefore, that future scholarship continues to investigate how political and economic forces impact the manner in which societies cooperate to detect transnational phenomena.

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Appendix 1: Email Template for Interviewee Procurement

Dear [*Potential Participant*],

I hope this email finds you well.

My name is Miles Kellerman and I am a Ph.D. Candidate at the University of Oxford. My research focuses on market surveillance, with a particular emphasis on better understanding how and why regulatory agencies cooperate to identify transnational market abuse.

In the course of my research, I noted that you… [*Insert here more details on the specific experience, expertise and knowledge of the potential participant and how it is relevant to the project*].

Would you be interested in allowing me to interview you on the above topics? I am confident that my research project would greatly benefit from your perspective.

Please note that this project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee. Upon successful completion of the project, the dissertation will be deposited in the University of Oxford's library and made publicly available. Further, I may seek to distribute the research as a journal article, book, book chapter, or some other type of publication.

Thank you very much for your time and consideration,

Miles Kellerman

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Appendix 2: Interviewees: Descriptive Statistics

Descriptive Statistics	
Total Requests	194
Total Interviews	86
Positive Response Rate	44.33%
Gender (Total Interviews)	
% Female	25.6%
% Male	74.4%