Political Economy of Finance: Securities Markets Regulation

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Abstract

What explains 'regulatory stringency' in financial markets? I define regulatory stringency as the change in the extent and scope of a regulatory burden imposed on regulated firms (or regulatees).

The level of competition, conceptualised as heterogeneity of regulatees' regulatory preferences, is central to explaining the extent of rule stringency, either rule weakening or rule strengthening. If regulatees compete due to heterogeneous preferences (i.e. disagree on a specific rule proposed by the regulator), then regulators hold more bargaining power to promulgate stronger, more burdensome regulation. Alternatively, when regulatees have homogeneous preferences, their power with respect to the regulator is increased and rules are consequently weakened. This central theoretical claim is developed through a more nuanced theoretical account, which is inspired by six streams of literature: international political economy of finance, organisational reputation, business conflict, interest groups, capture theory (economics of regulations), and strategic provision of information.

In order to systematically examine the extent of regulatees' influence on rulemaking in securities markets, the thesis engages in two complementary empirical endeavours: first, the large N study, which is based on a new data set on securities market regulation that spans 13 years of rulemaking (2004–2016) with 200 rules and 7,873 individual submissions to the regulator – the European Securities and Markets Authority (ESMA); second, the case studies on the Markets in Financial Instruments Directive (MiFID II), which focus on the research inducement regime ('research unbundling'), transparency thresholds in fixed income and derivatives, and dark trading.

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The only constant is – change.
(Heraclitus)

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Chapter 1 – Introduction

1.1 Empirical puzzle and research question

The global economy has never been the same since the 15th September 2008. The turmoil of the global economic system has sparked fierce public and academic debates about inadequate financial regulation, which is understood to be one of the main culprits of the Global Financial Crisis (GFC). The disastrous effects of the GFC raised important questions about the extent to which private stakeholders have influenced financial rules in self-serving ways. Furthermore, there has been a growing concern that the rules of the game were (co)created by the stakeholders whose activities they were supposed to govern.

Following a strong public backlash, there has been a significant change of attitude in the international regulatory community, which culminated in the G20 agreement to make the financial system more resilient through fostering transparency and investor protection mechanisms (Helleiner et al. 2010). As expected, financial interest groups were quick to mobilise and express their strong disagreement with some of the costliest regulatory reforms. However, their lobbying efforts have had significantly different outcomes across jurisdictions and issue areas.

For example, the cornerstone of the European regulatory governance of securities markets – the second Markets in Financial Instruments Directive (MiFID II) – introduced transformative investor protection and financial stability mechanisms. Most notably, the European regulators insisted on and succeeded in strengthening the rules on research inducements, which now require all investors to pay directly for sell-side research. This overturned the decades-old practice of incentivising trading business by providing free research reports and market intelligence.

The new regulatory initiative for customer protection through 'research unbundling' is estimated to be very costly for everyone involved: the sell-side research providers (banks and broker dealers) earn revenues of around $5 billion annually from trading activities related to research, and these revenues are expected to decrease 30–60 per cent depending on the final pricing structure of newly created research products. On the other hand, according to Oliver Wyman estimates, the asset managers' operating costs are expected to increase 2–4 per cent, representing a 4–7 per cent profit reduction (Turner et al. 2017). Put simply, despite an initial strong push-back from the industry, regulators managed to promulgate the globally most stringent

rule on research inducements, which has significant economic repercussions for a majority of stakeholders involved. Such research unbundling is just one example of extremely well-resourced regulated firms losing regulatory battles and bearing multimillion-dollar compliance costs.

On the other hand, another European regulatory initiative for enhancing transparency has been a complete failure. The European regulators attempted to introduce transparency requirements for liquid non-equity instruments, such as fixed income securities and derivatives. Introducing more liquidity into non-equity markets would directly support regulators' endeavours in protecting investors through execution cost reductions. Furthermore, greater transparency would allow regulatory community and central bankers to have a more comprehensive insight into systematic risks. Nevertheless, the final rules on transparency thresholds announced in 2018 have been significantly watered down from the initial regulatory calibration in 2014 due to the unified industry opposition.

At the time of writing, the number of proclaimed liquid bonds (which have to comply with the transparency requirements) decreased 22.7 times from the very first regulatory calibration in 2014. Similarly, the largest global market – over-the-counter (OTC) derivatives worth $543.3 trillion globally – witnessed the almost 10-fold drop in the number of proclaimed liquid in-scope instruments, which have to comply with increased transparency requirements. Since the first calibration in 2014, the number of in-scope instruments dropped from 475 to 51. Even more strikingly, the number of the simplest and most often traded 'vanilla' interest rate swaps saw the largest reduction in the liquidity numbers: from 247 instruments deemed liquid in 2014 to just 4 at the time of writing.

Despite opacity of the technical jargon, such vanilla interest rate swaps are not reserved solely for esoteric finance transactions or speculation among sophisticated investors. More importantly, derivatives – particularly the interest rate and foreign exchange ones – are the backbone of the retail banking system as banks have to hedge their exposure in order to provide mortgages or student loans. In other words, although derivatives trading might seem far removed from everyday economic life, distributional effects are wide and significant.

This variation in regulatory outcomes – between the globally most stringent research inducement regime and watering down of the transparency requirements – raises two important questions. First, to what extent are financial regulatory agencies

influenced by private interests? Second, under what conditions do regulators promulgate stronger, more burdensome rules for the industry, and when do their efforts get watered down, resulting in weaker regulation? In short, what are the drivers of regulatory stringency?

Addressing these questions is vital for understanding the real influence of financial stakeholders in rulemaking processes, and the specific conditions under which private interests might prevail. I define the dependent variable – rule change stringency or regulatory stringency (used interchangeably) – as the change in the extent and scope of a regulatory burden imposed on regulated firms (or regulatees).

The main explanatory variable is the level of competition, which I conceptualise as the extent of heterogeneity of regulatory preferences among regulatees and other stakeholders involved in regulatory processes. Thus, different levels of competition best explain the variation in outcomes of the two MiFID regulatory initiatives: research unbundling and transparency thresholds.

Since the initial rule proposal in 2014, regulators have faced unified opposition from all financial stakeholders (both the buy-side and sell-side) regarding the transparency requirements. On the other hand, the research unbundling initiative resulted in competition due to heterogeneous regulatory preferences. Larger asset manager firms wanted to capitalise on the new regulation and wipe out some of their smaller competitors, who would not be able to absorb steep new costs of compliance. Even research analysts were divided: star performers wanted to restore prestige in research sector, while others have been (legitimately) worried about redundancies. The introduction of research unbundling has also witnessed the emergence of new, niche research providers.

1.2 Theoretical framework and literature contribution

Although there has been a significant change in actor pluralism in the financial arena since the GFC (Helleiner 2014; Kastner 2014; Pagliari and Young 2015; Young and Pagliari 2016), the scholarship on International Political Economy (IPE) of finance has widely overlooked the opportunity to theorise competition and heterogeneity among them, particularly in the context of lobbying and regulatory stringency. This oversight is even more evident in light of some prominent empirical studies on competing interests and coalition building in broader area of economic governance.

For instance, Carruthers (2013) analyses the re-emergence of the conflicts

between dealer brokers and exchanges in light of regulatory initiatives to scrutinise OTC derivatives in the United States. Furthermore, since the GFC, non-financial business groups, who are also customers of various financial services (i.e. derivatives for hedging foreign exchange or commodities exposure) have significantly increased their participation in rulemaking processes (Clapp and Helleiner, 2012b; Pagliari and Young, 2014). A good illustration of the competing interests between financial and non-financial interest groups is the agricultural and commodity firms' strong support for more stringent regulation of commodity derivatives markets, which is a voice against the traditional financial industry groups (Clapp and Helleiner, 2012a).

Competition and conflicting interests equally dominate the inter-state financial arena. For example, the new rules for regulating hedge fund investments or credit rating agencies have witnessed the re-emergence of competitive national frictions (Paudyn 2013; Helgadóttir 2016). The most notable cross-national frictions are between French and German financial allies often pushing in a different direction compared to their US and UK counterparts (Howarth and Quaglia, 2015; Quaglia, 2017).

The IPE of finance literature also studied some cases of coalition-building efforts. Helleiner (2014) and Posner (2018) tackle the regulatory challenge of OTC derivatives from a transnational perspective, claiming that international regulators agreed on a cooperative decentralisation agenda in order to shed some light on this predominantly opaque market. In a similarly cooperative spirit, the literature on the design of the international banking standards (Basel II) before the GFC highlighted the emergence of cross-national coalitions among international banks from different countries (Mügge 2014).

Although political economy of finance has rightly identified competing interests and coalition-building efforts from an empirical perspective, theoretical considerations have thus far received rather scant attention, albeit with some notable exceptions. Pagliari (2018) argues that the presence of cohesive opposition from different groups from within or outside the financial industry weakens the capacity of regulators to defend their original proposal and increases the threat of US Congress curtailing the autonomy of regulators, while disagreements across interest groups create policy space for promulgating original proposals. Along similar lines, Chalmers (2018) claims that lobbying success is a function of how well finance is able to speak with a unified voice in combination with the nature of a specific rule position. James and Quaglia

(2019) also discuss the idea that heterogeneity of preferences as a detrimental force for industry influence, but in combination with two additional factors: institutional constraints and domestic statecraft.

While these contributions are helpful in exposing the tendency of growing heterogeneity of stakeholders in the global economic governance arena, they somehow fall short of tackling the specific causal mechanisms. The IPE of finance literature has remained relatively silent on a number of interrelated issues: the conditions under which competing or heterogeneous interests emerge, how regulated firms interact among themselves and with regulators and, finally, what the possible effects of regulatees' bargaining are in regard to regulatory stringency. In turn, this highlights the main theoretical contribution of the thesis: firms' competition based on heterogeneity of their business models and regulatory preferences is the central dynamic behind regulatory stringency. In order to contribute theoretically to the IPE literature, I develop a more nuanced theoretical account inspired by additional five streams of scholarship: organisational reputation, business conflict, interest group, capture theory, and strategic provision of information.

In short, the level of competition – conceptualised as heterogeneity of regulatees' regulatory preferences – is central to explaining the extent of rule stringency, either rule weakening or rule strengthening. If regulatees compete due to heterogeneous preferences (i.e. disagree on a specific rule proposed by the regulator), then regulators hold more bargaining power to promulgate stronger, more burdensome regulation. Alternatively, when regulatees have homogeneous preferences, their power of veto over the regulator is increased. Although the summary of the main theoretical proposition benefits from some oversimplification, the theoretical model is more robust as it is constructed from three building blocks: actors and their interests, a two-level game of actors' interactions through institutions, and micro-foundations of exercising influence.

The first building block analyses two key sets of actors: regulators and regulatees, as well as their respective interests. The financial industry is primarily driven by the profit-maximisation agenda, which can be achieved through reducing either absolute or relative regulatory costs. On the other hand, the regulators' behaviour is primarily driven by their concerns for organisational reputation (Carpenter 2010).

As per Table 1.1, the second building block of the theoretical framework analyses interactions of key stakeholders through a two-level game. The first level analyses the constellations of interests and interactions among regulatees and any other interest groups. There are two possible intermediate outcomes at the first level in terms of aggregate regulatory preferences: homogeneous (i.e. unified opposition to the regulatory proposal) and heterogeneous (i.e. disagreement regarding the regulatory proposal) preferences.

The second level analyses the aggregate interactions from the first level and how the regulator responds to them. If regulatees compete due to heterogeneous preferences regarding a specific rule proposed by the regulator, then the regulator's bargaining power increases, which ultimately leads to stronger, more burdensome regulation. Alternatively, when regulatees have homogeneous preferences, the regulator's bargaining power diminishes.

	Interactions – Level 1	*Interactions – Level 2*	*Micro-foundations*	**Rule change stringency**
Actors	Among regulatees	Between the regulator and regulatees	Information provision; reputational leverage	
Option 1	Homogeneous preferences (i.e. unified opposition)	Regulator's bargaining power diminishes	Effective	**Weaker rule**
Option 2	Heterogeneous preferences (i.e. disagreement in the industry)	Regulator's bargaining power increases	Cacophony of 'squawking'	**Stronger rule**

Table 1.1: The theoretical framework

The third building block offers micro-foundational analyses of the mechanisms that determine how regulatees' interests are translated into outcomes. There are two main channels through which regulatees attempt to influence the regulator: through strategic provision of information (i.e. by providing or withholding information) and, closely related, through leveraging regulatees' reputational power. In the context of the theoretical framework, when regulatees are unified (i.e. hold homogeneous preferences), regulators are more likely to water down rules in order to avoid criticism in the event that unintended consequences materialise, or just to prevent regulates

from protesting – what Hilton (1972) calls 'squawking' – even during the rulemaking process.

In the interest of generalisability, it is important to acknowledge that the core of the theoretical framework is derived from the scholarship on interest groups, game theory and regulatory capture (economics of regulation) without reference to the substantive issue area of financial rulemaking. In other words, the theoretical proposition could be tested in multiple contexts rather than just financial regulation and securities markets.

1.3 Research design

From an empirical perspective, securities markets warrant nuanced inspection as this area of financial governance has remained outside the public eye for decades. The term 'security' per se can be slightly confusing and certainly less intuitive than other most common financial concepts such as a bank or an exchange. In short, a security is a tradeable financial asset, such as a stock or bond; however, there is a whole variety of more sophisticated instruments that fall under this umbrella. There are two main reasons why it is important to focus on securities markets: first, the evolving nature of financial markets and the extent to which it transforms contemporary political economy and, second, substantive empirical gaps in the IPE of finance literature.

Not only did the GFC emerge from the securities markets (i.e. subprime and repurchase markets), but the rapidly changing financial system has never been more reliant on securities markets. Just as an illustration, overall global debt has surged since the GFC: in 2018 it was 217 per cent of GDP, which is almost 40 percentage points higher than in 2007 (Bank for International Settlement, 2018). More importantly, the narrow measure of shadow banking has grown from around 62 per cent of all participating jurisdictions' GDP in 2011 to around 73 per cent in 2016, which is actually higher than the estimated value of 72 per cent in 2008.[1] Furthermore, the notional amount outstanding of derivatives is also currently higher than before the GFC: $544 trillion in 2H2018 versus $508 trillion in 1H2007.[2]

[1] The FSB report acknowledges that the approximation of 72% understates the true size of the narrow measure relative to GDP at the time of writing due to historical data gaps.
[2]It is worth acknowledging that the highest amount of notional outstanding of derivatives was in 2011 ($707 trillion). Source: https://stats.bis.org/statx/srs/table/d5.1

Although these figures might be surprising, they do not testify to the fragility of the system, which is in much better condition at the time of writing than 10 years before. However, the increase in the size of securities markets is certainly an indication of their growing role in the global economy despite the detrimental effects of the GFC. More broadly, these empirical insights corroborate one of the most striking developments in global financial governance: a shift in sources of credit supply from traditional banks to capital markets (Adrian and Song Shin 2009; Gorton and Metrick 2009; Gabor 2016).

Despite the growing importance of securities markets, the IPE literature is still dominated by more traditional substantive issues such as banking regulation or accounting standards across private and public rule-setting contexts. Thus, in order to overcome the empirical gaps in the literature, this thesis endeavours to makes a contribution by analysing European securities markets through two complementary empirical endeavours.

First, the large N study (quantitative) is based on a new data set for ESMA that spans 13 years of rulemaking (2004–2016) and encompasses 200 rules and 7,873 individual submissions to the regulator (ESMA). The data set captures the dynamics of the administrative rulemaking process whereby the regulator proposes an initial rule, regulatees submit their publicly available comments and then the regulator makes a final decision. In addition, the new data set is evaluated through ordinal logit and social network analyses.

Second, the small N study (qualitative) examines the largest regulatory reform in the EU since the GFC, called MiFID II. Three non-random cases are the key focus of the small N study: an inducement regime (more widely known as research unbundling), transparency thresholds in fixed income, and dark trading.

As shown in Table 1.2, by combining quantitative and qualitative empirical insights, this thesis achieves four key complementarities: triangulation, completeness, enhancement and increased credibility of findings.

	Quantitative	Qualitative
Epistemology/approach	Positivist/deductive	
Empirical contribution	New large N data set for ESMA (2004–2016) with 7,873 comment submissions and 200 rules	Small N study on MiFID II (three case studies: 'research inducement', non-equity transparency thresholds and dark trading)
Method	Regression (ordinal logit) and social network analyses	Process tracing with data obtained through interviews (semi-structured) and primary sources (content analysis)
Sampling	Random sampling from 200 final rules	Purposive sampling of non-random cases from eight regulatory issue areas
Rulemaking phase studied	Production phase (i.e. official consultations)	Agenda-setting, production and compliance phases
Key benefits	Generalisability Structured analyses	Causal mechanisms Richer data
Key complementarities	Triangulation Completeness Enhancement Credibility of findings	

Table 1.2: Key features of the research components and the extent of their complementarities

First, through the process of triangulation, I verify quantitative and qualitative findings by directly putting the theoretical account to two independent tests. The quantitative study focuses only on the rule production phase of the rulemaking process (i.e. official consultation procedure), while the case studies also account for dynamics at the agenda-setting and compliance phases, respectively.

Second, by obtaining empirical insights across the entire regulatory process (agenda-setting, production, and compliance), the thesis achieves a higher level of completeness. Furthermore, the overall level of methodological and empirical completeness is augmented by combining statistical insights that contribute to the generalisability of results, while case studies provide more insights into causal mechanisms.

Third, both quantitative and qualitative research endeavours were useful for enhancing the methodological underpinning of the other method. For example, the quantitative data set was used for qualitative interview sampling to make it more representative. Equally, insights from the qualitative research were used for

sharpening concepts and developing appropriate measures for the quantitative data set. Finally, the previous three complementarities achieved through combining the quantitative and qualitative endeavours have contributed to more credible research findings.

1.4 Key empirical findings

The empirical findings provide robust support for the theoretical proposition that the level of regulatory stringency (dependent variable) is primarily driven by the level of competition (independent variable) in the market. More specifically, if regulatees compete among themselves, regulators hold more bargaining power to strengthen regulation by imposing additional regulatory burden. Conversely, regulators' efforts are significantly limited when faced with unified opposition from the industry, whose collective action problem is resolved by regulators themselves creating an organised platform.

The quantitative findings are split into subsections. There are three most relevant insights from descriptive statistics and network analyses:

1. Stakeholders from the financial industry most often mobilise in the ESMA consultation procedures.
2. There is substantial heterogeneity of financial stakeholders in the regulatory arena, rather than a unified group that could go under the umbrella of 'Big Finance'
3. The level of heterogeneity of stakeholders and network density has increased post the GFC.

The second subsection presents the key quantitative empirical contribution of this thesis. There are three most important empirical findings from the ordinal logit regression analysis.

1. The models reveal a robust and statistically significant effect of competition with the dependent variable of rule change stringency.
2. Competition among financial stakeholders holds the most explanatory power, which would suggest that regulatory decisions are most sensitive to the level of industry competition.
3. The empirical pattern across all the models shows that the level of competition provides a more compelling explanation of rule change stringency than alternative explanations derived from the pluralist,

functionalist and constructivist streams of political economy of finance literature.

In order to put the theoretical hypotheses and statistical findings to another test, the case studies examine the most recent regulatory reform in the European Union – MiFID II, which is the largest overhaul of securities market regulation since the GFC. As per Table 1.3, the case selection procedure results in three regulatory initiatives, which are very similar across a variety of control variables, but their outcome (the dependent variable of rule change stringency) and the main explanatory variable (competition based on heterogeneity of regulatory preferences) are different.

Regulatory area	**Research unbundling**	**Fixed income transparency**	**Dark pools**
Key stakeholders	• Asset managers • Investment banks • Niche research providers • Electronic trade platforms	• Broker dealers (investment banks) • Brokers • Asset managers • Corporate debt issuers	• Exchanges • Broker dealers (large investment banks) • Alternative trading venues • Asset managers
Stakeholder preferences	Heterogeneous	Homogeneous	Homogeneous although appearance of competition (heterogeneous)
'Smoking gun' evidence	1) Emergence of new competitors in research and execution 2) Large asset managers capitalising on the economy of scale through research payment profit and loss (P&L) model	1) No (very minor) changes in reporting requirements due to watered-down calibrations	1) No change in the dark volume/turnover trading 2) New innovative solutions to stay in dark (periodic auctions and trades just below the waiver thresholds) 3) Ownership structure of exchanges and dark pool platforms (intertwined interests) 4) Exponential increase in number of systematic internalisers
Regulatory stringency (dependent variable)	**Stronger rule** 1) Explicit and exhaustive list of inducement prohibitions 2) Pricing and transparency requirements introduced	**Weaker rule** 1) Drop in the number of liquid bonds (3,857 in 2014 vs. 220 in 2019) 2) Drop in the number of liquid derivatives (475 in 2014 vs. 51 in 2019)	**Weaker rule** 1) Intentional regulatory loophole for systematic internalisers (non-binding clarification) *2) Flawed compliance on the back of the loophole (compliance phase)*

Table 1.3: Snapshot of the empirical cases studies and key variables of interest

Research unbundling is a clear example of relative success for European regulators; by classifying research as a prohibited inducement, the buy-side firms are prevented from the previous practice of receiving all but the most generic or widely distributed 'free research' and have to start paying for it. There are two sets of reasons why regulators managed to promulgate much more stringent rules for investor protection in light of fierce competition among industry stakeholders.

First, there was a conflict between research providers: the larger banks saw the prohibition regime as an opportunity to benefit from the economies of scale in research and execution at the expense of smaller providers, particularly brokers. Even within the research community, there was a strong push from star analysts to support new legislation as they expect MiFID II to award the best-performing researchers and restore prestige in the research sector. Interestingly, there has been a significant trend in setting up new, independent research firms and expanding service offerings from other financial services firms that were not previously involved in the research business.

Second, the large asset managers perceived research unbundling as an additional opportunity to solidify their market position through the Profit and Loss (P&L) model, and jeopardise the relative position of their smaller peers, who have been disproportionately affected by the inducement prohibition regime. In addition, pre-existing divisions between European and American asset management firms re-emerged.

Although all firms attempted to influence the regulator through strategic information provision and reputational leverage, heterogeneous regulatory preferences resulted in cacophony of squawking, which has offset the conflicting voices from the industry. This in turn allowed the regulator to reiterate their stringent position, while also introducing more extensive list of prohibitions and additional rules on pricing.

In stark contrast to the research unbundling regulatory change, the entire industry was the most unified in rejecting the regulator's transparency initiative for non-equity instruments. Both buy-side and sell-side firms, as well as their respective industry associations, collaborated to 'inform and educate' the regulators about possible drawbacks of introducing transparency into the fixed income markets. A particularly strong lever for pushing the industry agenda was the lack of available data that regulators could use to inform their calibration decisions. Ultimately, regulators

had to rely to a large extent on information and analyses presented by industry associations.

It comes as no surprise therefore that, at the time of writing, only 0.3 per cent of European-issued bonds are subject to real-time trade-reporting requirements as the remaining 99.7 per cent are deemed illiquid. In comparison to the initial calibration in 2014, the current percentage of liquid bonds (as of August 2019) represents a 22.7-fold decrease in the number of in-scope bonds that must comply with the transparency rules. Similarly, only four OTC vanilla interest rate swaps are in scope as sufficiently liquid, which is a 61-fold drop in the total number of covered instruments since the first regulatory proposal in 2014.

Finally, the third case study (equities trading in the dark) is particularly important as it might resemble some competition between exchanges and sell-side providers, but on closer inspection the extent of intertwined interests becomes much clearer. The regulatory weakening is primarily achieved through intentional regulatory loopholes, while repercussions are fully observable only when the compliance phase is taken into account. The major regulatory loophole is intentionally achieved during the rule production phase by allowing for the lenient treatment of systematic internalisers (SIs)[3]. The extent of industry pressure for a watered-down treatment of SIs is best reflected in the number of new SI firms that have emerged since the introduction of legislation: from 14 prior to MiFID to 207 at the time of writing.

Additional evidence of regulatory weakening can be observed during the compliance phase. More specifically, there are two most important developments that jeopardise the regulators' attempt to remove equities trading from the dark: first, there has not been any significant increase in the volume of lit trading; and second, new products or services emerged with the clear intent of staying in darks: periodic auctions, orders under large-in-size (LIS) waivers and special-order types.

The variation in competition analysed in all three cases – research unbundling, transparency thresholds for fixed income and dark trading – corroborates the large N

[3] An SI is an investment firm that deals using its own account (as a principal) on an organised, frequent and systematic basis by executing client orders outside of a regulated market (i.e. an exchange). SIs constitute an intermediate category between pure OTC and trading venues. Thus, SIs do not have to comply with pre-trade transparency, and they are permitted to carry out unlimited dark trading as long as they put their own capital at risk (i.e. an equivalent to principal trading discussed in the derivatives section). For more detailed analyses see Chapter 7.

findings and provides more sophisticated insights into causal mechanisms of how (a lack of) competition determines the degree of regulatory stringency.

1.5 Structure of the thesis

Following this Introduction, Chapter 2 will focus on two interrelated tasks in developing the theoretical underpinning of the thesis. First, it will introduce the dependent variable of rule change stringency or regulatory stringency (used interchangeably), which is conceptualised as the change in the extent and scope of a regulatory burden imposed on regulated firms. Second, it will develop the theoretical framework which explains the role of competition in the markets as the key driver of regulatory stringency. The theoretical framework is based on three building blocks: the actors and their interests, the two-level game interactions of regulators and regulatees, and the micro-foundations of exercising influence.

Chapter 3 will connect the theoretical framework with empirical data through three steps. First, it will justify the empirical focus on securities market regulation (i.e. case selection). Second, it will contextualise the theoretical framework given the specificities of the securities markets. Third, it will provide a critique for five alternative theoretical explanations derived from the IPE literature, which will reinforce the explanatory power of competition as the key driver of regulatory stringency. In addition, the five alternative explanations will be tested empirically in chapters 5, 6, 7, and 8.

A relatively shorter Chapter 4 will lay out the stages of empirical research (i.e. research design) and highlight the benefits of combining the quantitative and qualitative empirical data.

Chapter 5 will focus on quantitative findings, which are split into two main subsections. The first subsection will evaluate the European regulatory landscape through descriptive statistics and network analyses, while the second subsection will analyse ordinal logit regression results.

In order to put the theoretical proposition and statistical findings to another test, chapters 6, 7 and 8 will examine the most recent regulatory reform in the EU – MiFID II. The variation in the level of competition analysed in the three cases – research unbundling, transparency thresholds for fixed income, and dark trading – will corroborate the large N findings and reinforce the explanatory power of competition in the markets as the key driver of regulatory stringency.

Finally, Chapter 9 will conclude with key insights on theoretical and empirical research contributions, limitations, and policy implications. In addition, there is a comprehensive glossary with key financial and economic terms, which is particularly helpful for understanding the empirical chapters.

Chapter 2 – Theoretical framework

Summary

Two sets of actors play a key role in financial regulation – regulators and regulated firms – whose fundamental positions are often antagonistic. While regulators' mandate is to work in the public interest, regulatees are tasked with protecting shareholders' (primarily) private interest. Given the significant distributional effects of regulation, the following question comes naturally: to what extent are regulatory agencies influenced by private interests?

There are multiple examples of exceptionally well-resourced firms, both in terms of money and expertise, losing regulatory battles and having to operate under rules that do not reflect their ideal regulatory preference. Thus, under what conditions do regulators promulgate stronger, more burdensome rules for the industry, and when are their efforts watered down, resulting in weaker regulation? In short, what are the drivers of regulatory stringency or rule change stringency (used interchangeably), which I conceptualise as the change in the extent and scope of a regulatory burden imposed on regulated firms?

This thesis argues that the rules of the game are shaped in the markets. More specifically, the level of competition – conceptualised as heterogeneity of regulatees' regulatory preferences – is central to explaining the extent of rule stringency, either rule weakening or rule strengthening. If regulatees compete due to heterogeneous preferences (i.e. disagree on a specific rule proposed by the regulator), then regulators hold more bargaining power to promulgate stronger, more burdensome regulation. Alternatively, when regulatees have homogeneous preferences, their power of veto over the regulator is increased.

In short, when the industry competes, regulators can push for more stringent rules, but regulators' power is more limited when the industry fights back collectively. Although the summary of the main argument is somewhat stylised, the theoretical model per se is more robust and based on three building blocks – first, actors and their interests; second, two-level game interactions, and third, micro-foundations of exercising influence.

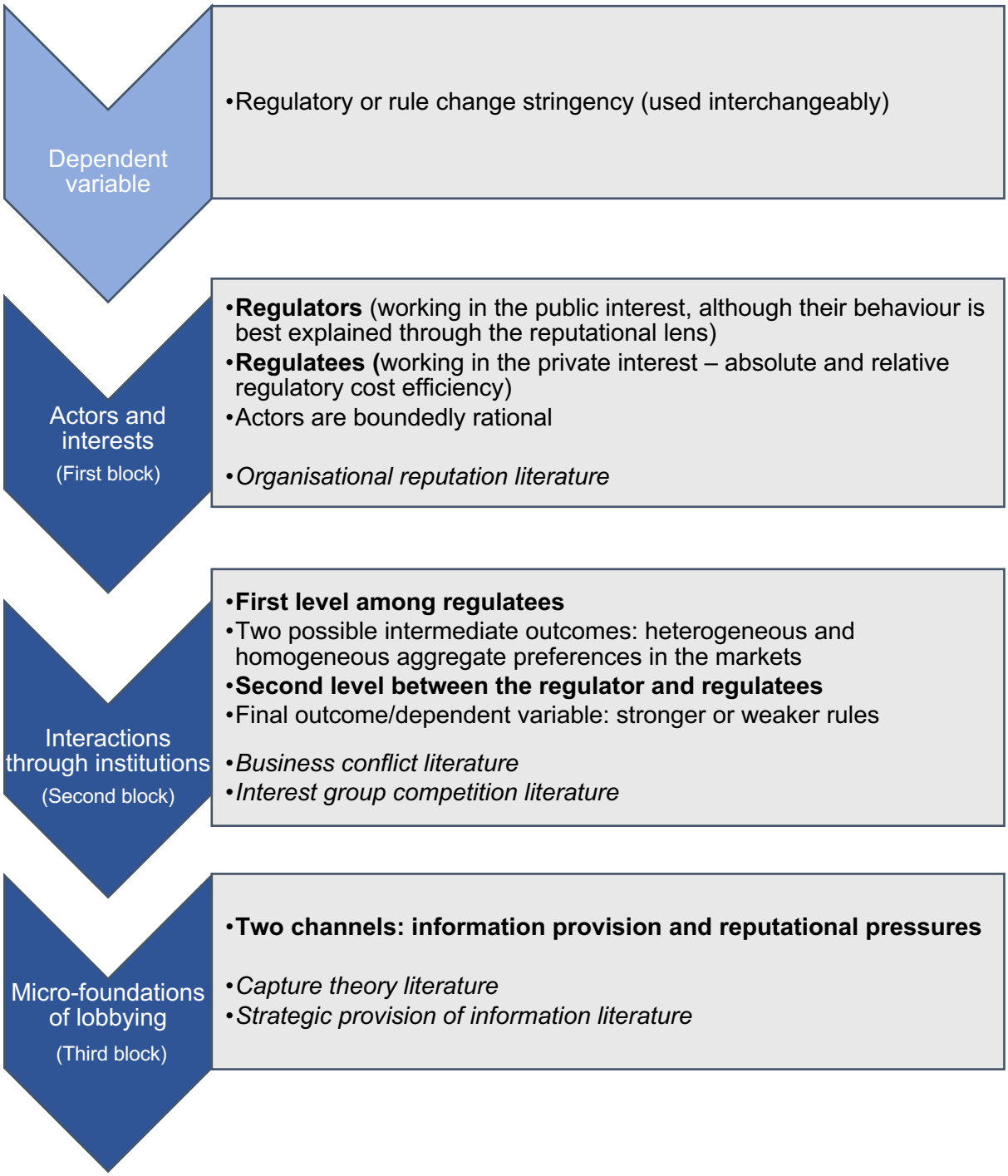

Figure 2.1: Four steps in devising the theoretical chapter

As per Figure 2.1, the first part of the theoretical chapter reiterates the key research question through brief analysis of the dependent variable – regulatory stringency or rule change stringency (used interchangeably). The following three parts of the theoretical chapter focus on the main theoretical argument developed through three building blocks.

The first building block analyses two key sets of stakeholders: regulators and regulatees. The latter group of stakeholders is also referred to as regulated firms and the industry. Furthermore, regulatees fall into the category of interest groups, although the concept of interest groups is broader as it encapsulates other stakeholders who might be involved in the regulatory process, such as consumer protection groups or individual experts, but are not directly regulated.[4]

The main contribution of the first building block is to offer nuanced analyses of regulator and regulatee regulatory preferences[5], which yields two key insights. First, the financial industry is primarily driven by the profit-maximisation agenda, which can be achieved through reducing either absolute or relative regulatory costs. Second, regulators' behaviour is primarily driven by their concerns for organisational reputation (Carpenter 2010).

The second building block analyses interactions of key stakeholders through a two-level game. The first level of the two-level game focuses on the constellations of interests and interactions among regulatees and any other interest groups. There are two possible intermediate outcomes at the first level in terms of aggregate regulatory preferences: homogeneous (i.e. unified opposition to the regulatory proposal) and heterogeneous (i.e. disagreement regarding the regulatory proposal) preferences.

The second level of the two-level game analyses the aggregate interactions from the first level and how the regulator responds to them. If regulatees compete due to heterogeneous preferences regarding a specific rule proposed by the regulator, then regulators hold more bargaining power to promulgate stronger, more burdensome regulation. Alternatively, when regulatees have homogeneous preferences, their veto power with respect to the regulator is increased.

The key insights from the second building blocks (two-level game of interactions) are derived through the business conflict literature (Levy and Kolk 2002;

[4] In the interest of conceptual clarity, the thesis adopts a widely accepted pluralist definition of an interest group as any group that is based on one or more shared attitudes and makes certain claims about other groups or organisations in society (Truman 1951). Truman's definition covers both potential and active groups. Further, it also includes groups that engage with the government as well as those that interact with society more broadly. However, in the regulatory context, it is useful to limit the scope of groups with a formal structure, which would imply well-defined membership, regular funding, permanent staff and technical and procedural expertise to some extent (Hrebenar and Morgan 2009). Such a definition intentionally eliminates political parties and particularly social movements, which rarely mobilise in formal financial regulatory processes.

[5] The definition of 'preferences' follows Katznelson and Weingast's (2005) conceptualisation according to which preferences signify propensities to behave in determinate circumstances by people who discriminate among alternatives they judge absolutely or relatively.

Clapp 2005; Finger 2004; Falkner 2008; Falkner 2009; Roemer-Mahler 2013) in combination with the scholarship on interest group competition (Hula 1999; Mahoney 2008; Baumgartner et al. 2009; Holyoke 2011).

The third building block offers micro-foundational analyses of the mechanisms that determine how regulatees' interests are translated into outcomes. There are two main channels through which regulatees attempt to influence the regulator: through strategic provision of information (i.e. by providing or withholding information) and, closely related, through leveraging regulatees' reputational power. In the context of the theoretical framework, when regulatees are unified (i.e. hold homogeneous preferences), regulators are more likely to water down rules in order to avoid criticism in the event that unintended consequences materialise, or just to prevent regulates from protesting – what Hilton (1972) calls 'squawking' – even during the rulemaking process.

In the interest of generalisability, it is important to acknowledge that the core of the theoretical framework is derived from the scholarship on interest groups and regulatory capture without much reference to the substantive issue area of financial rulemaking. In other words, the theoretical proposition could be tested in multiple contexts rather than financial regulation and securities markets alone. Thus, the last part of the chapter summarises key insights and offers a segue into the next chapter, which focuses on securities market regulation and the IPE of finance alternative explanations.

In addition, two caveats are warranted. First, placing heterogeneity of regulatory preferences at the heart of regulatory governance does not assume that competing preferences are the predominant pattern of behaviour among regulatees. Quite the contrary, business actors have a strong preference to reduce the potential for conflict and competition with their peers.

Second, the theoretical framework is primarily concerned with the demand side of regulatory changes, which presupposes that regulators are supportive of additional regulation (i.e. there is a constant regulatory supply).[6] If there is no regulatory supply, then regulators themselves will weaken the rules or the status quo will prevail. Thus,

[6] It is worth recognising that regulatory sentiment has been changing historically. While the 1970s–1980s witnessed the most pronounced shift towards deregulation, the global meltdown in 2008 served as a strong corrective that resulted in a continuous regulatory supply, which was consecutively shaped by demand-side factors as the ultimate drivers of regulatory stringency.

the main research question can be slightly nuanced: assuming constant regulatory supply, under what conditions do regulators promulgate stronger, more burdensome rules for the industry, and when are their efforts watered down, resulting in weaker regulation?

2.1 Dependent variable – regulatory stringency

The main research focus is on the extent to which regulatory agencies are influenced by private interests and specific conditions under which rules become weaker or stronger. In other words, what are the drivers of regulatory stringency?

The dependent variable – rule change stringency or regulatory stringency (used interchangeably) – is conceptualised as the change in the extent and scope of a regulatory burden imposed on regulated firms. This definition of regulatory stringency is embedded in the previously discussed assumption of the constant regulatory supply. Thus, the primary focus of the thesis is in any variation in rules as proposed by a regulator, not the fact that any regulatory change takes places. In certain instances, a rule change will materialise purely due to supply-side activities. However, in order to analyse the extent of interest groups' influence on rulemaking, it is vital to focus on factors that affect how a rule proposed by the regulator changes consecutively. That is where the true power of interest groups lies.

The dependent variable of regulatory stringency resonates with the analogous concepts of *lobbying success* or *lobbying influence*. However, there are three main reasons for focusing on *regulatory stringency* over other conceptual alternatives: first, interdisciplinary semantics; second, value-neutral conceptualisation without underlying normative implications; and third, methodological consideration of measuring influence.

First, *lobbying influence* or *lobbying success* is strongly embedded in the regulatory capture literature, while *regulatory stringency* builds on the interdisciplinary efforts of bridging three streams of literature: political economy of finance, economics of regulation or capture theory, and interest group scholarship.

Second, *regulatory stringency* is a more value-neutral concept without a priori causal or normative implications. As an example, by emphasising *regulatory stringency*, the thesis broadens the conceptual lens of possible drivers of regulatory weakening and/or strengthening. While the existing literature would primarily focus on

monetary incentives akin to bribes[7], the concept of *regulatory stringency* accounts for regulators' institutional and information constraints, which are exacerbated in uncertain environments such as financial regulation.

Third, and related to the previous point, identifying and measuring influence is incredibly challenging. Moreover, there is a great danger of misinterpreting the overlap of regulatees' interests and rulemaking outcomes as evidence of regulatees' influence. In order to avoid this pitfall, it is necessary to establish causality (i.e. find evidence that a given policy outcome is the result of regulatees' activities) before proclaiming lobbying success or influence.[8]

2.2 Theoretical framework

2.2.1 The first building block: regulators and regulatees – private versus public interest

Two key (sets of) actors occupy the regulatory arena: regulators and regulatees. While the regulators' mandate is to work in the public interest, regulatees are tasked with protecting shareholders' private interests. In the interest of completeness, it is worth acknowledging that regulatees can be understood as interest groups. However, there is an important difference. Regulatees are directly affected by regulatory changes, while interest groups can be subject to regulatory changes either directly or indirectly.[9]

Given the predominantly polarised objectives between regulators and regulatees, there is a growing concern that industry stakeholders exercise undue influence over regulatory processes, which allows them to shape rules in self-serving ways at the expense of the general public. In order to analyse regulatory outcomes and the extent of industry's power in shaping the rules of the game, it is essential to understand regulator and regulatee interests, their interactions and available institutional arrangements. The first building block is focused on actors and their interests.

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[7] There are some more subtle methods of providing monetary incentives such as the revolving door phenomenon. Discussed more in section 2.3.3.

[8] While case studies in this thesis establish causality through process tracing and can legitimately claim the extent of influence of regulatees, the quantitative study establishes only the relationship with the underlying assumption that, over a large sample, errors cancel each other out, implying that the error is random rather than systematic (Hacker and Pierson 2002).

[9] In the context of financial rulemaking, other interest groups, such as consumer protection groups, have gained some traction following the GFC. However, their role is still rather limited, particularly due to limited financial resources, while relatively low salience of financial regulation precludes them from more public engagements which are common, for example, in environmental campaigns.

Before I proceed to further analyses, it is important to acknowledge that stakeholders are understood to have bounded rationality (Jones 1999; Jupille et al. 2013), which implied that actors are self-interested and behave instrumentally. However, there are significant limitations on actors' knowledge of and computational capacity for all possible alternatives. In other words, due to the high level of uncertainty and volatility inherent in financial markets, stakeholders often satisfy their preferences by accepting 'good enough' outcomes despite them not being 'Pareto optimal'.[10]

2.2.1.1 Focus on regulators

In an attempt to elaborate on the regulator's incentives beyond the mere idea of public interest, I draw on the theory of organisational reputation (Carpenter 2010; Maor 2011, 2014; Carpenter and Krause 2012; Busuioc and Rimkutė 2019), which has also gained some currency with the scholarship on financial regulation and central banking (Gilad 2015; Gilad, Maor, and Bloom 2015; Moschella and Pinto 2019)[11].

Carpenter (2010) defines *organisational reputation* as a set of beliefs about an organisation or a regulatory agency that pertains to its capacities, intentions, history, and mission, where the beliefs are embedded in a network of multiple audiences. In order to understand the regulator's incentives and activities, it is necessary to analyse their environment, which is embedded in a network of audiences (such as interest groups). The multiple audiences evaluate the agency's [regulator's] unique character and activities based on their ability to deliver on the core regulatory tasks.

The key assumption of organisational reputation theory is that agencies are motivated by a desire to demonstrate *reputation uniqueness,* which refers to the ability that they can create solutions (i.e. legislation based on expertise within efficient timeframe) and provide services (i.e. protection of customers or wider financial stability) that no other agency in the polity offers to the same extent. This implies that regulator's reputation relies on the external audiences' perceptions of the quality of regulatory outcomes.

[10] An outcome of a game is Pareto optimal if there is no other outcome that makes every player at least as well off and at least one player strictly better off. In other words, a Pareto optimal outcome cannot be improved upon without hurting at least one player.

[11] The organisational reputation theory is broadly compatible with the regulatory 'blame avoidance' school of thought (Hood et al. 2001; Hood 2007), which places more emphasis on avoiding or limiting damage to the regulator's reputation. However, the organisational reputation theory is more value neutral as it does not a priori assume regulatory resistance and / or (partial) denial of responsibility for prospective failures.

Thus, it's in the regulator's interest to expand their formal authority by successfully cultivating their reputation among relevant audiences. As Busuioc and Rimkutė (2019) point out, a reputed regulator enjoys deference beyond its formal powers. Alternatively, if the regulator fails to successfully cultivate their reputation, it can erode their formal (mandated) authority[12].

In addition to multiple audiences, the concept of reputation is also multifaceted. Carpenter (2010) distinguishes between four different types (facets) of reputation[13]:

- performative reputation: the extent to which the regulator can execute charges upon its responsibility in a competent (and efficient) manner;
- moral reputation: the extent to which the regulator protects the interests of the public;
- procedural reputation: the extent to which the regulator abides to rules and procedures in performing its activities; and
- technical reputation: the extent to which the regulator has the capacity and skills required to perform its activities.

As Maor (2014) highlights, the four facets of reputations imply multiple expectations by external audiences regarding each of these dimensions. Each external audience selects the dimension/s of reputation which will receive priority in its assessment of the organisation. Thus, individual agencies attempt to optimise their reputation by prioritising reputational dimensions given their core tasks. Prioritising reputational risks may involve a consideration of the relative risk to society (i.e. moral reputation), the relative risk to the most relevant external audience, the cost of damaged reputations (either procedural or technical reputation), and the extent to which the agency is willing to expose itself, by way of rulemaking intervention, to a prospective reputational loss (Maor 2014).

In the context of financial rulemaking, the regulators are particularly concerned about technical reputation as they want to be perceived as experts in understanding

[12] The organisational reputation theory stands in contrast to the traditional principal-agent model, whereby the powers of regulators are defined by the powers delegated by elected politicians. The organisational reputation approach is not merely interested in how audiences perceive agencies, but assumes that reputation-sensitive agencies deliberately engage in managing their reputation among those audiences (Bach et al. 2019).

[13] Maor (2011) put forward an alternative approach to classifying multiple facets of reputation by deafferenting between three types of regulators: expert regulators (i.e. reputation for expertise - analogous to Carpenter's technical reputation); guardian regulators (i.e. reputation for acting as a guardian of public safety - analogous to Carpenter's mortal reputation); and shadow regulators (i.e. a lack of reputation).

and calibrating financial markets. However, in aftermath of the GFC, regulators have increasingly become sensitive to their moral reputation as safeguards of the financial system. Performative reputation is also important given often-heard criticism that regulators are behind the curve in comparison to innovative industry stakeholders who engage in financial innovation as a way of regulatory arbitrage. Procedural reputation is least concerning for financial rulemakers given their institutional capacity.

Finally, what are prospective benefits of the reputation-centred theory in comparison to the more traditional, alternative accounts of the regulator's behaviour: the public interest theory (i.e. Djankov et al. 2002; Laffont and Tirole 1991) and the regulatory capture theory (i.e. Stigler 1971; Tullock 1996; Ansolabehere et al. 2003)[14]?

First of all, the public interest theory is oversimplified. It is somehow naïve and limited to adopt the completely benevolent view of regulators as rational, trustworthy, disinterested and public-spirited experts who produce rules that ensure general economic efficiency and maximum societal welfare. Similarly, the capture theory is overly negative when it comes to regulators' motivations and it neglects complexity of regulatory environment[15]. By adopting the reputation-centred approach, this thesis follows Mattli and Woods (2009b) in their suggestion to move beyond the dichotomy of the public interest versus the regulatory capture view of the regulatory world. Instead it is more useful to focus on the specific conditions and causal mechanisms that influence how private interests might overshadow public interests. This is precisely what the reputation-centred theory allows for.

2.2.1.2 Focus on regulatees (regulated firms)

On the other side of regulatory battles are regulated firms, who must comply with rules, but they also actively contribute to rulemaking processes. The traditional economic view would be that the firm is the nexus of contracts (Jensen and Meckling 1976) with no objectives separate from those of its contracting parties or employees. However, this is rather misleading and does not correspond with the socio-economic reality. Regulatees are primarily concerned with the economic effects of regulation and the extent to which they can mitigate regulatory costs. As Berle and Means highlighted in

[14] The regulatory capture theory perceives regulators (and politicians) as narrowly self-interested and venal, selling regulatory policy to the highest special-interest bidder able to sway votes or offer rents (Christensen 2011).
[15] For an extensive critique of the capture theory see Croley (2011).

1932, the state seeks in some aspects to regulate the corporation, while the corporation, steadily becoming more powerful, makes every effort to avoid such regulation. It seems that not much has changed since.[16]

Regulatees assess prospective regulatory costs in both absolute and relative terms (Stigler 1971; Oatley and Nabors 1998; Wilf 2016). When it comes to the absolute costs of regulation, regulated firms are strongly incentivised to reduce any expenses across a whole variety of different regulatory matters, ranging from capital costs in relation to mandatory capital requirements to compliance expenses on reporting and monitoring. However, regulated firms' cost analyses are often conducted in comparison to their peers and other market stakeholders including competitors, which might alter their regulatory preferences. If a new regulatory burden is expected to impose higher costs on competitors than on a specific regulatee, then it might incentivise them to support more stringent rules.

The most relevant IPE example of the importance between relative and absolute regulatory costs stems from the literature on Basel banking regulation. Oatley and Nabors (1998) claim that Basel I Accord was created in order to benefit US banks at the expense of their non-US competitors. For example, Japanese banks were required to maintain much lower capital requirements, while US banks increased their standard in the aftermath of Latin American debt crisis. The implementation of Basel I created absolute costs for both US and non-US banks, but the former faced relatively lower adjustment costs compared to their peers.

In the context of securities markets regulation, regulatees would advocate in favour of more stringent rules if that will allow them to benefit from economies of scale while creating competitive advantages (i.e. lower relative costs). Such an approach is analogous to the business mindset of 'new regulation will hurt my enemies more than me'. For example, assuming lump-sum compliance costs (rather than proportional to

[16]Since the pioneering works on banking regulation (Kapstein and Barnaby, 1992), the literature has made important contributions to understanding the political influence of various interest groups over financial rulemaking. Scholars have investigated the role of regulatory capture (Stigler 1971; Tullock 1996; Ansolabehere, de Figueiredo and Snyder 2003; Carpenter and Moss 2014; Vogel 2018), the rise of private regulation (Büthe and Mattli 2011; Germain 2010; Mattli and Woods 2009), particularly in the context of accounting (Allen and Ramanna 2013; Ramanna 2013) and derivatives (Helleiner, Pagliari and Spagna 2018), and the broader implications of the political theory of firm (Henderson and Ramanna 2013; Ramanna 2015b; Zingales 2017; Bower and Paine 2017). The underlying theme in this rather disparate body of literature is the extent to which business or the financial industry more specifically is an active political force directly influencing regulatory processes rather than just complying with predetermined rules.

the size of business) some regulated firms might support additional regulatory burden as their competitors might have to bear higher regulatory costs in proportion to their own business.

It is worth adding two caveats here. First, although there is a growing literature on responsible capitalism (Bower, Leonard and Paine 2011; Bower and Paine 2017) and social responsibility of business (Mayer 2018), the financial bottom line (still) takes priority, particularly in the context of financial regulation. Thus, regulatees' incentives are primarily economic, and regulated firms realise them either through direct reduction of regulatory costs or by supporting rules that advance their market position by imposing higher costs on their regulated competitors.

Second, it is important to acknowledge that regulatees' deregulatory attempts are not always unwarranted. Regulatees play an important socio-economic role in society, such as providing credit to the economy which is vital for economic growth or stimulating innovation and research as engines of productivity growth. Although business activities directly contribute to the overall increase in welfare, there are deep distributional repercussions that require careful attention.

2.2.2 The second building block – interactions through institutions

It is at this point that we must ask to what extent, and how, financial regulatory agencies are influenced by private stakeholders, given their fundamentally polarised positions. To answer this main theoretical challenge on conditions that drive regulatory stringency, I rely on the two-level game of interactions. At the first level of the game, I focus on dynamics among regulatees themselves, and at the second level the focus is on interactions between regulatees and regulators.

As per Table 2.1, there are two possible aggregate outcomes at the first level of the two-level game: regulatees hold either homogeneous (i.e. all regulatees oppose the rule)[17] or heterogeneous (i.e. some regulatees oppose, while others support the rule) regulatory preferences. The second level analyses how the regulator responds to the aggregate interactions from the first level (i.e. either heterogeneous or homogeneous regulatory preferences).

[17] Theoretically, there is a special case when all regulatees want more regulation, but this is rather unrealistic in the context of financial regulatory governance: financial stakeholders traditionally focus on deregulatory attempts.

	Interactions – Level I	*Interactions – Level II*	**Rule change stringency**
Actors	Among regulatees	Between regulator and regulatees	
Option 1	Homogeneous preferences (i.e. unified opposition to the rule)	Regulator's bargaining power diminishes	**Weaker rule**
Option 2	Heterogeneous preferences (i.e. disagreement in the industry)	Regulator's bargaining power increases	**Stronger rule**

Table 2.1: Actors and two-level interactions in relation to the outcomes of the dependent variable (rule change stringency)

2.2.2.1 Interactions among regulatees (Level I)

Following the previous analyses of regulatees and their individual regulatory preferences (section 2.2.1), the economic bottom line is the key consideration for regulatees. Regulated firms analyse regulatory costs in absolute and relative terms in relation to prospective effects on their peers and competitors. If regulatory costs are distributed to all regulatees proportionally to the size of their business and key business activities, they are likely to have a homogeneous preference for weaker rules.

For example, if the best possible estimates of effects of a new transparency rule suggest that all regulatees will have to bear costs broadly proportional to the size of their business (in terms of volumes and profit margins), regulatees are likely to collectively oppose the regulator. Insights from business organisational studies provide robust support for the argument that large firms have strategically attempted (and often succeeded) in reducing inter-firm divisions (Fligstein 1990; Spar 2001) in order to advance the aggregate interest of the entire industry.

Alternatively, if regulatory costs are not equally distributed across all regulatees, or some regulatees estimate that their competitors might have to bear comparatively larger costs, then heterogeneous preferences emerge. For instance, Carruthers (2013) analyses the re-emergence of the conflicts between dealer brokers and exchanges in light of regulatory initiatives to scrutinise OTC derivatives in the United States.

Furthermore, the new rules for regulating hedge fund investments or credit rating agencies have witnessed the re-emergence of competitive national frictions in Europe (Paudyn 2013; Helgadóttir 2016). The most notable cross-national frictions in

the banking sector have been between French and German financial allies often pushing in a different direction than their US and UK counterparts (Howarth and Quaglia 2015; Quaglia 2017).

These empirical studies from the political economy of finance literature serve as a good illustration of the extent of heterogeneity in regulatory preferences due to a variety of business models and unequal distribution of prospective regulatory burden. The extent of heterogeneity is precisely what the first level of the two-level game captures.

2.2.2.2 Interactions between the regulator and regulatees (Level II)

The second level of the two-level game analyses how regulators respond to the aggregate regulatory preferences from the first-level interactions.

In order to conceptually understand implications of competition among regulatees in regard to the regulator, I draw on *the business conflict* literature, which is particularly prevalent in the IPE issue-area of global environmental governance[18]. The environmental scholars have systematically emphasised the importance of business conflict and competition among regulatees as the key explanatory variable in regulatory outcomes (Levy and Kolk 2002; Clapp 2005; Finger 2004; Falkner 2008; Falkner 2009; Roemer-Mahler 2013).

For example, Finger (2004) claims that competing interests among multinational water companies and local water providers led to more stringent water regulation. Roemer-Mahler (2013) discusses how the conflicting interests in the pharmaceuticals industry played an important role for the reform on access to medicines, which was supported by producers of generic drugs at the expense of their R&D (research & development) pharmaceutical peers. Falkner (2008, 2009) provides a compelling historical narrative how business interests led to specific environmental regulatory outcomes across three specific issue areas: ozone layer depletion, climate change, and agricultural biotechnology. As Falkner highlights, the conflicting business

[18] The scholarship focusing on business conflicts can be traced back to 1980s, while it was more formally identified as the 'business conflict school' in 1990s (Cox 1996; Cox and Skidmore-Hess 1999; Skidmore 1995). The literature initially analysed the extent of conflicting interests within business communities in relation to state foreign policy effects. For example, Ferguson (1984) explains the New Deal policies as the result of Roosevelt's government coalition with internationally-oriented financial sector. Similarly, by looking into the US foreign policy regarding the secession of Congo's Katanga province, Gibbs (1991) demonstrates that conflicts between business groups from different countries can affect international politics as it was the case with the competing interests between Belgian and American firms.

interests and competition among regulatees have undermined business interests overall, particularly in the case of anti-regulatory forces which tend to dominate business lobbying.

The key takeaway from the environmental governance literature is that competing interests among regulatees open up space for regulators [policy makers more broadly] to introduce more burdensome rules. However, that is not to say that regulatees always compete or at least do not attempt to reconcile their individual regulatory interests.

The extent to which stakeholders endeavour to reconcile their interest has been extensively elaborated in another stream of literature that focuses on US interest group competition and coalition building (Hula 1999; Mahoney 2008; Baumgartner et al. 2009; Holyoke 2011)[19]. Nelson and Yackee (2012) claim that the existing US interest group literature strongly suggests that interest groups employ coalition lobbying to influence different types of regulatory and policy processes, and at a minimum, believe it to be effective. For example, Hula's (1999) research reveals that over 80% of interest group representatives believe that coalition lobbying is effective in influencing policy.

The coalitions allow aligned interest groups to signal to regulators or policymakers where the bulk of support for a specific rule lies (Mahoney 2007). Furthermore, Baumgartner et al. (2009) provide robust empirical evidence to support the argument that mainly coalitions of multiple stakeholders manage to change or defend a certain policy. Conversely, conflict begets conflict and makes the outcome of any policy or regulatory process more uncertain.

In the interest of completeness, the business conflict school of thought and the literature on interest group competition have attracted some interest, albeit limited, from IPE of finance scholars. Pagliari (2018) argues that the presence of cohesive opposition from different groups from within or outside the financial industry weakens the capacity of regulators to defend their original proposal and increases the threat of US Congress curtailing the autonomy of regulators, while disagreements across interest groups create policy space for promulgating original proposals. Along similar

[19] These authors directly or indirectly build on the exchange model of interest group competition (Salisbury 1969), which postulates that groups share information, access, and other resources such as time, expertise, and members in order to achieve a common goal (Olson 1965; Salisbury 1969). In addition to information and resource exchange, interest groups also collaborate in order to maximise their lobbying potential.

lines, Chalmers (2018) claims that lobbying success is a function of how well finance is able to speak with a unified voice in combination with the nature of a specific rule position.[20]

2.2.3 The third building block: micro-foundations of exercising influence over regulators

The previous section analysed how the two-level interactions translate into stronger or weaker rules by looking into aggregation of regulatees' preferences and regulator's responses. However, the theoretical account can benefit from specific micro-foundations of how regulatees actually influence regulators.

How do interest groups go about offering their contributions in exchange for consideration? There are two main channels through which regulatees attempt to influence the regulator: through strategic provision of information (i.e. by providing or withholding information) and, closely related, through leveraging regulatees' reputational power.

The underlying assumption is that a regulatee or an interest group has some information and / or expertise that bears on a regulators' decision. The prospective information and expertise from regulatees are particularly relevant in light of the regulator's scarce resources: time and human capital. Hall and Deardorff (2006) suggest that providing information to the regulator is best understood as a *legislative subsidy* - a matching grant of costly policy information, political intelligence, and labour to the enterprises of strategically selected regulators. In other words, regulatees (or their lobbyists) are characterised as adjunct staff who increase the productivity of regulators.

However, the legislative subsidy approach underestimates the extent to which interest groups strategize how much and which information they provide to the regulator. For example, regulated firms can attempt to mislead the regulatory process by withholding key information or oversupplying irrelevant information.[21] Regulatees

[20] As already discussed in Introduction, my theoretical account builds on the existing IPE (of finance) literature, which has remained relatively silent on a number of interrelated issues: the conditions under which competing or heterogeneous interests emerge, how regulated firms interact among themselves and, finally, what the possible effects of regulatees' bargaining are in regard to regulatory stringency.
[21] For example, as analysed in Shapira and Zingales (2017), DuPont was able to delay by more than 30 years any liability for contaminating the water supply near its West Virginia factory by hiding information and protecting itself behind the trade secret law.

adopt a more strategic approach in providing information as informational lobbying also entails some costs, such as steep advisory fees for data gathering and regulation analyses. Put simply, regulatees have to bear the access fees in order to put their proposal forward so they are inclined to present information that reflects their regulatory preferences.[22]

On the other side of the rulemaking process, the regulators are aware of prospective informational biases, so they use access fees as screening devices in order to understand the audiences (primarily regulatees). In addition, the access fees also have the more functional role: regulators regard their time as a scarce resource, so they want to make sure the value of information is at least equal to the opportunity cost of the time invested. Even once regulatees gain official access, two important considerations impede their ability to share policy-relevant information and fully exercise influence. First, regulatees and the regulator typically do not share the same objectives. For example, a bank is very likely to prefer lower capital requirements than the regulator.[23] Second, the regulator will often not be able to verify all regulatees' assertions. Since regulators are not gullible, their inability to verify information creates a credibility problem for the regulatees.

Given the credibility challenge of information provided, how do regulators decide on the extent to which they can rely on industry information and consequently shape the rules of the game? This is where reputational considerations come into play. Calvert's (1985) proposes a formal model of information processing where the known bias of an interest group or a regulatee cannot be fully 'undone' by the regulator. However, the regulator may in fact prefer to use biased information from regulatees. The main reason for having a biased source is that it can become more credible in extreme situations where a mistake would be particularly costly. In other words, given

[22]The literature on regulatory capture makes an important distinction between 'cheap talk' and signalling based on costliness of information provided. Lobbying efforts that impose relatively little cost on interest groups (cheap talk) have to be persuasive solely on the basis of arguments made. More costly forms of lobbying can be persuasive by their content, but they may gain additional credibility from the fact that the group was willing to bear an avoidable expense in order to make its case. Thus, costly lobbying can serve as a signal to use economic jargon. However, this distinction is not most applicable to the context of financial rulemaking where a majority of informational lobbying entails steep advisory fees for data gathering and regulation analyses. That said, regulated firms rarely engage in public demonstration activities or wider marketing campaigns, given the usual nature of the issues involved.

[23] Equally, consumer protection groups might hold preferences for more stringent rules than regulators themselves.

the uncertainty of financial markets, the regulator is willing to dilute regulation in order to avoid criticism if unintended consequences materialise.[24]

This line of thinking is actually closely related to the second channel through which regulated firms attempt to exercise their influence: by leveraging their reputational power. Hilton (1972) argued that in real life the main objective of regulators is to minimise complaints by firms or keeping regulated firms from 'squawking'. As the formal model literature on regulatory capture suggests, when regulators' have some concerns about their reputation, there is a Bayesian perfect equilibrium with two outcomes: firms complain against mistaken stringent rules, but not against generous ones (even if mistaken). In other words, the threat of regulatees complaining publicly about stringent rules buys them some regulatory slack (Dal Bo 2006).[25]

How do the micro-foundations of exercising influence over regulators fit into the wider theoretical framework of the thesis?

The micro-foundational insights (strategic information provision and leverage of regulatees' reputational power) are fully compatible with Carpenter's observation that regulator's behaviour is best explained by looking into audiences (i.e. regulatees and other stakeholders in the rulemaking process) and prospective threats to the regulator. As previously discussed, the extent of regulatory stringency is contingent on heterogeneity of regulatees' regulatory preferences. The incentives for regulatory watering down are much stronger when the regulator is faced with a homogeneous opposition. While heterogeneous regulatory preferences result in cacophony of squawking which can offset conflicting voices, the unified opposition is much louder.

Furthermore, the regulator's reputational stakes are also significantly higher when regulatees are homogeneously opposed to a regulatory change. While heterogeneous preferences challenge the regulator's technical reputation (for

[24] An alternative explanation from the same body of scholarship would suggest that regulated firms may out-consult regulators (Dal Bo 2006). In other words, the regulator's decision is driven by mere information rather than reputation concerns. Faced with a unified opposition, the regulator's understanding of the optimal rule stringency might change. In other words, regulators may come to view the world the way regulatees do, not because they have been captured through incentives but because they have been genuinely convinced. This outcome is somewhat possible given the technical complexity of financial regulation and shrinking funding of regulatory agencies. However, it is very unlikely that regulators' knowledge is limited to the extent that genuine U-turns are only due to new information that was previously unavailable to the regulator.

[25] The squawking effect is best illustrated through empirical studies such as Lambert's (2019), whose findings show that regulators are 44.7 per cent less likely to initiate enforcement actions against lobbying banks.

example, the extent of regulator's understanding of market operations), homogeneous opposition also raises the issue of moral reputation. For example, if severely adverse effects (such as a flash crash or negative impact on economic growth) were to materialise because of a new rule and despite of the industry warnings, the prospective reputational losses for the regulator are deemed to be higher than potential benefits of introducing the new rule with positive future outcome (often unknown at the time of introducing a rule).

Finally, in the interest of completeness, it is important to acknowledge the third channel through which regulatees can potentially exercise their influence – by providing incentives akin to bribes,[26] including the revolving door phenomenon.[27] This channel lies at the core of regulatory capture theory, although it has rather limited applicability for this theoretical account due to three sets of institutional considerations.

First, it would be naïve to assume that all regulators are self-interested. Recruitment and work socialisation play an important role in creating the regulators' identity as official watchdogs. Second, regulators have come under close media scrutiny, particularly after the GFC, which entails greater accountability to the public. Third, and closely related to the previous point, regulators themselves feel some level of shared responsibility for the GFC, which has increased level of self-policing.

2.3 Conclusion

Most briefly, the level of competition, conceptualised as heterogeneity of regulatees' regulatory preferences, is central to explaining the extent of rule stringency, either rule weakening or rule strengthening. Regulators have the power to promulgate stronger, more burdensome regulation when regulatees have heterogeneous preferences. Alternatively, when regulatees have homogeneous

[26] There are two issues with focusing on hard cash payments to identify regulatory capture. First, since Tullock's (1972) famous article, it has been a puzzle in political science why there is so little money in politics (Ansolabehere, de Figueiredo and Snyder 2003). Second, financial regulators rarely have electoral ambitions, so direct campaign contributions do not seem to be effective. However, some prospective monetary incentives can be channelled through lucrative employment opportunities.

[27] The 'revolving door' phenomenon – representing the flow of personnel from government offices to financial entities and vice versa – is not uncommon and warrants important caveats. It is important to differentiate between industry appointments prior to and after the regulatory tenure (Dal Bo 2006). Employment after the event sends the strongest signal of the possibility of covert bribes. Regulators may bias their decisions in order to enhance their chance of future employment in industry. Pre-regulatory employment is significantly different. Such individuals might be committed to their safeguarding role, but their understanding of public interest is biased towards the industry discourses.

preferences, their power to oppose a regulatory change increases. This stylised summary is grounded in a nuanced theoretical framework, which builds on six streams of literature: international political economy of finance, organisational reputation, business conflict, interest groups, capture theory (economics of regulations), and strategic provision of information.

The theoretical framework helps us better understand the conditions under which regulators promulgate stronger, more burdensome rules for the industry, and when their influence is diluted. I presented and analysed three building blocks – actors and their interests, interactions through institutions and micro-foundations of lobbying. The first conceptualises regulators as working in the public interest, although their primary concern is the organisational reputation. On the other hand, regulatees are primarily concerned with economic efficiency and reduction of any regulatory costs.

For the second building block, the theoretical framework introduces the two-level interaction between regulator and regulatees, where the first level analyses the constellations of interests and interactions among regulatees and any other interest groups, and the second level analyses the aggregate interactions from the first level and how the regulator responds to them. Finally, based on the third building block, regulators may impose more lenient rules in order to avoid criticism should unintended consequences materialise, or just to keep regulatees quiet during the rulemaking process.

Chapter 3 – Securities markets regulation

Summary

This chapter connects the theoretical framework with substantive issues through three interrelated parts: first, justifying the empirical focus on securities market regulation; second, contextualising the theoretical framework given the specificities of the securities markets; and third, providing a critique of the alternative theoretical explanations for variation in rule change stringency, derived from the IPE of finance literature (see Figure 3.1).

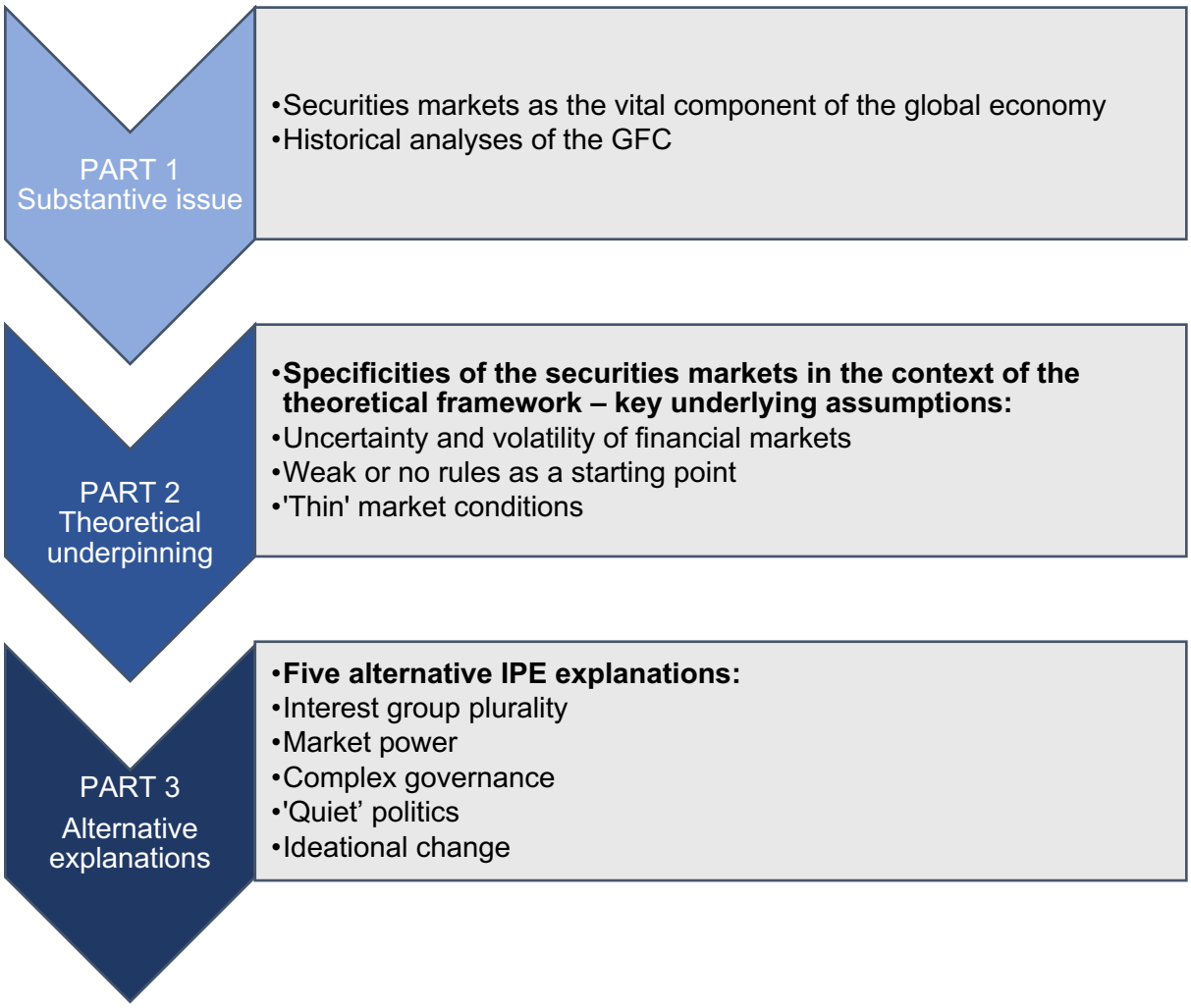

Figure 3.1: Three parts of Chapter 3

As per Figure 3.1, the first part of the chapter introduces securities markets as the substantive area of interest. By analysing the most recent GFC and broader trends in financial regulation together with the international securities market regulatory architecture, I identify the empirical gaps which this thesis attempts to fill.

Securities markets have become an integral part of the financial system. Although the process of regulating securities markets started in the 1930s following the Great Depression, the changing nature of the financial industry and an exponential increase in financial innovation have led to the transformation of securities markets. Despite ever-increasing complexity and importance of securities markets, regulators and policymakers have not paid sufficient attention to emerging risks, clearly exemplified in the detrimental effects of the GFC. This in turn highlights the importance of gaining a better understanding of securities markets as the key component of the global economy and something that still poses a major risk to financial stability.

While the first part of the chapter provides a background to the evolution of securities markets, the second part directly embeds securities markets in the theoretical framework developed in Chapter 2. In order to contextualise securities markets through the lens of the theoretical framework, I focus on two sets of considerations.

First, I match and justify the underlying assumptions from the theoretical framework with key characteristics of the securities markets. The assumption of boundedly rational stakeholders is particularly prominent given such volatile and uncertain market characteristics. Furthermore, the assumption of regulatees' interest in reducing net regulatory burden is exacerbated by the historical legacy of weak or absent rules in securities markets. Lastly, regulators' interests are discussed in light of 'thin' market conditions[28].

Second, I expand on how regulatees can exercise their influence during the rulemaking process given the institutional setup of securities regulation. More specifically, securities market rulemaking follows the well-established practice of consultation procedures whereby all regulatees have access to the regulator by submitting their official position in writing. This is called the 'rule production' phase of the rulemaking process, which is the most important stage in adjusting the level of regulatory stringency. However, it would be naïve to expect that the other two stages in the rulemaking process – agenda setting and compliance, respectively – cannot and do not play a role in regulatory politics.

[28] Two key characteristics of thin market conditions are: co-location of expertise in a rulemaking process (i.e. regulators' dependence on industry experience required for devising regulation) and diffused public interest (small individual impact of rules).

Lastly, in order to assess applicability of the general theoretical framework to financial rulemaking, the third part of the chapter engages more directly with the political economy of finance literature. I will attempt to provide additional support for my theoretical framework by providing a critique of five alternative explanations.

The pluralist theoretical tradition offers two alternative explanations centred around the number of mobilised interest groups (Gray and Lowery 1996; Rasmussen, Carroll, and Lowery 2014) and stakeholder market power (Peltzman 1976; Bouwen 2002). Further, there are alternative explanations that focus on technical complexity (Porter 2014) and salience (Culpepper 2011, Culpepper and Reinke 2014; Woll 2014) as two possible explanations for understanding regulatory stringency. Finally, the fifth alternative explanation from the constructivist theoretical tradition revolves around ideational change as the key driver of regulatory stringency (Baker 2010, 2012; Moschella and Tsingou 2013). By providing a critique of these five alternative explanations, the third part of this chapter not only identifies key theoretical complementarities but also highlights a relatively higher level of explanatory power of the market competition theory.

3.1 Focus on securities markets

3.1.1 Why does securities regulation matter?

Traditionally, financial regulation has distinguished between banks and securities markets, which has also been reflected in a separation of regulatory powers between banking and securities regulators. Historically, banking regulation has attracted more attention as it is somehow more tangible with images of customers queuing outside banks to withdraw their money in anticipation of a prospective bankruptcy.

Although the first deposit insurance scheme[29] was introduced in 1933 with the 1933 US Banking Act,[30] even during the most recent GFC (2007–2009) or Eurozone sovereign debt crises (2010–2015), ordinary citizens were lining up outside Northern

[29] Deposit insurance or guarantee schemes are a form of liquidity regulation whereby the government guarantees all retail deposits up to a certain amount, which consequently can prevent or reduce the extent of 'run on banks' in the event of a larger economic downturn or bank-specific difficulties.

[30] The US Banking Act of 1933 created federal deposit insurance and the Federal Deposit Insurance Corporation to resolve failed banks, which is deemed to be one of the most efficient deposit guarantee schemes (DGS) given its timeliness and cosmetic caps (maximum amount applied to every specific insured account rather than the total deposits for a specific individual). In comparison, the UK had no DGS at all until 1982, and it was designed particularly poorly: it was capped at £35,000 per institution (i.e. to cover all accounts held by single depositor in that institution), insured only 90 per cent of deposits above £2,000 (so that a depositor holding the £35,000 level would receive £31,700) and paid out only at the end of the insolvency process (Armour et al. 2016).

Rock in the United Kingdom or local banks in South European countries such as Greece and Cyprus. Banks' brick-and-mortar business model and clearly visible signs of distress (i.e. bank runs with long queues) have led to much greater public awareness of banking regulation and the possible effects of retail bank failures.

Securities markets, on the other hand, have equally pronounced financial effects, but they have remained outside the public eye for decades. In itself, the term 'security' is a rather puzzling concept, significantly less obvious and intuitive than a bank. Briefly, a security is a tradeable financial asset, such as a stock or bond; however, there is a whole variety of more sophisticated instruments that fall under the same umbrella term.

There are three, broadly agreed subcategories of securities[31]: first, equity securities (i.e. common stock); second, debt securities (i.e. banknotes, bonds, debentures); and third, derivatives (forwards, futures, options and swaps). The thesis focuses on the securities market given its central role in contemporary finance. Not only did the global meltdown emerge from the securities markets (i.e. subprime and repurchase markets), but the rapidly changing financial system has never been more reliant on securities markets. As an illustration, the overall global debt (mostly financed through issuing securities) has surged since the GFC: in 2017 it was 217 per cent of the total global GDP, which is almost 40 percentage points higher than in 2007 (Bank for International Settlement, 2018). Furthermore, the latest estimate of the size of the

[31] According to the US Securities Act of 1933, the term security is unsurprisingly legalistic and stands for any note, stock, treasury stock, security future, bond, debenture, evidence of indebtedness, certificate of interest or participation in any profit-sharing agreement, collateral-trust certificate, preorganisation certificate or subscription, transferable share, investment contract, voting-trust certificate, certificate of deposit for a security, fractional undivided interest in oil, gas, or other mineral rights, any put, call, straddle, option or privilege on any security, certificate of deposit, or group or index of securities (including any interest therein or based on the value thereof), or any put, call, straddle, option, or privilege entered into on a national securities exchange relating to foreign currency, or, in general, any interest or instrument commonly known as a 'security', or any certificate of interest or participation in, temporary or interim certificate for, receipt for, guarantee of, or warrant or right to subscribe to or purchase, any of the foregoing. The definition under the Securities Exchange Act of 1934 is identical except that the Exchange Act exempts notes with a maturity of fewer than nine months. The Supreme Court has treated the two definitions as functionally indistinguishable in almost all cases (Rechtschaffen 2019). Other regulators might have slightly different definitions, particularly when it comes to financial innovation and bespoke instruments. For example, the British regulator defines a 'security' in narrower terms. According to the Financial Conduct Authority Handbook, the term 'security' applies only to equities, debentures, alternative debentures, government and public securities, warrants, certificates representing certain securities, units, stakeholder pension schemes, personal pension schemes, rights to or interests in investments, and anything that may be admitted to the Official List (FCA, 2016). https://www.handbook.fca.org.uk/handbook/glossary/G1061.html

shadow banking sector is $45.2 trillion in size, almost double the size it was in 2011 when it was estimated at $28 trillion (Financial Stability Board 2018).[32]

More importantly, the narrow measure of shadow banking has grown from around 62 per cent of all participating jurisdictions' GDP in 2011 to around 73 per cent in 2016, which is actually higher than the estimated value of 72 per cent in 2008.[33] Finally, at the time of writing, the notional amount outstanding of derivatives is also higher than before the GFC: $532 trillion in 2H 2017 versus $508 trillion in 1H 2007.[34] Although these figures might be surprising, they do not testify to the fragility of the system, which is in much better condition than it was 10 years ago. However, the increase in size of the securities markets – reflected in the surge in debt and size of shadow banking – is certainly an indication of its growing role in the global economy.

It is worth adding a caveat. Following the Wall Street Crash of 1929, securities rulemaking was established as a separate regulatory requirement, which resulted in the Securities Act of 1933 and the formation in 1934 of a formal US regulator focused primarily on securities markets – the Securities and Exchange Commission. However, with rapid changes in the modus operandi of global finance, the securities regulation and its interconnectedness to broader financial legislation have emerged as the epicentre of financial stability (Moloney 2014).

In order to fully appreciate the importance of securities markets for the global economy, it is worth briefly reflecting on the genesis of the GFC. It is widely accepted that a run on the repurchase market triggered the GFC (Gorton 2009; Gorton and Metrick 2009), while securitised products were a major transmission channel that resulted in severe distress for financial institutions and, ultimately, the global economy (Acharya and Richardson 2009; Acharya and Schnabl 2010). An unexpected default of around $125 billion in the US subprime market escalated to produce $14–16 trillion total losses globally (Dumontaux and Pop 2013).

The GFC triggered a global recession, which began in November 2009 and

[32] The FSB started collecting data in 2011, while for previous years there are only approximations available.
[33] The FSB report acknowledges that the approximation of 72 per cent understates the true size of the narrow measure relative to GDP at this time due to historical data gas.
[34] The data for 2H2017 is still not available. It is worth acknowledging that the highest amount of notional outstanding was in 2011 ($707 trillion) with a downward trend noted since. https://stats.bis.org/statx/srs/tseries/OTC_DERIV/H:A:A:B:5J:A:5J:A:TO1:TO1:A:A:3:C?t=D5.1&p=20172&x=DER_RISK.3.CL_MARKET_RISK.J:T:E:B:D:U&o=w:20121.20172,s:stc,t:Derivatives%20risk%20category

consequently resulted in a steep increase of government debt levels during 2010 and 2011. Bond market volatility and the uncertain credit ratings of sovereigns particularly threatened the stability of the Eurozone system (Broz 2014; Howarth and Quaglia 2015). Much of this may have arisen as a result of the authorities' lack of powers and ability to manage severe domestic and global crises, over and above underlying risk management errors and incompetence. It is vital to understand that the most recent financial turmoil was primarily driven by credit dynamics in securities markets rather than the traditional banking system.

More broadly, one of the most striking developments in global financial governance has been a shift in sources of credit supply from traditional banks to capital markets (Adrian and Song Shin 2009; Gorton and Metrick 2009; Gabor 2016). The literature on market-based banking (Hardie et al. 2013; Gabor and Ban 2016) strongly challenges the prevalent understanding of the backward-looking IPE scholarship that traditional banks are the main suppliers of debt. In the traditional banking model, commercial banks operate the business of credit and maturity transformation by issuing loans on the back of customers' deposits. Most importantly, those loans and their associated credit risk remain on a bank's balance sheet until full repayment. Such a business model has allowed traditional banks to act as primary agents in making loan decisions, under the lender of last resort protection.

On the other hand, in market-based banking, the nature of debt supplies is determined by financial markets rather than banks as primary agents. For example, a financial institution issuing credit (i.e. a mortgage) is not necessarily a traditional retail bank with customer deposits. More importantly, banks as agents do not determine the pricing and availability of lending, as has been the case in a traditional bank-based system. Rather, banks as market intermediaries determine both. The key financing mechanisms include securitisation and repo markets, while OTC derivatives markets provide for the hedging of credit risk through credit default swaps and interest rate exposure via swaps.

As the brief reflection on the GFC and the most recent developments in global finance clearly demonstrate, flawed securities regulation has been one of the key factors that contributed to the catastrophic financial turmoil. Consequently, regulators and policymakers have been pressured to fundamentally re-examine the nature and function of modern markets with the aim to develop the most appropriate forms of official oversight, regulation and control.

Equally important, the current IPE literature ought to pay more attention to rapidly evolving securities markets (Helleiner, Pagliari and Spagna 2018). As emphasised throughout these chapters, securities markets have received some attention, particularly issue areas such as algorithmic and high-frequency trading (Mattli 2018), exchange-traded and OTC derivatives (Carruthers 2013; Mügge 2014; Knaack 2015; Helleiner, Pagliari and Spagna 2018), repurchase markets (Gabor 2016) and, closely related, the concept of liquidity which spans both banking and securities markets issue areas (Nesvetailova 2010a, 2010ba; Foucault, Pagano and Roell 2013). However, the literature would benefit from a more systematic understanding of how securities markets rules are devised (Posner 2018) and this is precisely the empirical contribution this thesis endeavours to make.

3.1.2 The international architecture of securities regulators

Who are the main securities market regulators and to what extent has the IPE literature studied their activities?

Starting with the oldest rulemaking agency, the Securities and Exchange Commission (SEC) was established by US Congress under the Securities Exchange Act of 1934. The SEC is vested with regulatory jurisdiction over securities markets, the companies issuing securities, and purchasers and sellers of securities pursuant to the Securities Act of 1933 and the Securities Exchange Act of 1934. The jurisdiction of the SEC extends to all financial instruments that are covered by the definition of a security under these statutes.

As Rechtschaffen (2014) recognises, the definition of a security is sufficiently broad to encompass virtually any instrument that might be sold as an investment. Such a broad definition was adopted with the view of fostering investors' confidence in the financial markets and supervisors. From the more practical market perspective, the SEC is primarily responsible for regulating capital-raising, trading and other activities of issuers, broker dealers, stock exchanges and investment funds.

The SEC shares responsibility with the Commodity Futures Trading Commission (CFTC).[35] Post-crisis regulatory reform has maintained the division of

[35] The Commodity Futures Trading Commission (CFTC) is an independent agency with exclusive jurisdiction over futures trading in all commodities. The Commodity Exchange Act (CEA) of 1936 set forth the first federal regulatory framework for futures trading in agricultural commodities. In 1974, US Congress passed the Commodity Futures Trading Commission Act, overhauling the CEA and establishing the CFTC as we know it today. Whereas the CEA regulated only agricultural commodities

regulation along product lines between the SEC and the CFTC. The original reason for the regulatory division reflected the market conditions at the time of the enactment of the Commodity Exchange Act (CEA) and the federal securities laws in the 1930s. The division operated effectively until the 1970s when futures trading expanded beyond agricultural commodities to encompass the rise and eventual dominance of non-agricultural commodities (Rechtschaffen 2019). Two agencies overlap in their regulatory duties when it comes to regulating the activities of market participants within both exchange-traded and, since the introduction of the Dodd-Frank Act, OTC derivatives markets (Armour et al. 2016). Since the Dodd-Frank Act, the SEC and the CFTC have begun to issue rules establishing a coordinated approach, particularly in relation to swaps, one of the most often traded derivative instruments.

Despite its long history of rulemaking, the SEC has attracted relatively scant academic attention from interest group scholars. The most recent study on the influence of interest groups in SEC rulemaking was published in 2002 (Nixon et al. 2002). Based on an analysis of the comment submissions in 1998, Nixon et al. (2002) found limited support for the argument that the Administrative Procedure Act[36] requirements make private interests unusually effective in changing the Commission's rules. Furthermore, it is worth highlighting that the authors used the SEC's own statements about rule changes rather than directly examining the comments.[37]

The EU-level agencies follow a largely institutional division of responsibility, shared among the European Securities and Markets Authority (ESMA), the European Banking Authority and the European Insurance and Occupational Pension Authority.

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enumerated in the CEA, the 1974 Act granted the CFTC exclusive jurisdiction over futures trading in all commodities. The agency's mandate has been expanded several times since 1974, particularly in light of the Commodity Futures Modernization Act of 2006 and, most recently, by the CFTC Reauthorization Act of 2008, whilst the Dodd-Frank Act added to the CFTC's powers (Rechtschaffen 2019). In addition, the CFTC's official mission is 'to protect market users and the public from fraud, manipulation, abusive practices and systemic risk related to derivatives that are subject to the Commodity Exchange Act and to foster open, competitive and financially sound markets' (CFTC 2019) https://www.cftc.gov/sites/default/files/anr/anrabout99.htm

[36] As in any other federal agency, the Administrative Procedure Act from 1946 is the major statute that shapes the process by which the SEC conducts consultation procedures (Shapiro 2008).

[37] In addition to the responses to rule proposals, the SEC also publishes the EDGAR database with letters between SEC officials and 'filers', who are publicly listed companies with the obligation to file their annual reports to the regulatory agency. The most recent accounting and management literature has relied on the EDGAR database to understand possible capture in the rule enforcement contingent on political connections (Heese, Khan and Ramanna 2017). However, the rare examples of capture considerations in the accounting literature focus primarily on the compliance phase for listed companies rather than the broader (financial) industry influence over rulemaking.

ESMA is at the epicentre of rulemaking and supervision for securities markets in the European Union (Posner and Véron 2010a) with the following objectives:

- improve the functioning of the internal market, including in particular a sound, effective and consistent level of regulation and supervision
- ensure the integrity, transparency, efficiency and orderly functioning of financial markets
- strengthen international supervisory coordination
- prevent regulatory arbitrage and promote equal conditions of competition
- ensure that the taking of investment and other risks is appropriately regulated and supervised
- enhance customer protection.

The European Commission's idea was to ensure closer cooperation and exchange of information among national supervisors, facilitate the adoption of EU-wide solutions to inter-state problems and advance coherent application and interpretation of rules, thus replacing the existing patchwork of disparate national arrangements. In comparison to the other EU agencies, ESMA has additional power in terms of supervising regulated firms. The EU legislation delegates supervisory responsibilities to national competent authorities, but ESMA has been granted direct supervisory authority for some specific activities and areas of the financial microstructure, such as credit rating agencies, trade repositories and short selling.

Similar to the SEC's modus operandi, ESMA has the mandate to invite the public to participate in open consultations. It is worth acknowledging that ESMA can issue a variety of different proposals for consideration by the Commission; however, only 'regulatory technical standards' require open consultations ahead of a formal submission to the Commission as legislative proposals (Moloney 2011). ESMA's consultation procedure has been instrumental in achieving relative independence, regulatory power and perceived legitimacy among market actors (Mügge 2011). ESMA's institutional development is best encapsulated in Posner and Véron's (2010b) observation that the agency has evolved into a supranational body that is larger than its constituent parts.

Alongside qualitative studies on private interest groups seeking influence over the European securities' regulator (Mügge 2006; Quaglia 2007, 2008a, 2008b, 2011;

Mügge 2014), it is worth highlighting Chalmers' quantitative study of private-sector mobilisation patterns (2015). By categorising more than 2,000 actors mobilised in the rulemaking consultation process, Chalmers (2015) identified institutional opportunity (the openness and accessibility of regulatory politics) and demonstration effects or the salience of regulatory issues as the key drivers of mobilisation. In line with the previous theoretical discussion on the important difference between mobilisation or diversity and real influence, Chalmers' study offers some important insights into the ecology of European finance, but the true influence of various interest groups is still an empirical challenge that needs to be addressed.

Just as an interesting comparison to SEC and ESMA, it is helpful to briefly discuss the third most relevant global securities market regulator, which is based in the United Kingdom. While European and particularly American regulatory systems have a clear separation between regulatory agencies, the British system is grounded in the objectives-based model. More specifically, there are three principal authorities, two of which are affiliated with, or part of, the Bank of England. The Prudential Regulation Authority is responsible for the microprudential regulation of banks, insurance companies and other complex investment firms, while the Financial Policy Committee is responsible for macroprudential oversight. The Financial Conduct Authority has the responsibility of regulating business conduct – including market integrity, consumer protection and competition – across all regulated firms (Armour et al. 2016).

In the interest of completeness, it is helpful to mention the International Organization of Securities Commissions (IOSCO) as the representative forum for regulators of securities and futures markets. IOSCO's mission is to develop, implement and promote adherence to internationally recognised standards for securities regulation. Its key outputs include the Objectives and Principles of Securities Regulation – a set of 30 principles outlining IOSCO's position regarding what constitutes high-quality securities regulation. The IOSCO membership includes regulatory agencies that are responsible for securities and futures regulation in more than 160 jurisdictions, and it is fully financed by membership fees. IOSCO's voting membership includes the chief regulatory authorities for the world's financial jurisdictions. The organisation's voting membership totalled 114 in 2010, with oversight of more than 95 per cent of global securities markets (Blair, Walker and

Willey 2012). Despite the broad and diverse membership, the majority of IOSCO policies are coordinated through its 32-member board and 8 technical committees.

IOSCO's international standards can be broadly categorised into two groups. The first category of securities market standards is created to address the negative spillover caused by under-regulated or ineffectively regulated jurisdictions. One example is IOSCO's efforts to facilitate the prosecution of cross-border financial crime. The second category of standards has gained particular traction post the GFC: regulators are promoting new rules that would tackle previously unregulated financial market actors. This is in line with regulatory harmonisation of national regulatory frameworks conceived to establish common standards of regulation that would allow for more successful monitoring of global systemic risks.

3.2 Theoretical framework in the context of securities markets

3.2.1 Underlying assumptions

Following the evaluation of the securities market regulatory environment in Section 3.1, it is helpful to link the key characteristics of securities markets with the underlying assumptions of the theoretical framework presented in Chapter 2. As per Table 3.1, there are three key assumptions from the theoretical framework, so it is vital to justify their applicability in the context of securities markets.

Assumptions from the theoretical framework	**Securities markets specificities**
Boundedly rational stakeholders	Volatile and uncertain markets
Regulatees' interest in reducing net regulatory burden	Weak or no rules as a starting point
Regulators' interest in prioritising reputational risks (constant regulatory supply)	'Thin' market conditions

Table 3.1: The three key assumptions

First, stakeholders are conceived as boundedly rational agents (Jones 1999; Jupille, Mattli and Snidal 2013) which has immediate implications for their regulatory preferences and broader regulatory bargaining dynamics. The extent of bounded rationality is even more pronounced given the volatile, incomplete and uncertain characteristics of the securities markets in which they operate.[38]

[38] The fundamental characteristics of financial markets are derived from the theoretical insights of the Legal Theory of Finance (LTF) (Pistor 2013a, 2013b)[38] and the economic contract theory (Grossman and Hart 1983; Hart 1995, 2017).

The fundamental uncertainty of securities markets refers to the existence of events that cannot be quantitatively measured. In the popular parlance of Nicholas Taleb (2008) there are 'black swan' events with extreme impact although they occur rarely and unpredictably. Given the unfeasibility of knowing all possible events and calculating their probabilities, the future cannot be predicted, and any financial strategy planned today will have to be adjusted if the future deviates from the assumptions made in the present. Furthermore, the conjunction of fundamental uncertainty with the volatility of liquidity[39] creates inherently unstable financial markets. Thus, financial systems will never reach an equilibrium condition, always remaining unstable, which in turn emphasises the extent of stakeholders' bounded rationality in rulemaking.

Second, regulatees are primarily driven by the profit-maximisation agenda, which can be achieved through reducing either absolute or relative regulatory costs. Thus, industry stakeholders are conceived to generally hold anti-regulatory preferences (i.e. support for weaker rules), unless they expect new regulatory burden to impose higher costs on their competitors in comparison to their own compliance burden. The anti-regulatory sentiment among regulatees is particularly pronounced given the historical legacy of weak or absent rules in securities markets, which have escaped meaningful regulatory scrutiny for decades (Carruthers 2013; Admati 2016).

Third, regulators need to operate in thin market conditions (Ramanna 2015a, 2015c), which are characterised by two key features: co-location of expertise in a rulemaking process (i.e. regulators' dependence on industry experience required for devising regulation) and diffused public interest (small individual impact of rules). Given the opacity of the markets and regulators' incomplete knowledge, they need to rely on industry representatives' expertise. In other words, regulators do not have sufficient expertise to regulate certain legal domains such as accounting or esoteric finance, as they could, for example, in environmental regulation. This reinforces the importance of demand-side dynamics (i.e. competition among regulatees) in shaping regulation. As the theoretical framework postulates, the final nature of rules is determined in the markets and thin conditions reinforce such dynamics.

[39] Brunnermeier and Pedersen (2009) define market illiquidity as the 'difference between the transaction price and the fundamental value' and funding illiquidity as 'speculators' scarcity (or shadow costs) of capital'.

As previously emphasised, if there is no regulatory supply from regulators, then regulators themselves will weaken the rules or the status quo will prevail.[40] However, the thesis is primarily concerned with the demand side of regulatory changes and the extent to which regulatees can shape the rules once regulators want to make them more stringent.

3.2.2 Exercising influence in a regulatory process

After careful consideration of the key securities market regulators, it is essential to understand how and when other stakeholders, primarily regulatees, (attempt to) exercise their influence. In other words, which rulemaking phase matters the most?

More generally, a rulemaking process can be split into three stages: agenda setting, production and compliance. The middle stage of rulemaking – production, also known as the consultation or notice-and-comment phase – is recognised as one of the greatest innovations in administrative governance in the 20th century (Davis 1979). From politicians' standpoint, consultation in rulemaking brings legitimacy and democratic oversight to the process where decisions are largely made by technocrats (Shapiro 2008).

During the consultation process, credible comments are likely to directly translate into influence over the nature of final rules (Wagner, Barnes and Peters 2011). Various interest groups have a strong incentive to provide comments as the formal consultation process gives them a unique opportunity to officially express their views and potentially influence the final rules – or at least receive feedback on their concerns. As Young's (2013) study showed, in the post-crisis period financial regulatees are more likely to attempt to exercise their influence through formal, open channels, like public consultations. Thus, public consultations have become an important, viable and necessary avenue for exercising influence in the post-crisis period.

American legal and political scholarship has the longest tradition of focusing on consultation rulemaking. Historically, there has been considerable scepticism about the extent to which regulatory agencies are receptive of consultation feedback, and

[40] As mentioned in Chapter 2, regulatory sentiment has been changing historically. While the 1970s-1980s period witnessed the most pronounced regulators' shift towards deregulation, the global meltdown in 2008 served as a strong corrective that resulted in a continuous regulatory supply, which was consecutively shaped by demand-side factors as the ultimate drivers of regulatory stringency.

some scholars even voiced their concern about the extent to which comments play a role in agency decisions (West 2004). Golden's (1998) analysis, based on a small sample of only 11 rules, concluded that public comments had minimal influence over rule changes. Furthermore, West's (2004) analysis of 42 rules found that the key role of comments was to provide information to politicians rather than to accommodate more substantial rule changes.

More recent scholarship is significantly more positive about the role of consultation rulemaking. Yackee's (2006) seminal study on 40 consultations concluded that interest group comments often affect the final rules. Moreover, Shapiro's (2007), much larger, empirical analysis of more than 900 regulations corroborate Yackee's findings: rule-makers are responsive to comments almost half of the time, although sometimes they do not receive any formal input from interest groups.

Considering these positive results, using consultation documents for research purposes has become common scholarly practice for analysing mobilisation patterns and the lobbying influence of various interest groups (Kelleher and Yackee 2006; Yackee 2006; Yackee and Yackee 2006; Claessens, Underhill and Zhang 2008; Pagliari and Young 2014; Rasmussen, Carroll and Lowery 2014; Chalmers 2015; Klüver, Mahoney and Opper 2015). In the context of financial regulatory governance, not only are the international data accessible through the key regulatory agencies, but such data also provide essential insights into financial industry lobbying efforts before and after the GFC.

Although consultations during the production phase are the central stage in rulemaking, there are also other opportunities for seeking to influence. Interest groups can express their regulatory preferences during the agenda-setting phase and, to a lesser extent, during the compliance phase.

During the agenda-setting phase, when rule-makers craft a proposed rule, there is ad hoc mobilisation of various interest groups that aim to indirectly shape the proposed rule as a way of pre-empting the formal consultation-and-comment phase. The first mover advantage has attracted some relevant academic interest as financial industry 'insiders' can attempt to capitalise on their access to knowledge networks, either by gaining an informational edge or through personal interactions with regulators (Lall 2012). Potentially early gains at the agenda-setting stage do not last for long or at least decrease during the later stages.

As more information on the prospective impact of a financial regulation becomes available, more stakeholders mobilise in the formal process and their preferences also have to be accommodated (Pagliari 2015). Once the final rule has been promulgated, which marks the beginning of the compliance phase, interest groups can request revisions, file complaints, organise petitions and, in some jurisdictions, engage in litigation (Schmidt 2002).

Given the nature of rulemaking and the importance of information, one can raise concern regarding the issue of overstating regulatory preferences. Lowery (2013) argues that neither regulators nor regulatees take positions in a vacuum, but rather in anticipation of reactions from other stakeholders. Thus, there is a risk of regulatees and regulators both publicly adopting more extreme positions than they actually espouse, particularly at the initial stage of the consultation process, in order to create additional manoeuvring space for future negotiations.

However, there is an important difference between regulators and regulatees when it comes to overstating their preferences: regulators can easily lose credibility by overstating their preferences and make themselves vulnerable to intense public criticism for their leniency if intentionally stricter rules do not materialise. The media often criticise regulators for diluting their initial proposals so regulators are wary of overstating the positions they cannot reasonably defend through the rulemaking process. Thus, regulators' prudent communication of their preferences transparently reinforces the relevance and insightfulness of the rule production phase as the central stage in rulemaking.[41]

On the other hand, regulatees are significantly more likely to overstate their preferences. For example, industry associations are particularly prone to overstating their position as a way of signalling their active engagement with regulators to the broad membership base.[42]

[41] The broader literature adopts the same approach of relying on rule-maker (and regulatee) statements as a way of identifying their regulatory preferences (Yackee 2006; Yackee and Yackee 2006; Klüver 2012; Pagliari and Young 2014, 2016; Chalmers 2017).

[42] The overstating of associations' preferences presupposes broad consensus among members, which is not always the case. For discussion on how associations reconcile occasionally conflicting views among their members, see Chalmers (2018).

3.3 Competition through the IPE lenses

So far, Chapter 2 and the first two sections of Chapter 3 have developed the theoretical framework of the drivers of regulatory stringency by drawing key insights from the theoretical scholarship on organisational reputation, business conflict, interest groups, capture theory (economics of regulations), and strategic provision of information, combined with the substantive literature on securities markets.[43]

The following part engages more directly with the IPE of finance literature. The first subsection identifies complementarities between the empirical IPE of finance studies and the theoretical framework. The second subsection looks into five alternative explanations. First, number of regulatees (Gray and Lowery 1996; Rasmussen, Carroll, and Lowery 2014); second, market power of key stakeholders (Peltzman 1976; Bouwen 2002); third, salience of regulatory issues (Culpepper 2011, Culpepper and Reinke 2014; Woll 2014); fourth, complexity of rules (Porter 2014); and fifth, ideational change in the regulatory community (Baker 2010, 2012; Moschella and Tsingou 2013).

3.3.1 Empirical evidence on regulatees' lobbying

The empirical political economy of finance literature resonates most strongly with two key insights from the theoretical framework. First, the relevance of heterogeneity of regulatees, which has attracted some empirical attention from IPE scholars highlighting different business models and the extent to which business stakeholders cooperate and/or compete. Considering varied business models of financial institutions, their interests often diverge and, in some cases, counteract each other.

These observations can be distilled into two most significant empirical trends: first, an increase in conflicts between non-financial and financial business groups and, second, competition between financial groups themselves (Helleiner 2014; Pagliari and Young 2016).[44] That said, the majority of the literature still treats Big Finance as

[43] Similar theoretical predictions on implications of heterogeneity of regulatory preferences on regulatory processes can be derived from the 'business conflict school' of thought (Skidmore 1995; Cox 1996; Cox and Skidmore-Hess 1999). See Appendix B.5

[44] In addition to the increase of business – either financial or non-financial – actors who are directly affected by regulatory changes, non-business groups have also become relatively more active in expressing their views after the GFC. For example, the Americans for Financial Reform and Better Markets in the US, or Finance Watch in the Eurozone have strongly advocated for more stringent regulation and stronger customer protection. Although such groups gained some traction following the GFC, their role is still rather limited, particularly due to tight financial resources, while relatively low

a unified interest group.

Second, regulatees often lose regulatory battles despite their resources and lobbying endeavours (Helleiner 2014; Kastner 2014; Pagliari and Young 2016; Young and Pagliari 2017) although the empirical IPE and interest group literature perhaps overemphasises or over-reports the cases of capture. For example, Lall (2012) discusses how banking lobbies succeeded in watering down Basel standards, while Thiemann (2014) focuses particularly on unregulated securitisation practices in the context of capital requirements as an indication of strong industry lobbying.

Large N studies point to similar outcomes. Using a data set on low salience policy issues, Yackee and Yackee (2006) and McKay and Yackee (2007) find statistically significant evidence that business interest groups often emerge as winners. These findings are further supported by an environmental study on air toxicity regulations, which concluded that changes in final rules from initial proposals were four times as likely to favour business interest groups in comparison to all other stakeholders (Wagner, Barnes and Peters 2011).

Interestingly, in the only finance-focused study that examined the rulemaking process of the SEC, Nixon et al. (2002) found limited support for the argument that business interest groups exercise more influence in comparison to the other agents involved in the rulemaking process.

Given the mixed empirical findings, this theoretical framework is embedded in Pagliari's (2015) value-neutral recommendation for future research to pay closer attention to cases where financial interest groups were not successful in realising their interests.

3.3.2 Alternative theoretical explanations

Based on analyses of empirical IPE literature, it is important to acknowledge that this stream of literature has rightly identified the competing interests and coalition-building efforts among regulatees. However, there is a significant theoretical lacuna on the conditions under which heterogeneous interests emerge and how they translate into weaker or stronger rules.

That said, the rich theoretical and empirical IPE of finance literature provides five alternative explanations (see Table 3.2). The two interrelated pluralist alternative

salience of financial regulation does not permit more public engagements, which are common, for example, in environmental campaigns.

explanations revolve around the number of regulatees (Gray and Lowery 1996; Rasmussen, Carroll, and Lowery 2014)[45] and their relative market power as key determinants of regulatory stringency. Furthermore, two contextual accounts highlight the salience of regulatory issues (Culpepper 2011; Culpepper and Reinke 2014; Woll 2014); and technical complexity of rules[46] (Porter 2014) as the key drivers of regulatory stringency. Finally, the constructivist theoretical tradition postulates the ideational change as the key driving force in explaining regulatory stringency (Baker 2010, 2012; Moschella and Tsingou 2013).

However, neither of these alternative explanations can satisfactorily account for the variation in regulatory outcomes and, more importantly, specific conditions under which private interests prevail.

Alternative explanation	**Main driver of regulatory stringency**	**Theoretical prediction**
Interest group plurality	Number of regulatees	Larger number of regulatees leads to more regulatory stringency
Market power	Size and power of regulatees	The largest firms tilt the rules in their favour
Complex governance	Technical complexity	More complex rules lead to less regulatory stringency
'Quiet' politics	Salience and public opinion	More salient rules lead to more regulatory stringency
Ideational change	Ideas	Ideational change in the regulatory community leads to more regulatory stringency

Table 3.2: Summary of alternative explanations derived from the IPE of finance literature

3.3.2.1 Number of interest groups/regulatees

There are two predominant theoretical views on lobbying power and (financial) regulation. First, the literature theorised a number of mobilised firms as central to explaining influence over regulatory reforms (Gray and Lowery 1996; Rasmussen, Carroll and Lowery 2014; Chalmers 2015). This school of thought is broadly encapsulated in Salisbury's insight that more groups lead to less clout (1992). In other words, the number of regulatees is directly related to the (in)ability of specific groups

[45] The interest group plurality alternative explanation is analogous to the first structural variable from the game theory analyses (discussed in 2.2.2.2).

[46] The technical complexity alternative explanation is analogous to the discussion on access fees from the regulatory capture literature (discussed in 2.2.3).

to realise their interests in a rulemaking process.

According to Berkhout et al. (2015), there are two sets of arguments that link the number of interest groups with prospects of exercising influence in a rulemaking process: (a) the level of regulatees is directly related to prospective influence that interest groups can achieve (Beyers and Kerremans 2007; Rasmussen, Carroll and Lowery 2014); and (b) a greater number of groups has the potential to dilute any individual group's influence insofar as it implies a lower level of access to rule-makers, who are being exposed to varied informational inputs.

Second, the number of interest groups is understood to affect how new actors enter an existing system occupied by traditional interest groups, who are inclined to impose unofficial barriers to entry in an effort to protect their first mover position. Traditional interest groups are particularly concerned about legislative roadblocks, which limit the scope of opportunities for exercising influence (Gray and Lowery 1996).

3.3.2.2 Market power

A largely compatible view to the pluralist account of numbers emphasises the high concentration of financial interest groups (i.e. a small number of powerful stakeholders) and their ability influence regulatory outcomes (Peltzman 1976; Bouwen 2002).

The most common conceptualisation of market power considers market positioning of specific market participants or regulatees, which can be assessed on the size of their balance sheet, customer base and overall positioning in the financial network. The best illustration of power through market size would be the Basel Committee on Banking Supervision (BCBS) classification of global systematically important banks (G-SIBs)[47] and International Association of Insurance Supervisors (IAIS) categorisation of global systematically important insurers (G-SIIs)[48] which, taken together, contribute to the list of global systematically important financial institutions (G-SIFIs).

[47] The Financial Stability Board (FSB), in consultation with the BCBS and national authorities, has identified G-SIBs since 2011. The list of G-SIBs is divided into 'buckets' corresponding to required level of additional loss absorbency. The initial methodology was produced in 2011 with two consequent revisions, while the latest methodology is available at https://www.bis.org/bcbs/publ/d445.pdf.

[48] The FSB, in consultation with the IAIS and national authorities, began identifying global systemically important insurers (G-SIIs) in 2013. The latest methodology is available at https://www.iaisweb.org/index.cfm?event=getPage&nodeId=25233. Currently there are no G-SIIs and the next methodology review is scheduled for 2020.

Market position, perceived as control of economic resources and the credit-creation process, gives the largest market participants *structural* power. Although there is a rich literature on structural power in the business context,[49] it revolves around Lindblom's (1977) initial insight that structural power of business is generated independently and automatically because of micro-decisions about lending or investment taken by business leaders. In other words, as governments and wider society depend on a strong economy and, implicitly, the willingness of businesses to invest and produce, there are strong incentives to cater to the needs and demands of the largest economic stakeholders.

Compared to the competition-based account of regulatory stringency, both pluralist explanations seem to underappreciate the level of heterogeneity and constellations of interests among regulatees. Although the majority of regulatees are part of the financial industry, they have heterogeneous business models and regulatory preferences, which are particularly pronounced in securities markets given a relatively larger number of stakeholders who perform different business activities, ranging from algorithmic trading and dealing in OTC derivatives to providing custody services and independent research or credit assessment. In other words, it is not sufficient to observe only the number of firms or static understanding of market power, but rather we must dig deeper into bargaining dynamics and interactions among regulatees and various interest groups.

3.3.2.3 Salience

'Salience' refers to the importance that the general public assigns to a specific regulatory matter compared to other issues on the political agenda (Soroka and Wlezien 2005).[50] The low level of salience has characterised the default state of

[49] There has been a whole variety of additions to and critiques of Lindblom's theoretical account. Some of the most prominent accounts claim that structural power can be shaped by institutional dynamics (Hacker and Pierson 2002), by divisions within the business sector between financial and coalitions of other business interests (Helleiner and Thistlethwaite 2013; Pagliari and Young 2014) and mobility of capital (Culpepper and Reinke 2014).

[50] The concept of salience was initially introduced in electoral studies, whereby scholars examined the extent to which public opinion and limited voters' cognitive capabilities influence electoral outcomes (Soroka and Wlezien 2005). The assumption is that politicians focus only on issues of high salience in their attempts to attract votes, while less salient issues are usually not worth their time and financial resources. Importantly, regulators are equally receptive to the public's preferences in attempts to maintain their technocratic autonomy and prevent possible intervention from elected politicians (Singer 2007).

financial regulatory policymaking (Pagliari 2013)[51] as debates on financial regulation usually take place outside the realm of electoral politics.[52] As regulatory issues have historically attracted little media attention, financial industry interest groups have benefited from operating without any or relatively scarce public scrutiny from non-specialised actors.

However, the most recent GFC and multiple banking scandals have increased the political salience of financial regulatory policies among the broader electorate. The anti-financial industry sentiment among the electorate has incentivised elected politicians to engage in rulemaking areas that were traditionally considered technocratic (Kastner 2014). A particularly strong politicisation of financial regulatory policies has been prevalent in countries where governments were involved in large bailout programmes (Culpepper and Reinke 2014; Woll 2014). More broadly, the GFC has triggered the 'demonstration effect' (Mattli and Woods 2009): the fast spread of information about the prospective social costs of malfunctioning financial regulations. In other words, traditionally 'quiet' politics have become loud, which has direct implications for the exercise of influence in the rulemaking processes (Culpepper 2011).

In order to understand the importance of the demonstration effect and the issue of salience more generally, it is worth reflecting on Mattli and Woods' theoretical framework of global rulemaking, which is construed around supply- and demand-side factors. In short, Mattli and Woods postulated two sets of conditions that directly determine a regulatory outcome. First, 'institutional supply' stands for the drafting, implementation, monitoring and enforcement of rules. An extensive institutional context is a necessary yet insufficient condition for common interest regulation.

Regulatory outcomes are heavily contingent on the second set of conditions on the demand side: information, interests and ideas. Information about the prospective social costs of capture – the demonstration effect – is the key factor that triggers the process of regulatory change. Only once the demonstration effect kicks in, private or public entrepreneurs (interest parties) can support changes by providing expertise and

[51] According to Pagliari (2013), three mutually reinforcing drivers contributed to the default state of low salience: high level of technical complexity, informational asymmetries and elected politicians' focus on a very small subset of economic and financial affairs comprehensible to the average voter.

[52] Unemployment, inflation, tax and homeownership (in US policymaking) are among the very few economic and financial policy areas that attract attention from the average voters (Lavelle 2013). More recently, trade has become the key economic issue through the lens of employment and national security.

resources. In order for a regulatory change to materialise, it is vital to unite diverse actors into a pro-change coalition through a shared set of ideas on the optimal regulatory policies.

Culpepper's writings on the power of corporate interest groups corroborate Mattli and Woods' insights on high salience as one of the key conditions for a regulatory change. Culpepper claims that business interest groups often fail to exercise their influence over rulemaking processes on issues of high political salience. In contrast, a business level of success is much higher in low salience issue areas, particularly those with a substantial degree of informal governance.

On the other side of the academic debate, an increase in salience is not necessarily related to regulatory stringency. First of all, the level of salience is a fluid concept that is heavily dependent on the 'issue attention cycle', whereas an issue that leaps into prominence inevitably fades from the centre of public attention (Knecht and Weatherford 2006). More structurally, greater issue salience tends to force actors to increase their lobbying efforts (Leech et al. 2005; Bunea and Baumgartner 2014) and seek alliances with other actors. New alliances are not necessarily with similar interest groups, which triggers the collective action problem, or at least an urge for larger concessions to accommodate all groups involved. Consequently, with an increase in the total number of actors, it might be more difficult to exercise influence (Klüver 2012; Grossman and Woll 2013).

The competition-based theoretical account acknowledges that salience can be a contextual factor contributing to constant regulatory supply. For example, during a period of high salience, politicians are more likely to respond to electoral pressures by demanding a higher level of regulatory scrutiny. However, public opinion per se cannot account for the variance in regulatory outcomes when the levels of salience are broadly similar. This is particularly pronounced in the aftermath of the GFC when specific rules during the same regulatory overhaul resulted in significantly different levels of stringency.

3.3.2.4 Complexity

The notion of 'complexity' refers to the level of technical expertise required to engage in formal rulemaking processes. It is important to clarify that technical complexity stands for the degree of technical expertise required to understand and engage in policy consultations rather than possessing knowledge of the procedural nuances of

the rulemaking process. In other words, technical complexity refers to substantive issue area expertise, while organisational or institutional complexity stands for the understanding of the rulemaking process per se.

There are two key sets of arguments that link technical complexity and regulatory weakening: first, resources and, second, information asymmetries. In financial regulatory policies, the key source of influence is control over technical expertise, which can only be achieved if there are sufficient financial resources. However, financial resources per se are not sufficient for developing technical expertise. Steep costs of developing the technical expertise required for mobilisation tend to hinder the influence of those stakeholders who lack the financial and knowledge resources necessary to engage in rule production (Baker 2010; Scholte 2011).

The technical complexity and dynamism of most financial issues mean that the financial firms that are the direct target of regulatory policies often preserve a built-in advantage in terms of knowledge and information in comparison to the other groups (Lall 2015). On the other hand, regulators are incentivised to maintain relationships with regulated firms and their representatives, which in turn allows them to stay informed about market developments and to effectively perform their supervisory responsibilities (Baxter 2011; Mccarty 2011).

Porter (2003) highlights that the key factor explaining the lack of political bargaining in financial regulatory governance is the technical character of rules and institutions governing regulatory processes. The impact of technical complexity on a high level of regulatees' influence is reinforced by Field and Robb's (1990) observations that rulemaking agencies are the most responsive to technical comments for rule modifications. The comments that predominantly focus on challenging the legal basis of proposed rules tend to attract less attention from rule-makers.

Finally, complexity also creates substantial information asymmetries between different interest groups. By increasing the costs of engaging in consultation processes (Ringquist, Worsham and Eisner 2003), strong information asymmetries further reinforce the dominance of traditional interest groups and increase the likelihood of capturing regulatory processes (Laffont and Tirole 1991).

3.3.2.5 Ideational shift

The last alternative explanation is embedded in the constructivist tradition and postulates ideas as the key driver of regulatory stringency.[53] Prior to the GFC, the financial industry gained political power by developing cultural capital embedded in the free-market belief system (Johnson 2009). The free-market system was grounded in three key pillars: first, rational stakeholders or 'homo economicus'; second, the market efficiency hypothesis (Fama 1970)[54] and closely related self-correcting markets; and third, calculable risks based on historic data[55] (Blyth and Matthijs 2017).

As a consequence of such a belief system, there was widespread understanding that markets would self-correct, while governmental or regulatory interventions should be minimal. In the context of financial regulation, the assumptions of market efficiency and rationality led to the rather erroneous conclusion that market participants would penalise a financial institution taking excessive risks through cost of funding or credit premium for its bonds, derivatives and shares on the secondary market.[56]

However, the GFC has been the critical juncture that strongly challenged the previous belief system and triggered the ideational shift (Moschella and Tsingou 2013). The policymakers and regulators started re-examining their belief system,[57] which has consequently led to stronger advocacy for the visible hand of the state.

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[53] The wider constructivist literature discusses the extent to which ideas influence any societal outcomes. For example, Goldstein and Keohane argue that ideas influence policy when the principled or causal beliefs they embody provide roadmaps that increase actors' clarity about goals or end means relationships (1993).

[54] Fama's efficient market hypothesis (EMH) states that at any given time and in a liquid market, security prices fully reflect all available information. Although EMH is usually mentioned in its strong form, Fama acknowledges various degrees of information availability: weak, semi-strong and strong, which addresses the inclusion of non-public information in market prices. The EMH contends that since markets are efficient and current prices reflect all information, it is not possible to outperform the markets. The EMH has been the intellectual underpinning for the broad understanding of self-correcting markets, which will price out any inefficiencies.

[55] For example, the Financial Services Authority (current Financial Conduct Authority) highlighted in the Turner Review that the GFC revealed the limitations of methodologies and techniques used by market participants to infer future risk from historical data. In the language of Nassim Nicholas Taleb, 'black swans' – very rare and unpredictable events with extreme impact – were often ignored from risk assessments.

[56] The cost of funding is a short-term indication of a borrower's ability to repay any funds provided by another financial institution or the central bank. The medium-term creditworthiness of any financial institution is best reflected in its spread on a credit default swap (CDS). The CDS market started developing in the 1990s and, until the GFC, there was sufficient liquidity for single-name CDSs for all financial institutions.

[57] A good illustration of the shift in the policymaking domain is former French President Nicolas Sarkozy's quote from 2008: 'Self-regulation as a way of solving all problems is finished. Laissez-faire is finished. The all-powerful market that always knows best is finished.'

According to Baker (2010, 2012), the most pronounced ideational change has been the broad macroprudential consensus. The macroprudential regulatory system is a top-down approach to regulation that seeks to maintain financial stability through countercyclical interventions by directly influencing the commercial activities of private institutions with the aim of restraining asset price shocks.

The ideational shift in policy discourse is overemphasised, or at least faces some significant limitations. It is not clear how the ideas materialise and the extent to which regulatory outcomes have been a by-product of the ideational change rather than other pressures (i.e. salience and public opinion). More importantly, the strength and scope of the ideational consensus in the aftermath of the GFC are more debatable. Even before the GFC, the regulatory paradigm of the self-correcting markets was contested by academics and some regulators (Pagliari 2013).

In the context of competition-based theoretical proposition, a successful, public-interest regulatory change is certainly more likely when new ideas support such reforms. However, ideational change is only one of the elements that drive the regulatory supply, while the conditions under which private interests prevail can hardly be understood by just relying on the constructivist account. Thus, the constructivist account can provide more insights into the regulatory supply (i.e. when regulators might attempt to push for more stringent rules), but it can hardly provide a sufficiently sophisticated explanation for the observable variation in the outcomes of regulatory stringency.

3.4 Conclusion

This chapter served as an important transition into the empirical chapters by achieving three interrelated goals. The first part of the chapter provided justification for focusing on securities markets in light of the GFC and rapidly changing financial landscape. Furthermore, it identified how focusing on securities markets can contribute to the empirical IPE literature, which has made limited progress in understanding the most recent developments in the broader capital markets.

Building on the substantive issues of securities markets, the second section linked the key underlying assumptions from the competition-based theoretical framework (Chapter 2) with the main characteristics of securities markets. More specifically, the theoretical assumption of boundedly rational stakeholders resonates strongly with the volatile and uncertain market conditions in which both regulatees and

regulators operate. Furthermore, the assumption of regulatees' interest in reducing net regulatory burden is linked to the historical legacy of weak or absent rules in securities markets. In other words, securities markets have escaped meaningful regulatory scrutiny for decades, which serves as an additional explanation for regulatees' anti-regulatory preferences alongside the main agenda of profit maximisation. Lastly, regulators decisions in prioritising reputational risks were discussed in light of thin market conditions, whereby regulators have to rely on industry inputs in order to overcome their occasional lack of knowledge.

The thin market conditions of securities markets further reinforce the importance of the formal consultation procedures, also known as the rule production phase, whereby regulators invite regulatees to offer proprietary information and expertise. Although I provided justification for the primary focus on the rule production phase as the central stage for determining the extent of regulatory stringency, the other two phases – agenda setting and compliance – also deserve careful attention. Thus, the following chapters will discuss in more detail how the quantitative study analyses the production phase, while the case studies capture regulatory dynamics across the entire regulatory cycle (agenda-setting, production and compliance phases, respectively).

Finally, I discussed the explanatory power of five alternative accounts centred around: first, number of mobilised interest groups (Gray and Lowery 1996; Rasmussen, Carroll, and Lowery 2014); second, stakeholder market power (Peltzman 1976; Bouwen 2002); third, technical complexity (Porter 2014); fourth, salience (Culpepper 2011; Culpepper and Reinke 2014; Woll 2014); and fifth, ideational change in the regulatory community (Baker 2010, 2012; Moschella and Tsingou 2013). The extent of explanatory power of the five alternative explanations will be directly tested in empirical chapters 5, 6 and 7.

Chapter 4 – Research design

Summary

This chapter justifies the research design through three interlinked steps. As per Figure 4.1, the first part introduces the key empirical research endeavours: large N study and follow-up qualitative case studies. By discussing epistemological and methodological benefits (and drawbacks) of mixed methods, the second part makes a compelling case for combining quantitative and qualitative insights. The key mixed-method complementarities in the context of this research are triangulation, completeness, and enhancement and credibility. The third part highlights some key considerations in combining qualitative and quantitative insights, most notably measurement validity and reliability (coder's bias) and external validity (sampling procedure) for the quantitative component, and internal reliability (researcher's bias) and external validity (representativeness of the case selection and interviews – sampling bias) for the qualitative component. Finally, the last section concludes.

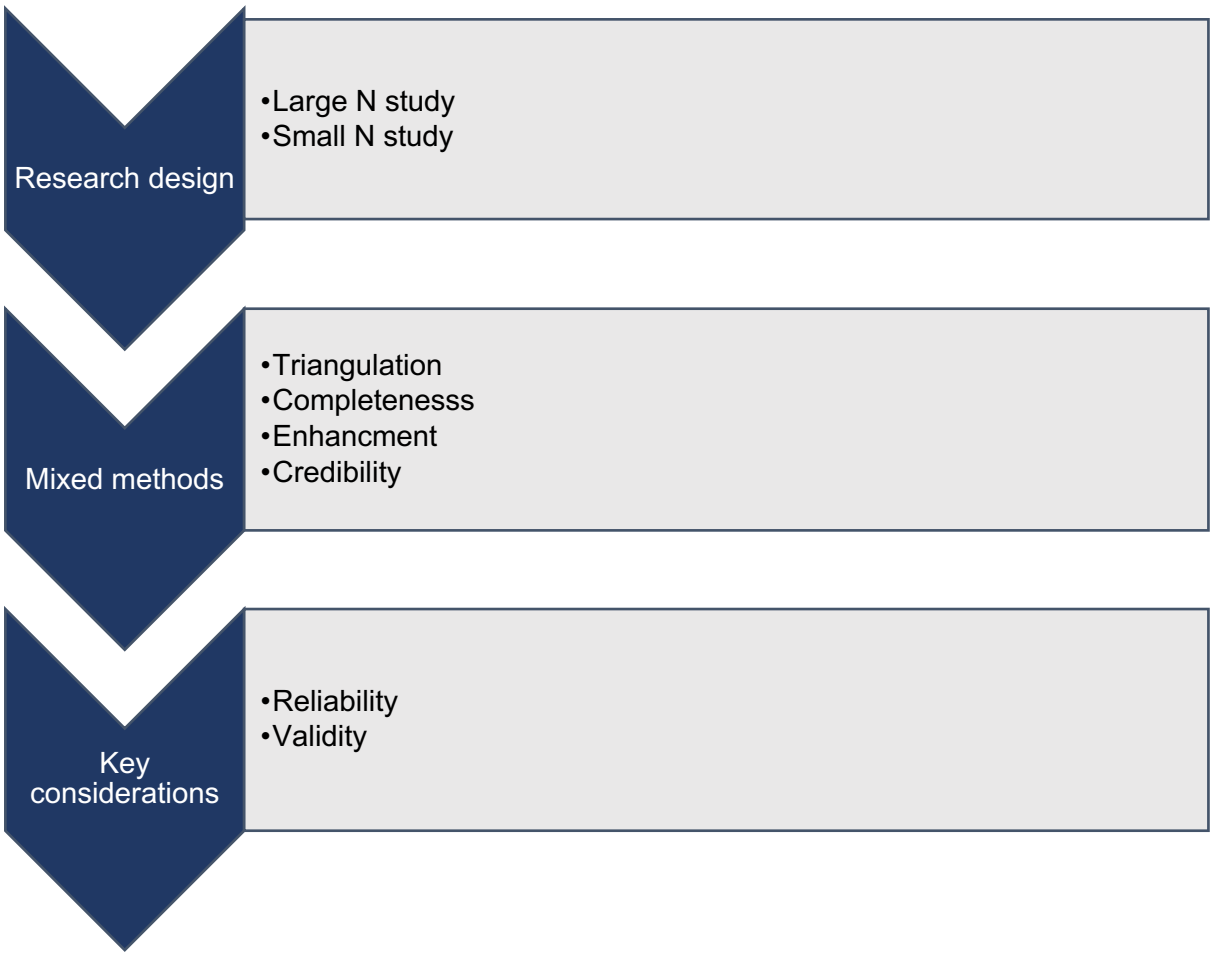

Figure 4.1: Three key steps in developing the research design

4.1 Research design in a nutshell

Identifying and measuring influence of interest groups is a tricky endeavour (de Figueiredo and Richter 2014; Eising 2016).[58] Dür (2008) discusses three methods to study interest group influence: through process tracing in case studies that delineate the scope conditions of their findings; through general dichotomous or ordinal scales that measure influence across different rulemaking agencies and issues in large N analyses; and through the comparative statistics of spatial modelling to identify the extent of the actors' preference attainment.

Considering the limitations of all three approaches, this research is based on a mixed-methods approach (Tashakkori and Teddlie 2003; Lewis-Beck, Bryman and Futing Liao 2004; Lieberman 2005; Bryman 2007, 2016). Mixed methods can be defined as:

> research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry.
>
> (Tashakkori and Creswell 2007)

While acknowledging the importance of traditional quantitative and qualitative research, this methodological approach offers a powerful third paradigm choice that has the capacity to offer the most holistic, balanced and policy-relevant research outcomes (Johnson, Onwuegbuzie and Turner 2007).

More specifically, the main large N study is combined with the small N analyses of the MiFID II cases through process tracing (George and Bennett 2005; Collier 2011b). As seen in Figure 4.2, while quantitative work is solely focused on the production phase, the case studies tackle the challenge of assessing influence

[58] The existing literature identifies two conceptual challenges with identifying and measuring influence. First, one should not derive the presence of influence from post hoc correlations (Hacker and Pierson 2002). In other words, rather than misinterpreting the overlap of regulatees' interests and rulemaking outcomes as evidence of regulatees' influence, it is necessary to find evidence that a given policy outcome is the result of regulatees' activities. In the context of this research, such a drawback is rectified by focusing on regulatory stringency as the dependent variable (see Section 2.1), while the case studies establish causality through process tracing. Second, in line with the discussion on the agenda-setting phase of rulemaking, there is a possible drawback of overlooking regulatees' influence in eliminating issues from the agenda. If regulatees exercise their influence and regulators decide to eliminate a specific issue from the agenda, the researcher might systematically underestimate interest group influence because there will be no actual decisions to observe (Lowery 2013).

throughout the entire regulatory process by additionally focusing on the agenda-setting and compliance phases, respectively.

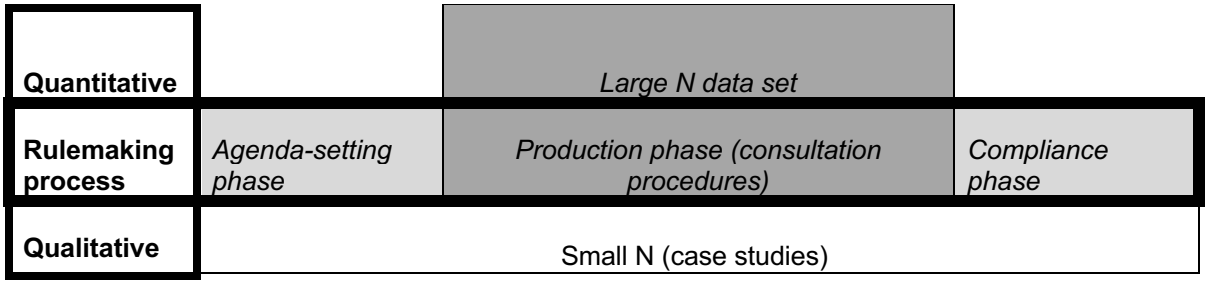

Figure 4.2: Schematic overview of the research design

4.2 Combining quantitative and qualitative insights

4.2.1 Mixed methods in theory – the pragmatic approach

At the time of writing, current scholarship is still highly influenced by Kuhn-inspired 'paradigm wars' (Creswell and Plano Clark 2017) between quantitative and qualitative research. However, the more recent methodological and empirical literature has been paving a third way through mixed methods, which is grounded in the complementary nature of quantitative and qualitative methods (Morgan 1998; Tashakkori and Teddlie 2003; Bryman 2006; Bryman 2007; Creswell and Plano Clark 2017).

The purpose of bringing quantitative and qualitative findings together is to produce more insightful findings which would not be achievable otherwise (Bryman 2007). However, theorists and researchers engaging in mixed-methods research design have to maintain a strangely schizophrenic position towards the division of labour between quantitative and qualitative methods (Bergman 2008). On the one hand, they must accept and emphasise the divergent qualities attributed to each paradigm, which seem incompatible. On the other hand, they put forward the proposal that the strength of each paradigm can be combined fruitfully within one single research design.

In order to justify the mixed-methods approach in addressing the research question, I will adopt Bryman's (2016) methodological lens of detailed analysis of technical and philosophical aspects of both methods. At the technical level, it is certainly a much easier task to dismiss the generally accepted separation of: first, the quantitative versus qualitative paradigm in terms of sample size; second, inductive versus deductive approaches; or third, hypothesis testing versus hypothesis generating. Bergman (2008) lists extensively a whole variety of empirical projects that

support his call to reject the sharp cut-off between the two paradigms. Further support for this position comes from all scholars who employ process tracing interpretative analysis (George and Bennett 2005). Process tracing is a rigorous qualitative method of theory testing that is usually considered to be within the domain of quantitative methodology.

Furthermore, according to Tashakkori and Teddlie (2003), the two paradigms can be combined especially on techniques of sampling, data collection, data analysis and triangulation. Morgan's (1998) sequential design is also embedded in understanding that both paradigms can supplement for respective weaknesses by intentionally combining them in order to answer research questions that the non-mixed methodologies would fail to do.

However, the challenge arises at the point of merging or reconciling philosophical underpinnings of quantitative and qualitative paradigms. Typically, scholars who emphasise epistemological and ontological issues have depicted quantitative and qualitative research as being based on incompatible principles, thus preventing researchers from combining them.

More recently, the commitment to pragmatism (Peirce 1965) has become a way of rationalising the conjoint use of quantitative and qualitative research while simultaneously recognising that there have been debates about their supposed philosophical incompatibility. Pragmatism is taken to advocate the pre-eminence of technical decisions about the appropriate use of different methods over philosophical underpinnings (Bryman 2008). Maxcy suggests that pragmatism seems to have 'emerged as both a method of inquiry and a device for the settling of battles between research purists and more practical-minded scientists' (2003: 79).[59]

Even when pragmatism is not explicitly mentioned, its broad principles can be detected in the view that the two paradigms can be reconciled because both are fundamentally interested in identifying social phenomena of interest (Haase and Myers

[59] However, at this point, it is worth mentioning that not all advocates of mixed methods would necessarily agree on the pragmatic approach as the most suitable one. Bergman (2008) develops an interesting account, which is based around the idea of reconceptualising the existing 'myths' as a way of rethinking the division between quantitative and qualitative methods. He claims that the only clear statement that can be made about the distinction between qualitative and quantitative methods is that quantitative methods somehow relate to statistical analyses, while qualitative methods do not. However, one example of quantitative research based on an automatic rejection of single reality or a large N qualitative research cannot be sufficient for his overambitious conclusion. However, Bergman's writings clearly highlight that further academic endeavours are welcome in the field of philosophical understanding of mixed methods.

1988). Furthermore, the compatibility of the two paradigms arises from a perception that they share the shortcomings of knowledge (Sale, Lohfeld and Brazil 2002), which implicitly accepts the weakness of both qualitative and quantitative methodologies. According to Erzberger and Kelle (2003), the selection of adequate methods should not be made mainly on sympathies towards a certain methodological camp, but rather that the methods are tools for the answering of research questions and not vice versa.

4.2.2 Mixed methods in practice – complementary insights

In line with Erzberger and Kelle's reasoning, this research adopts the mixed-methods approach following Morgan's (1998) sequential design, which entails a two-phase process: large N study and follow-up small N study.

As per Table 4.1, the large N study (quantitative) is based on a new data set for ESMA, which spans 13 years of rulemaking (2004–2016) with 200 rules and 7,873 individual submissions to the regulator (ESMA). The new data set is evaluated through ordinal logit regression and social network analyses. The small N study (qualitative) examines three non-random cases from the large regulatory reform MiFID II through process tracing.

	Quantitative	**Qualitative**
Epistemology/approach	Positivist/deductive	
Empirical contribution	New large N data set for ESMA (2004–2016) with 7,873 comment submissions and 200 rules	Small N study on MiFID II (three case studies: 'research inducement', non-equity transparency thresholds and dark trading)
Method	Regression (ordinal logit) and social network analyses	Process tracing with data obtained through interviews (semi-structured) and primary sources (content analyses)
Unit of analyses	Consultation procedure (rule)	Regulatory issue area
Sampling	Random sampling from 200 final rules	Purposive sampling of non-random cases from eight regulatory issue areas (most similar system design)

Rulemaking phase studied	Production phase (i.e. official consultations)	Agenda-setting, production and compliance phases
Key benefits	Generalisability Structured analyses	Causal mechanisms Richer data
Key complementarities	*Triangulation 1) verifying quantitative and qualitative findings 2) putting the theoretical proposition to two tests *Completeness 1) focusing on the entire rulemaking process 2) broadening and deepening the units of analyses 3) generalising and providing causal explanation *Enhancement 1) quantitative data set used for qualitative interview sampling 2) qualitative used for concept and measurement developments, as well as justifying key assumptions *Credibility of findings	
Key methodological considerations	Measurement validity and reliability (coder's bias) External validity (sampling procedure)	Internal reliability (researcher's bias) External validity (representativeness of the case selection and interviews – sampling bias)

Table 4.1: Key features of the research components and the extent of their complementarities

There are three sets of interrelated complementarities between the quantitative and qualitative part of the research: first, triangulation[60]; second, completeness and enhancement; and third, credibility.

First, triangulation refers to the view that quantitative and qualitative research can be combined to triangulate findings in order that they may be mutually corroborated. In the context of the thesis, the theoretical proposition is put to the deductive test in both quantitative and qualitative components. The large N study

[60] Triangulation entails using more than one method or source of data in the study of social phenomena. The term has been employed somewhat more broadly by Bylund and Denzin (1972) and Denzin(2012) to refer to an approach that uses multiple observers, theoretical perspectives, sources of data, and methodologies. The process of triangulation was originally conceptualised by Webb (1966) as an approach to the development of quantitative measures of concepts, whereby more than one method would be employed in the development of measures, resulting in greater confidence in findings. As such, triangulation was very much associated with a quantitative research strategy. When it comes to this research, triangulation is discussed in three contexts: first, triangulation between quantitative and qualitative methods (directly related to this subsection); and second, triangulation in quantitative research for development of measurements (discussed in the next subsection and quantitative chapter); and third, triangulation between different sources of data for qualitative analyses (discussed in more detail in the next subsection and qualitative chapter).

develops and analyses a new data set, which ultimately contributes to generalisability of findings.

The small N study is also embedded in the positivist logic through process tracing, but the key contribution of case studies is to disentangle causes and effects. More specifically, the case studies are concerned with observations of the causal process and specific elements of the outcomes. Observations of the causal process include regulatees' preference formation, 'common agency' interactions and substantive changes in regulatory stringency. The case studies are not intended to explain frequency of regulatory strengthening or weakening (which can be achieved through descriptive statistics of the large N study), but rather to specify the conditions and mechanisms under which particular outcomes occur.[61]

Second, 'completeness' refers to the notion that the researcher can bring together a more comprehensive account of the issue area by employing both quantitative and qualitative methods. For example, quantitative data are often depicted as 'hard' in the sense of being robust and unambiguous, owing to the precision offered by measurement. In contrast, qualitative research offers much richer data with contextual nuances, which are particularly relevant for understanding and testing causal mechanisms. Furthermore, quantitative research is typically highly structured, which entails defining and measuring the precise concepts and issues that are the focus of the study, while in qualitative research the approach is invariably less structured, which opens up opportunities for gaining additional information about concepts and alternative explanations emerging out of data collection.

Both quantitative and qualitative research have their own strengths and weaknesses, so combining them allows the researcher to offset their weaknesses to draw on the strengths of both. Furthermore, in addition to achieving a higher level of completeness, mixed methods can offer significant enhancements by augmenting either quantitative or qualitative findings by gathering data using a qualitative or quantitative research approach. In the context of this thesis, there are two key benefits of mixed methods for completeness: first, covering the entire rulemaking process (agenda-setting, production and compliance phases), and complementing different units of analyses in large N and small N studies, respectively.

[61] The case study approach is particularly suitable for such an inquiry (George and Bennett 2005).

While quantitative work is solely focused on the production phase, the case studies tackle the challenge of assessing influence throughout the entire regulatory process by additionally focusing on the agenda-setting and compliance phases. In methodological parlance, focusing on the production phase of the rulemaking process might underestimate the importance of regulatory dynamics prior to and after the official consultation procedures. The case studies overcome the omitted variable bias by focusing on the entire regulatory process.

When it comes to the units of analyses, large N study data set construction follows the academic practice of the consultation-specific approach (Yackee 2006; Baerg and Hallerberg 2016), while case studies adopt the issue-specific approach. In other words, the large N study captures the regulatory stringency in a specific consultation procedure, while the small N study widens the lens by focusing on a specific issue which might span multiple consultation procedures and longer periods of time. Furthermore, the large N study focuses on consultation procedures led by the regulator (ESMA in this instance), while the small N study accounts for all four stages of the Lamfalussy process.[62]

Put differently, the large N study contributes with breadth of consultations, which allows for a higher level of generalisability, while the small N study complements the findings with depth achieved through narrowing the focus on the key substantive issues while paying attention to causal mechanisms.

The key complementarities achieved through triangulation, completeness and enhancement are directly related to the third benefit of combining quantitative and qualitative insights – increased credibility of research findings. In other words, employing both quantitative and qualitative approaches enhances the integrity of findings.

[62] The implications of the Lamfalussy process are discussed in more detail in the Qualitative section (MiFID II in a nutshell – why does it matter?). That said, the Lamfalussy process is a four-stage regulatory process of promulgating financial regulation in the EU. At Level 1, the European Parliament and Council adopt the basic laws proposed by the Commission, in the traditional co-decision procedure. As this procedure is usually complex and time-consuming, the Lamfalussy report recommends using it only for setting out framework principles. At Level 2, the Commission can adopt, adapt and update technical implementing measures with the help of consultative bodies composed mainly of EU countries' representatives. This allows the Council and Parliament to focus on the key political decisions, while technical implementing details can be worked out afterwards by the Commission. At Level 3, committees of national supervisors are responsible for advising the Commission in the adoption of level 1 and 2 acts and for issuing guidelines on the implementation of the rules. At Level 4, the report advocates a stronger role for the Commission in ensuring the correct enforcement of EU rules by national governments.

4.3 Key considerations

Although there are multiple complementarities of mixed methods, the main methodological considerations – reliability and validity – still require careful attention.[63] In short, reliability is concerned with the question of whether the results of a study are repeatable (i.e. consistency of concept/variable measurements). Validity is concerned with the integrity of the conclusions that are generated from research (Bryman 2008), while measurement validity – the extent to which measurements truly capture concepts of interest – is often used interchangeably with the broader concept of validity. It is important to acknowledge another three facets of validity: internal, external and ecological validity.[64] In the context of this research, the primary focus is on measurement and external validity (generalisability).

The reliability considerations are particularly pronounced in quantitative research regarding consistency of the measures for concepts or variables of interest (i.e. rule change stringency, heterogeneity of regulatory preferences, salience or technical complexity). Reliability is usually analysed across two subcategories: consistency across time (stability) and across researchers (inter-coder consistency).

In the context of the large N study, stability is not an issue as the measure is stable over time given a relatively short time frame when all rules and consultations were coded, i.e. during 2018. Similar studies that rely on coding of legal documents and consultation procedures can have the challenge of inter-observer consistency: when there is subjective judgement involved in coding data and more than one coder is involved in such activities, there is always the possibility of inconsistency in their coding decisions. In the context of this thesis, there is no danger of inter-coder

[63] Reliability and validity are criteria for research quality primarily adopted by quantitative researchers; however, slightly adapted concepts hold currency for qualitative research as well. For example, (Mason 1996, 2018) argues that reliability, measurement validity and generalisability (as the main component of external validity) are different kinds of measures of the quality, rigour and wider potential of research, which are achieved according to certain methodological and disciplinary conventions and principles. In other words, Mason suggests that validity and reliability can be applied in both contexts with minimal adaptation. LeCompte and Goetz (1982) and Kirk and Miller (1986) also write about reliability and validity in relation to qualitative research but invest the terms with a somewhat different meaning than Mason. According to their classification, external reliability stands for the extent of replicability, while internal reliability is akin to inter-coder consistency (i.e. the extent to which more coders or observers agree on what they observe). Internal validity stands for the extent to which theory and empirical observations resonate, while external validity refers to the degree to which findings can be generalised across social settings.

[64] Internal validity relates mainly to the issue of causality: whether a conclusion that incorporates a causal relationship between two or more variables holds water. External validity is concerned with the question of whether the results of a study can be generalized beyond the specific research context. Ecological validity is concerned with the question of whether social scientific findings are applicable to people's natural social settings.

inconsistency as all consultations were coded by the author. However, the largest reliability challenge could be the possibility of coder's bias, which is to some extent mitigated through very clear coding guidance and additional inter-coder reliability checks.

Another major consideration for the large N study is validity of measurements. All concepts and relevant measurements are discussed at length in the quantitative section where I also specify all variables (dependent, independent and control). However, in the context of mixed-methods methodology, it is interesting to highlight that control variables or alternative explanations of salience and technical complexity are operationalised in the same way for both large N and small N studies.

For example, the salience control variable is operationalised by measuring levels of average attention given to the specific issue in the LexisNexis database that covers major financial media outlets (*Financial Times* and *New York Times*) and financial regulation specialised publications (*The Banker*, *American Banker* and *International Banker*). The frequency statistics were then manually translated into a modified five-point scale, which relies on Gormley's (1986) categorisation of issue salience. While the salience measurement was used as a control variable in the ordinal logit model, in the small N study it was used in the case selection process for the most similar system design selection technique[65] (Seawright and Gerring 2008).

When it comes to methodological considerations for the qualitative part of the research, the two most pronounced challenges have been: first, external validity in the context of representativeness of the case selection and interviews (i.e. tackling the sampling bias) and, second, internal reliability (i.e. avoiding the researcher's bias). Regarding the external validity (generalisability of findings), the quantitative study is representative and generalisable due to random sampling[66] of the entire set of consultation procedures.

[65] According to Seawright and Gerring (2008), the case selection techniques show how case-selection procedures rest, at least implicitly, upon an analysis of a larger population of potential cases. The case identified for intensive study is chosen from a population and the reasons for this choice hinge upon the way in which it is situated within that population.

[66] Probability or random sampling is a mechanism for reducing bias in the selection of samples (i.e. each unit of the population has an equal probability of inclusion in the sample), which is directly related to external validity of results (i.e. ability to generalise results beyond the same itself to the wider population of cases). Eliminating the sampling error is a necessary, but not a sufficient condition for external validity as other errors might occur during the research process, such as sampling-related, data-collection, or data-processing errors.

While random sampling is central to most statistical studies, including the large N study of the thesis, there is a predominant view that random selection will often result in serious biases in small N research. Therefore, the small N analysis requires a purposive, theory-guided selection of non-random cases (Gerring 2008; Collier 2011a). The goal of purposive sampling is to sample cases/participants in a strategic way so that those sampled are relevant to the research questions that are being posed. Furthermore, random sampling is inappropriate for two main reasons: first, it is likely to be unrepresentative and, second, randomly choosing cases is unlikely to result in the full range of values for independent and dependent variables. Thus, in order to isolate a sample of cases that both reproduces the relevant causal features of a larger universe (representativeness) and provides variation along the dimensions of theoretical interest (causal leverage), a case selection for very small samples must employ purposive (non-random) selection procedures (Gerring 2008).

Although purposive sampling is justifiable for the case selection in the small N study, the external validity of the case studies has been augmented through a carefully designed interview selection process. Rather than just relying on snowball (Bryman 2016) and purposive (Kidder, Judd and Smith 1986) interview sampling methods, the informants were selected based on the large N study ranking of the top 50 most active stakeholders in European consultation procedures across 13 years of the rulemaking process.

Based on the list obtained from the large N descriptive statistics, I identified two most relevant representatives from each stakeholder (institution)[67] and emailed them twice to invite them to participate in interviews. In addition to the structural sampling procedure, I also gathered information from participants who do not formally submit consultation procedures – such as national regulators, policymakers and journalists – who were contacted based on their level of engagement in securities market regulation. In total, 24 informants from London, Brussels, Berlin and Washington participated in the research. In addition, I organised 15 off-the-record conversations with practitioners, who insisted on speaking under conditions of both total anonymity

[67] The most relevant stakeholders are senior executives or research officials, whose main activities are directly related to regulatory affairs and/or public policy, which equipped them with substantive knowledge of granular regulatory reforms. The full list of informants is available in the Appendix after Chapter 6.

and confidentiality, so their names, titles or possible quotes are not included in the thesis.

The second important methodological consideration for the qualitative component is internal reliability[68] (i.e. avoiding the researcher's bias) in collecting, interpreting and analysing data. The challenge of internal reliability has been mitigated through triangulation of different sources for qualitative analyses in combination with increased attention paid to self-reflexivity as a researcher.[69]

In order to corroborate information, I draw on a wealth of empirical sources: first, the official statistics gathered through the Bloomberg Professional terminal and Reuters Eikon platform, which collect raw data from regulatory agencies, central banks, trading venues and exchanges in addition to their proprietary statistics; second, semi-structured interviews and off-the-record conversations as background information; third, secondary sources such as official consultation submissions, white papers as well as press articles from specialised media.[70]

4.4 Conclusion

This chapter discussed key methodological considerations for the thesis as a whole. While the following empirical chapters will have dedicated subsections containing additional details on both the large N study and case studies, respectively, the goal of this chapter was to justify mixed methods as the optimal methodological choice.

The first part of the chapter provided a snapshot of the research components based on Morgan's sequential design. The second part focused on mixed methods in theory and practice. The brief discussion on epistemological and ontological considerations in adopting mixed methods served as a segue into discussion on the key mixed-method complementarities: triangulation, completeness and enhancement, and credibility. The third part highlighted some key considerations in combining qualitative and quantitative insights, most notably measurement validity and reliability

[68] In the context of qualitative research, internal reliability can also be understood as if multiple researchers from the same team agree about their observations. This is a similar to the notion of inter-observer consistency.

[69] Reflexivity has multiple meanings in social science, but from the positivist perspective social researchers should be reflective about the implications of their methods, values, biases and decisions for the knowledge of the social world they generate (Bryman 2016).

[70] Specialised publications include Bloomberg, Reuters, Risk.net, TabbFORUM, *The Banker*, the *American Banker*, the *International Banker*, as well more popular dailies *Financial Times*, *Wall Street Journal*, and *New York Times*.

(coder's bias) and external validity (sampling procedure) for the quantitative component, and internal reliability (researcher's bias) and external validity (representativeness of the case selection and interviews – sampling bias) for the qualitative component.

Chapter 5 – Quantitative analyses

Summary

This chapter puts the theoretical proposition to the first empirical test. The quantitative analyses are based on a new data set of ESMA rulemaking for the 13-year study period 2004–2016. The empirical analyses are broadly split into two endeavours: first, descriptive statistics and network insights and, second, the main econometric analyses of seven ordinal logit models.

There are three most relevant insights from descriptive statistics and network analyses: (1) stakeholders from the core financial subcategory (exchanges and trading systems, banks, core industry associations, asset managers and credit rating agencies) most often mobilise in the ESMA consultation procedures; (2) there is significant heterogeneity of financial stakeholders in the regulatory arena, rather than a unified group that could go under the umbrella of Big Finance; and (3) the level of heterogeneity of stakeholders and network density has only increased post the GFC.

The main quantitative empirical findings from regression analyses lead to three major conclusions. First, regulatory agencies are responsive to interest group influence and alter the stringency of rules accordingly. Second, the ordinal logit models reveal a robust and statistically significant effect for COMPETITION and FINANCE COMPETITION with RULE CHANGE STRINGENCY[71]. Third, the level of competitive dynamics among financial stakeholders holds the most explanatory power, which suggests that regulators' decisions – both rule weakening and strengthening – are most influenced by the competitive dynamics in the markets by the industry stakeholders.

As per Figure 5.1, the first part of the chapter will discuss the novel data set, introduce key variables and justify ordinal logit as the most suitable econometric method. The second part will focus on two main endeavours: first, visualising the macro network of all stakeholders who mobilised in the ESMA consultation procedures during the study period and, second, measuring heterogeneity of stakeholders with appropriate heatmap visualisation. The third part discusses regression results and

[71] Quantitative variables are fully capitalised, while the analogous theoretical concepts are denoted in lower case as per previous Chapters.

offers preliminary remarks on prospective contributions of the quantitative analyses for the IPE of finance literature.

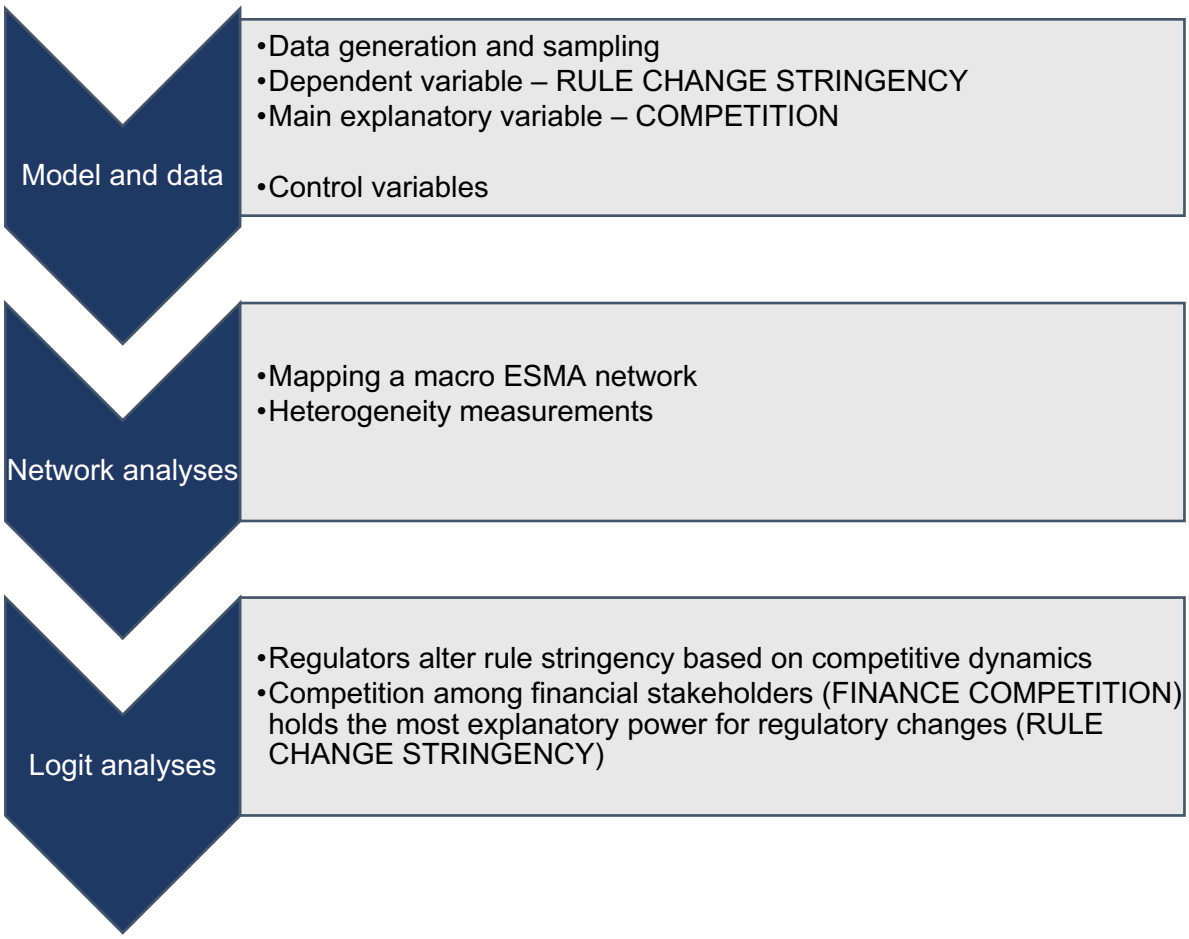

Figure 5.1: Three key steps of the quantitative analyses in Chapter 5

5.1 Data and econometric model

5.1.1 Data generation and sampling

The thesis develops a new data set on securities markets regulation, which captures 13 years of regulatory consultation procedures conducted by ESMA and its institutional predecessor, the Committee of European Securities Regulators (CESR).[72] As per Table 5.1, the novel data set is derived from the corpus of 200 total final rules and 7,873 individual comment submissions to ESMA/CESR between 2004 and 2016).[73]

[72] The Committee of European Securities Regulators (CESR) was an independent committee of European Securities regulators in the Lamfalussy process established by the European Commission in June 2001. The CESR was replaced by ESMA in January 2011 in an attempt to create the European System of Financial Supervision.

[73] The first step in the process of coding data was to gather the entire corpus of consultations, comments, and final rules. Thus, all consultation requests were found in the online consultation repository https://www.esma.europa.eu/press-news/consultations), while final rules were matched by

The initial classification process covered 257 open consultations, which resulted in 200 final rules with only 30 of them not having a single comment. In total, 7,873 comments were classified, which is on average 46 comments per final rule with at least one comment. There were no outliers in terms of an excessively large number of comments, so no final rules were excluded from the initial sample. The maximum number of comments received for an ESMA open consultation was 251.

In addition, two caveats are warranted regarding the time scope of the data set. First, although CESR was established in 2001, the data for 2002 and 2003 seems inadequate as it appears that a substantial number of comments are missing, so the sample captures consultation requests from 2004 onwards. Second, a substantial number of rule proposals from 2017 and 2018 have not yet been promulgated into final rules. In order to avoid selection bias, therefore, the data set terminates with consultation requests initiated in 2016.

Regulatory item	**Number**
Total number of final rules	200
Total number of consultation requests	257
Total number of rules with comments	170
Total number of comments	7,873
Average number of comments per rule with comments	46

Table 5.1: Descriptive statistics of the raw data set

Given the large volume of the primary data, it was necessary to apply random sampling for the dependent variable (RULE CHANGE STRINGENCY) and relevant comments. I used the computerised random generator http://psychicscience.org/random.aspx (accessed January 2018), which is a much neater and quicker way to generate random numbers in comparison to the traditional (manual) processes (Eurostat 2015; Bryman 2016). The random sampling resulted in

searching for relevance in the main search engine (https://www.esma.europa.eu). Compared to the SEC online archive -- which offers a very clear and systematic overview of proposed rules (https://www.sec.gov/rules/proposed.shtml) and final rules (https://www.sec.gov/rules/final.shtml) – ESMA's consultation archive requires some manual mapping of consultations. All consultation requests, final rules and comments were individually classified according to the following scheme:
1) consultation request (CODE TEMPLATE: C-CP01/20xx)
2) comments on consultation paper (CODE TEMPLATE: C-C01/20xx)
3) final rule (CODE TEMPLATE: C-FR01/20xx).

50 final rules and 1,369 individual comments that were manually coded (see Appendix Table 5A.6 for the list of individual rules).

5.1.2 Dependent variable – RULE CHANGE STRINGENCY

To address the main challenge of the research – understanding the real influence of interest groups in financial rulemaking processes and the specific conditions under which private interests might prevail – it is important to clearly specify measurements of the key variables.

The dependent variable of RULE CHANGE STRINGENCY is measured on a three-point stringency scale that assesses the direction of change in the policy output between the proposed rule and its final promulgation. The coding process evaluates substantial changes in direction of the final rule in comparison to its initial proposal. Thus, 1 stands for weaker final rule in comparison to its initial proposal (i.e. watering down of the initial rule proposal); 2 denotes the status quo (i.e. no change in the level of stringency of the final rule, which reflects the initial proposal); while 3 stands for stronger final rule (i.e. increased regulatory burden in comparison to the initial rule proposal).

In addition to the main coding activity of establishing direction of change at the three-point stringency scale, the coding procedure also measured intensity of a regulatory change (i.e. complete overhaul or relative increase/decrease in the level of stringency). Thus, there is an analogous five-point scale of regulatory stringency, whereby 1 and 2 denote weaker rules, 3 stands for status quo, while 4 and 5 denote stronger rules. However, given the methodologically complex nature of coding rules, the majority of analysis is based upon the three-point scale of the dependent variable, which is also the established practice in the relevant literature (Yackee and Yackee 2006; Chalmers 2015; Pagliari and Young 2016).

5.1.3. Main explanatory variable – COMPETITION

The main explanatory variable COMPETITION was operationalised in three steps. The first step: using a detailed codebook,[74] every comment submission was

[74]Although handcoding of consultation procedures is not a novel methodological endeavour, it was necessary to develop a very detailed codebook. The first draft of the codebook was tested on five consultation procedures, which were chosen after the random sampling process. The test procedures were coded by three coders in order to verify the extent of reliability of the codebook. Consequently, the codebook was adjusted in order to provide more clarity and remove any possible ambiguity when it comes to quantifying individual comments and consultation procedures.

handcoded in order to quantify regulatory preferences of interest groups who mobilised on a specific consultation request. The five-point stringency scale of direction and magnitude was used in quantifying comment submissions. The five-point scale was better suited to the nature and length of comment submissions, which tend to be significantly shorter than ESMA's rule proposals and final rules, while interest groups are more explicit in their demands. Thus, 1 and 2 stand for deregulatory preferences (i.e. weaker rules), 3 supports the initial proposal and 4 and 5 advocate in favour of more stringent rules.[75]

The second step: the COMPETITION variable captures the direction and magnitude of all comments submitted for a specific rule. More specifically, I measured heterogeneity of preferences as an indication of competition among stakeholders. The calculation process of the COMPETITION variables sums up the individual scores of all comments for a specific rule proposal divided by the total number of comments. If stakeholders have homogeneous preferences for less regulatory burden (i.e. a majority of comments scored as 1 or 2), then lower competition scores will lead to weaker rules (unified opposition from interest groups who are assumed to want less regulation). The rationale is that private stakeholders generally hold anti-regulatory preferences and, where there is broad anti-regulatory unity among them, it would lead to watered-down rules. On the other hand, heterogeneous preferences emerge when some interest groups want more and other less regulation (i.e. mix of scores from 1 to 5), which leads to the higher competition score and ultimately stronger rules[76].

Why is it justifiable to expect that the default position should be anti-regulatory?

As previously discussed, the thesis does not suggest that regulatees always support weaker rules (Woll 2013; Pagliari and Young 2015). The regulatees' assessment of costs can be either absolute or relative. In the context of financial regulation, preferences grounded in absolute costs are more conducive to anti-regulatory comments. Alternatively, preferences grounded in relative costs can be either anti-regulatory or pro-regulatory contingent on other stakeholders. Relative cost

[75] There were instances when it was not possible to determine regulatory preferences with certainty. Such comments were marked with 0 and accordingly excluded from the aggregation of the COMPETITION variables.

[76] As discussed in Chapters 2 and 3, the thesis is primarily concerned with the demand side of regulatory changes and the extent to which regulatees can shape the rules once regulators want to make them more stringent. If there is no regulatory supply from regulators, then regulators themselves will weaken the rules or the status quo will prevail.

assessments directly imply that regulatees will attempt to capitalise on regulatory changes at the expense of other regulatees. This in turn leads to competition in the market (some regulatees pushing for more rules, while other advocating for more lenient regulation).

In other words, regulatees either prefer regulatory watering down (i.e. unified opposition) or capitalising on regulatory changes through developing competitive advantages. The idea of competitive advantage implies that some firms will be better off, while others worse off, which is conducive to competing regulatory preferences. It is very hard to imagine that the entire industry advocates in favour of more burdensome (and costlier) rules for everyone.

Furthermore, the empirical evidence suggests that a homogeneous push for more stringent rules is very uncommon in the area of financial regulation, particularly securities markets. The anti-regulatory sentiment among regulatees has been particularly pronounced given the historical legacy of weak or absent rules in securities markets, which have escaped meaningful regulatory scrutiny for decades (Carruthers 2013; Admati 2016).

However, this special case - homogenous preferences for more stringent rules - is the largest worry from the methodological perspective as it would be erroneously quantified as 4 or 5, while there would be no competition. In order to overcome this issue, the coding process was agnostic to the theoretical[77] and empirical expectations of no pro-regulatory homogenous preferences. Rather unsurprisingly, there was no single rule where all comments were in favour of more stringent regulation (i.e. scores 4 and 5). In other words, the empirical non-existence of the special case (as expected by previous empirical work) was confirmed in the dataset.

Furthermore, Figure 5.2 shows the dispersion of individual comment submission scores across the spectrum of the final competition score[78]. Figure 5.2 illustrates that cumulative competition scores of 1.5 to 2.5 are concentrated around anti-regulatory preferences; 2.5 to 3.5 tend to be in agreement with the regulator, while individual submissions that contributed to the competition score between 3.5 and 4.5 are much more dispersed across the spectrum of pro- and anti-regulatory preferences.

[77] The theoretical framework acknowledges a possibility of a special case when all stakeholders want more regulation (i.e. homogenous preferences for more stringent rules). However, empirical and methodological considerations are the key in operationalising competition in this specific context.
[78] See Figures 5A.1 for an additional illustration of the score dispersion.

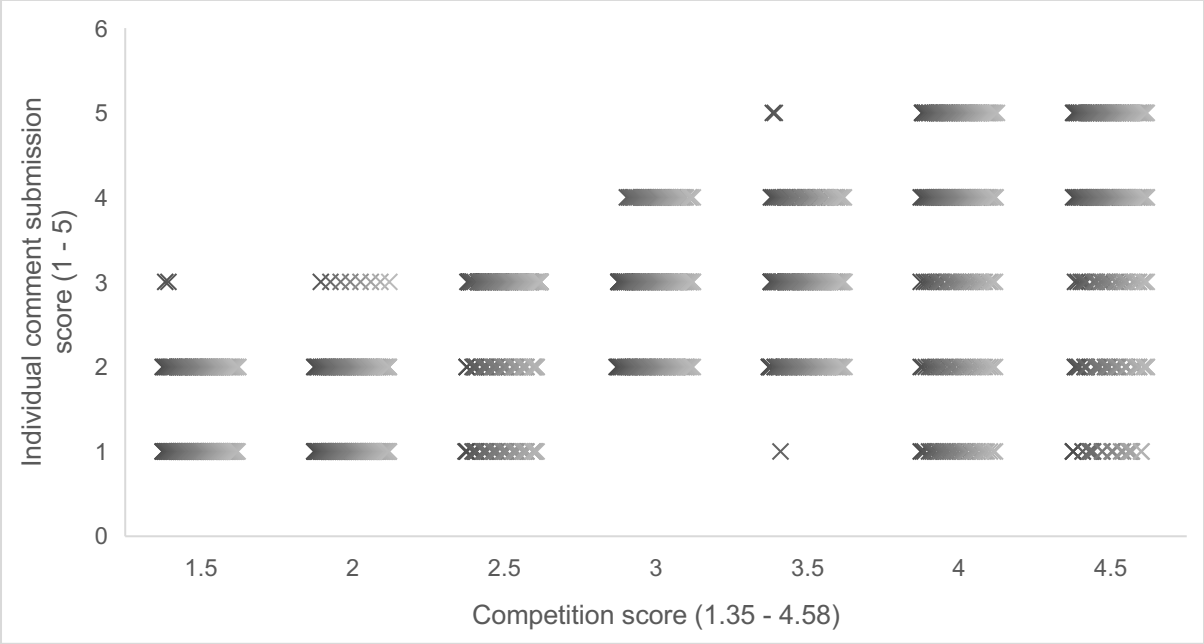

Figure 5.2: Dispersion of individual comment submissions across the final competition score

The coding methodology follows Yackee's operationalisation of variables, both independent and dependent ones. However, Yackee's interpretation of the aggregate value of individual comment submissions is focused on the strength of coalitions. Yackee's a priori theory and consequent methodological operationalisation have three possible outcomes: pro-regulatory coalition (a majority of agents seeking more regulation), anti-regulatory coalitions (a majority of agents seeking less regulation), and no consensus (equally split agents seeking more and less regulation). In Yackee's model the regulator responds to the relative weight of actors on two sides of a policy issue, akin to the median voter model.

My thesis focuses on the extent of competition among regulatees, which implies two possible outcomes: homogeneous anti-regulatory (regulatees seeking less regulation) and heterogeneous no consensus or competition (some regulatees seeking more and some seeking less regulation). The non-existence of the third possible outcome - homogeneous pro-regulatory - makes this approach conducive to quantifying competition in the context of securities markets regulation. In some of the issue areas covered by Yackee (and other scholars adopting the same methodological approach), this approach would not be feasible[79].

[79] See Figures 5A.2-4 for illustrations of distributions of the individual comment scores across different competition scores.

An alternative measurement of competition would be to quantify variance of individual comment submissions. The variance approach has the benefit of more nuanced measurement of the extent of competition; however, it comes at a high expense of low variance in a non-uncommon scenario when regulatees are in agreement with the regulator. More specifically, the variance competition measurement cannot capture satisfactorily the scenario when all or a large majority of comments are in agreement with the regulator.

For example, such scenario of the general agreement with the regulator would result in the variance competition score close to zero, which is not compatible with operationalisation of the independent variable (i.e. the middle value on the scale of the rule change stringency is for the status quo). Furthermore, the extent of regulatory weakening would be underestimated because an agreement with the regulator would have the same numeric value as the unified opposition if one is to adopt the competition variance approach.

The third step: the coding process for all comment letters submitted for a regulatory consultation also entailed a granular differentiation between 10 categories modified from the International Standard Industrial Classification Scheme, which is the UN system for classifying diverse economic-sector activities.

As per Table 5.2, the specific categories were then regrouped into three broader subsets[80]: financial stakeholders (regulated banking, regulated markets, exchanges and trading systems, industry associations, insurance, pension and asset management, and credit rating agencies); business stakeholders (non-financial corporates and other businesses, such as legal or consultancies); and non-business stakeholders (government regulatory and enforcement, press and other non-business).

[80] All financial stakeholders (regulated banking, regulated markets, exchanges and trading systems, industry associations, insurance, pension and asset management, and credit rating agencies) contribute to the *Financial stakeholders* category so there is no impact of specific sub-categories on ordinal logit results. The sub-categories might have impact on the network analyses, but the primary purpose of that section is to offer description of the regulatory environment so additional granularity (particularly among categories with the largest number of comments / actors) is deemed to be helpful.

Stakeholder subgroup	Classification group	COMPETITION variables		
Regulated banking	Financial stakeholders	COMPETITION	FINANCE COMPETITION	BUSINESS COMPETITION
Regulated markets, exchanges and trading systems (including clearing houses)				
Industry associations				
Insurance, pension and asset management				
Credit rating agencies				
Non-financial corporates	Non-financial business stakeholders		NON-FINANCE COMPETITION	
Other businesses (i.e. legal/consultancies)				
Government regulatory and enforcement	Non-business stakeholders			NON-BUSINESS COMPETITION
Press				
Other non-business				

Table 5.2: Classification of stakeholders and relevant COMPETITION variables

Based on the classification of stakeholders, individual comments were used for developing four additional variables: FINANCE COMPETITION, BUSINESS COMPETITION, NON-FINANCE COMPETITION and NON-BUSINESS COMPETITION. FINANCE COMPETITION aggregates only comment submissions from financial stakeholders, while BUSINESS COMPETITION aggregates both financial and non-financial business stakeholders. Similarly, NON-FINANCE COMPETITION aggregates preferences of non-financial business and non-business stakeholders, while NON-BUSINESS takes into account only non-business stakeholders.

5.1.4 Control variables – alternative explanations

In addition to the main explanatory variables, I also control for several related and plausible explanations. As presented in Chapter 3, there are five alternative explanations: interest group plurality, market power, complex governance, 'quiet' politics and ideational changes.

As per Table 5.3, the alternative explanations are assessed as five control variables: MOBILISATION, systematically important financial institutions (SIFI), COMPLEXITY, SALIENCE and CRISIS.

Alternative explanation	Main driver of DV	Theoretical prediction	Control variable
Interest group plurality	Number of regulatees	Larger number of regulatees leads to more regulatory stringency	MOBILISATION
Market power	Size and power of regulatees	The largest firms tilt the rules in their favour	SIFI
Complex governance	Technical complexity	More complex rules lead to less regulatory stringency	COMPLEXITY
'Quiet' politics	Salience and public opinion	More salient rules lead to more regulatory stringency	SALIENCE
Ideational change	Ideas	Ideational change in the regulatory community leads to more regulatory stringency	CRISIS

Table 5.3: Operationalisation of the alternative theoretical explanations (control variables)

First, the interest group literature theorised a number of mobilised firms as central to explaining influence over regulatory reforms (Gray and Lowery 1996; Rasmussen, Carroll and Lowery 2014; Chalmers 2015). In order to evaluate this proposition, I developed the MOBILISATION variable, which simply captures the number of different actors mobilised in a specific rulemaking process (i.e. a sum of the number of all individual stakeholders who submitted their comments on a specific consultation).

Second, it would be naïve to expect all stakeholders to hold the same level of bargaining power due to different resources and knowledge expertise. In order to account for market power of specific stakeholders, I control whether SIFIs mobilised on a specific rule.[81] There could be alternative ways of measuring market power, such as looking into the size of balance sheet, revenues or profits, or even number of employees. Given the control nature of the variable, it is deemed to be sufficient in this context although it is worth acknowledging more advanced ways of measuring market power of specific market participants.

Third, I also control for the possible effect of complexity, which refers to the level of technical expertise required to respond to consultations. More specifically,

[81] See Table 5A.8 in the Appendix for the list of all SIFIs/SIBIs. The FSB, in consultation with the BCBS and national authorities, has identified G-SIBs since 2011. The list of G-SIBs is divided into 'buckets' corresponding to required level of additional loss absorbency. The initial methodology was produced in 2011 with two consequent revisions, while the latest methodology is available at https://www.bis.org/bcbs/publ/d445.pdf.

technical complexity stands for the degree of technical expertise required to understand and engage in policy consultations rather than knowledge of procedural nuances. The complexity of a specific rule creates substantial information asymmetries between different interest groups (Porter 2014). By increasing the costs of engaging in consultation processes (Ringquist, Worsham and Eisner 2003) strong information asymmetries reinforce the dominance of traditional interest groups, and increase the likelihood of capturing regulatory processes (Laffont and Tirole 1991).

Thus, the COMPLEXITY variable is operationalised through the dictionary-based programme Linguistic Inquiry and Word Count (LIWC2015), which measures complexity through seven indicators: causation, insight, discrepancy, tentativeness, certainty, differentiation and the percentage of words containing six or more letters. The seven indicators are consequently condensed into one quantity of interest. Although the LIWC was originally developed for psychometric tests, its validity has already been confirmed in the legal context (Owens and Wedeking 2011; Collins et al. 2015).

Fourth, I consider the effect of salience, or the importance that the general public assigns to a specific regulatory matter compared to other issues on the political agenda (Soroka and Wlezien 2005). The GFC has triggered the 'demonstration effect' (Mattli and Woods 2009) – the rapid spread of information about prospective social costs of malfunctioning financial regulations. In other words, traditionally 'quiet' politics have become loud, which has direct implications for the exercise of influence in the rulemaking processes (Culpepper 2011). The SALIENCE variable is operationalised by measuring levels of average attention given to the specific issue in the LexisNexis database that covers major financial media outlets (*Financial Times* and *New York Times*) and financial regulation specialised publications (*The Banker*, *American Banker* and *International Banker*).[82] The frequency statistics are then manually translated into a modified five-point scale, which relies on Gormley's (1986) categorisation of issue salience.

[82] To measure salience with LexisNexis, I used Power Search tab/Terms and connectors without the connector word (fewer results). However, in light of some replicability issues with LexisNexis, for every title of a rule I did a couple of iterations (full title, shorter title with only key words, acronym). As my numbers were relatively low (particularly when checking for specific media outlets rather than the option 'All news, all languages'), it was possible to cross-check possible false positives. Finally, I used these raw scores to create a five-point scale as a way to overcome some of these shortcomings.

Fifth, I control for the effect of the GFC as a critical juncture (Moschella and Tsingou 2013) that triggered significant changes in the attitudes of the international regulatory community. Thus, the alternative explanation is operationalised through the dummy variable CRISIS which distinguishes between rules promulgated pre and post the GFC. This control is somehow crude as it perhaps neglects other factors that changed as a result of the crisis (i.e. social sentiment towards regulation, politicians' behaviour, lobbying resources of regulatees). However, some of these by-products of the crisis are captured by other alternative explanations such as SALIENCE. More generally, ideational explanations are more difficult to quantify given their far-reaching scope. Given that CRISIS is a control variable, I adopted the approach of more accurate measurement at the expense of its scope.

Finally, there are additional robustness checks: PRE-EXISTING RULE (dummy variable, which controls for whether a rule imposes new regulatory burden, or it is an extension of the pre-existing regulation),[83] TIMEFRAME (length of a regulatory process expressed in the number of months) and WORD COUNT (the total word count of the initial rule). In addition, descriptive statistics of all variables are presented in Table 5.4.

Variable	Observations	Mean	Std. Dev.	Min	Max
Rule change (three-point scale)	50	1.98	0.71	1	3
Rule change (five-point scale)	50	3.00	0.99	1	5
Competition	50	3.49	0.91	1.35	4.58
Financial competition	50	2.85	0.84	1.10	4.00
Business competition	50	3.21	0.86	1.30	4.65
Non-business competition	42	3.71	0.97	1.55	4.85
Non-finance competition	42	3.18	0.95	1.43	4.55
Mobilisation	50	27.92	28.67	1	176
SIFI	50	0.52	0.50	0	1
Salience	50	3.62	1.72	1	5
Complexity	50	0.00	0.43	-0.89	1.00
Crisis	50	0.66	0.48	0	1
Regulatory burden	50	0.38	0.49	0	1
Word count	50	31,057.32	43,430.40	2,319	197,049
Time frame	50	6.66	4.31	1	23

Table 5.4: Descriptive statistics of the data set

[83] The pre-existing rules are coded as 1, while new rules are coded as 0.

5.1.5 Method

In order to address the main challenge of the research – understanding the real influence of interest groups in financial rulemaking processes and the specific conditions under which private interests might prevail, I rely on ordinal logit regression models given that the RULE CHANGE STRINGENCY dependent variable is ordinal.

More generally, the ordinal logit model builds on McKelvey and Zavoina's (1975) foundations of the nonlinear regression model for ordinal variables. As with any latent-variable mode, the key challenge is to summarise the effects of the independent variables in a way that fully reflects key substantive processes. More specifically, the magnitude of the change in the outcome probability for a given change in one of the independent variables depends on the levels of all independent variables (Long and Freese 2014). The formal annotation is:

$$\Pr\ (y = m \mid \mathbf{x}) = F\ (\tau_m - x\beta) - F\ (\tau_{m-1}\ - x\beta)$$

where the probability of observing *y* = *m* for given values of **x** corresponds to the region of the distribution where *y** falls between τ_{m-1} and $\tau_{m,}$ while F is the cumulative distribution function for ε under the assumption of F being logit with Var(ε) = $\pi^{2/}3$. The simplified structural annotation in the empirical context of financial rulemaking is as follows:

$MODEL\ 1: RC\_stringency_i = \alpha + \beta competition_i + \varepsilon_i$

$MODEL\ 2: RC\_stringency_i = \alpha + \beta financecompetition_i + \varepsilon_i$

$MODEL\ 3: RC\_stringency_i = \alpha + \beta businesscompetition_i + \varepsilon_i$

$MODEL\ 4: RC\_stringency_i = \alpha + \beta nonfinancecompetition_i + \varepsilon_i$

$MODEL\ 5: RC\_stringency_i = \alpha + \beta nonbusinesscompetition_i + \varepsilon_i$

$MODEL\ 6: RC\_stringency_i = \alpha + \beta financecompetition_i + \beta nonfinancecompetition_i + \varepsilon_i$

$MODEL\ 7: RC\_stringency_i = \alpha + \beta businesscompetition_i + \beta nonbusinesscompetition_i + \varepsilon_i$

5.2 Network description of the European regulatory system

Before proceeding to the crux of quantitative analyses in the next section, it is worth understanding the broader European regulatory system through descriptive statistics and network observations. There are three most salient insights: (1) stakeholders from the core financial subcategory (exchanges and trading systems, banks, core industry associations, asset managers and credit rating agencies) are the most central nodes based on the degree centrality measure of mobilisation; (2) financial stakeholders are substantially heterogeneous, rather than a unified group that could go under the umbrella of Big Finance; and (3) the regulatory network has become much denser and more heterogeneous post the GFC.

Given the sheer number of mobilised shareholders in ESMA consultation procedures, it is worth introducing network visualisation as a more advanced way of capturing heterogeneity of stakeholders and their mobilisation patterns in the regulatory network. Furthermore, mapping ESMA consultation procedures strongly resonates with the broader empirical network literature that highlights a high degree of complexity intrinsic to regulatory networks (Gray and Lowery 1996; Seabrooke and Tsingou 2014; Pagliari and Young 2016; James and Quaglia 2019).

There are two key empirical network endeavours inspired by network theory: first, visualising the macro network of all stakeholders who mobilised in the consultation procedure and, second, measuring heterogeneity of stakeholders with appropriate heatmap visualisation. It is worth adding a caveat. Although the network analyses do not map the key explanatory variable (competitive interactions among stakeholders), visualisation and network statistics highlight stakeholders' heterogeneity, which can be understood as a pre-condition for competition.

Building on the theoretical and empirical insights from organisational theory (Chatman 1991; Harrison and Klein 2007) and sociological stratification (Blau 1960, 1977), a high level of heterogeneity in a group is more likely to lead to competition or conflict among stakeholders.[84] By capturing the extent of heterogeneity in the financial rulemaking network, the network analyses provide additional support for the link

[84] Aside from conflict or competition, Blau's (1977) theory hypothesises that heterogeneity rather than homogeneity of stakeholders within a network enhances its efficiency. This is certainly the case from the regulators' perspective as more competition allows them to promulgate stronger rules. However, from the business stakeholders' perspective, an increase in heterogeneity of stakeholders decreases their capacity to exercise power over a regulatory procedure.

between heterogeneity of stakeholders and increased competition evaluated through ordinal logit statistics in Section 5.3.

5.2.1 Mapping the macro ESMA network

Thus, the first endeavour is mapping a macro network of all stakeholders who mobilised during ESMA consultation procedures. Nodes or vertices are stakeholders in the regulatory process who form edges (links or ties) by mobilising on the same consultation procedures. As per Table 5.5, the observed network has 769 nodes who submitted 1,369 consultation letters, which resulted in 32,988 times (edges) on 50 consultation procedures.

	Pre-crisis network	Post-crisis network	Whole network
Number of nodes (stakeholders)	282	536	769
Number of consultation submissions (mobilisation)	423	946	1,369
Number of edges (links between mobilised nodes)	4,700	28,733	32,988
Density	0.0163	0.0996	0.1143

Table 5.5: Summary statistics of the network based on 50 consultation procedures

When it comes to descriptive statistics of mobilisation patterns of specific groups, industry associations are the most common stakeholders to mobilise in ESMA rulemaking consultation procedures: out of the total 769 stakeholders mobilised during the study period, 302 (or 39.3 per cent) were industry associations, followed by other businesses (20.6 per cent) such as consulting firms (PwC, KPMG or Ernst & Young, to name a few).

Four additional subgroups are above the 5 per cent threshold of total mobilisation: insurance, pension and asset managers (8.8 per cent) with the most widely known examples including Amundi, State Street and BlackRock; regulated markets, exchanges and trading systems, including clearing houses (7.8 per cent); non-financial corporations (5.6 per cent); and regulated banking institutions (5.33 per cent). Finally, the remaining three subcategories of stakeholders account for less than 5 per cent of mobilised interest groups: government regulatory and enforcement, press and credit rating agencies.[85]

[85] See Appendix Table 5A.1 for additional details.

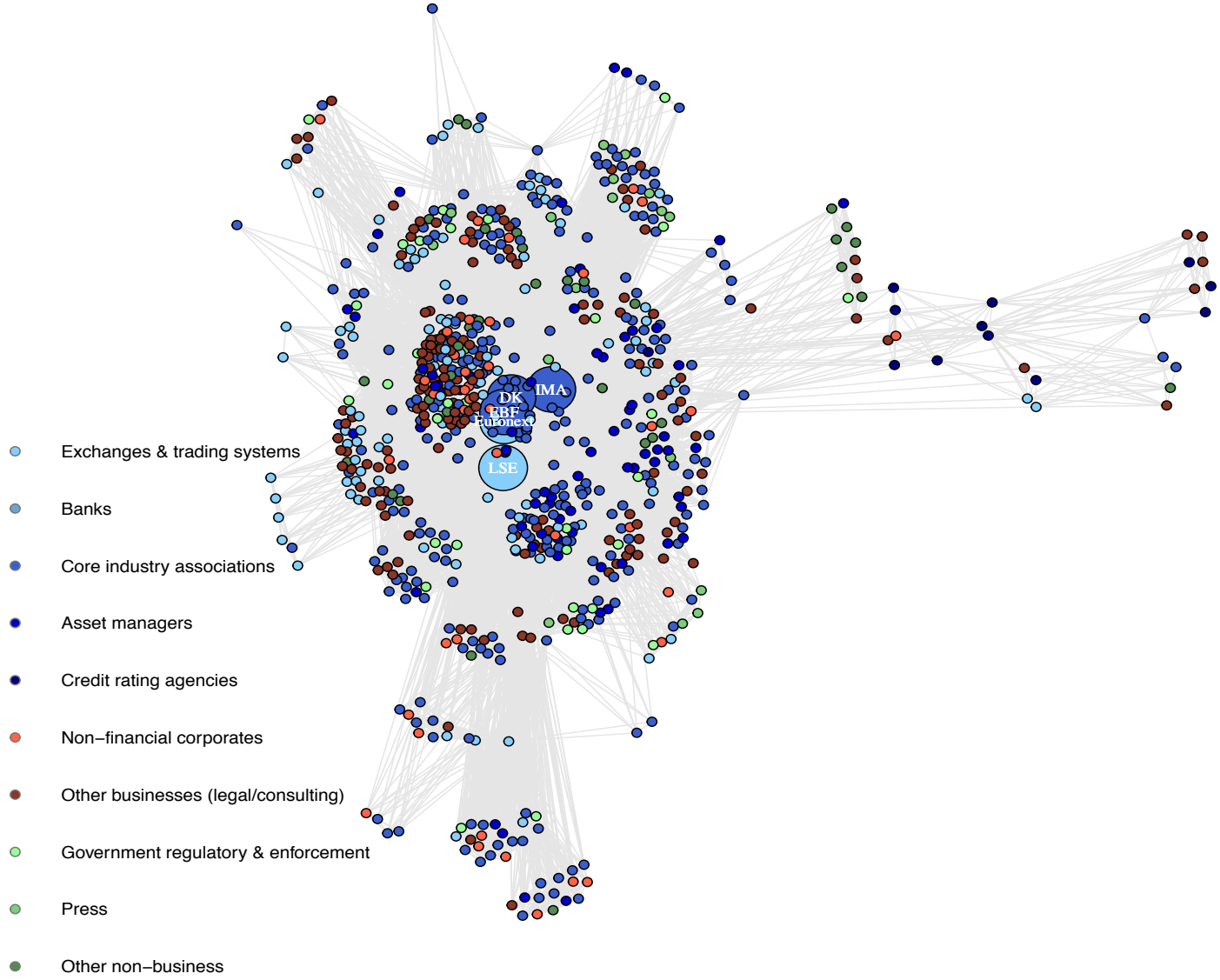

Figure 5.3: Macro network analyses of the three subcategories of stakeholders (core financial actors in the tones of blue; non-financial stakeholders in red shades, and non-business groups in green shades) with the five most active stakeholders named in white colour (IMA, DK, LSE, Euronext and EBF).

Given the size of the network, Figure 5.3 provides macro network visualisation[86] of the three subcategories of stakeholders (core financial actors shaded blue; non-financial stakeholders in red, and non-business groups in green). Using degree centrality as the network-level statistical measure,[87] the five stakeholders who mobilise the most often are the Investment Management Association (IMA), the German Banking Industry Committee (*Die Deutsche Kreditwirtschaft*, Die DK), the London Stock Exchange (LSE), Euronext and the European Banking Federation (EBF).

In addition, the trend of mobilisation of new stakeholders has become particularly prominent since the GFC (see Figure 5.4), during which time the regulatory network has almost doubled in terms of newly mobilised stakeholders who submitted two or more consultation procedures. Furthermore, the post-crisis network has become significantly denser (interconnected). More specifically, the pre-crisis network has an edge density of 0.0156, while the post-crisis network edge density is almost seven times greater at 0.0999.

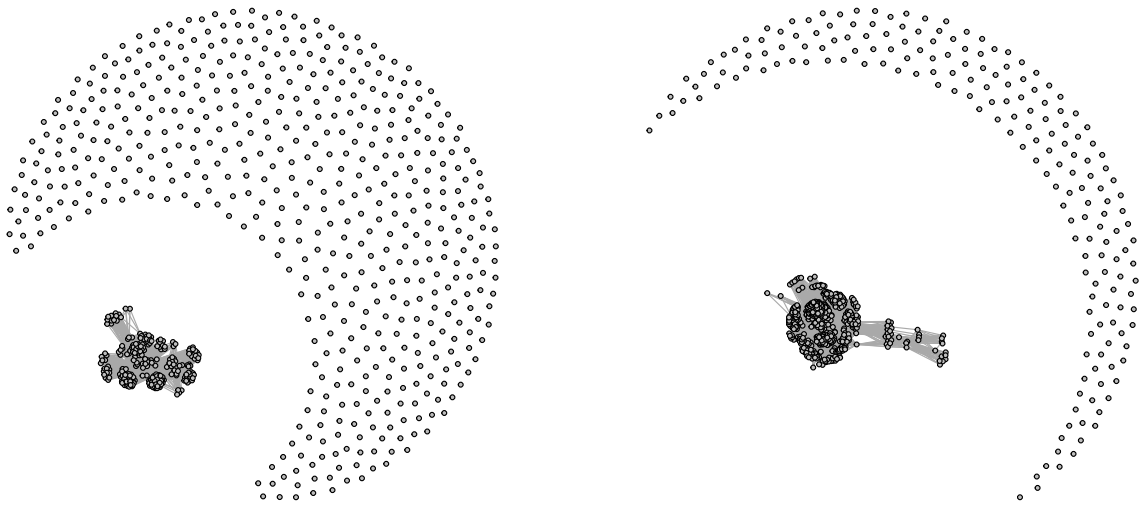

Figure 5.4: Macro network analyses of the regulatory system before (left) and after (right) the GFC

[86] Visualisations in Figures 5.3 and 5.4 are based on the force-directed algorithm developed by Fruchterman and Reingold (1991), which calculates the layout of a graph using only information contained within the structure of the graph itself, rather than relying on domain-specific knowledge. In other words, the Fruchterman–Reingold algorithm treats each vertex and edge as if it were a physical object whose position is influenced only by forces around it. Compared to similar force-directed algorithms such as Kamada and Kawai's (1989), Fruchterman and Reingold's is based on only two principles: 1) vertices connected by an edge should be drawn near each other, and 2) vertices should not be drawn too close to each other, which makes it aesthetically pleasing with a large number of applications in network analyses.

[87] Degree centrality measures the number of lines incident with a node in order to analyse a local structure of the network.

The second empirical endeavour is measuring heterogeneity of the network. First, I calculated five diversity measurements (variety; Herfindahl-Hirschman Index (HHI); Gini-Simpson or Blau Index; Simpson measure; and Pielou's evenness). Second, I also created heatmaps to show visually the extent of heterogeneity in the network.

Following the taxonomy from Guevara, Hartmann and Mendoza (2016), an *entity* is used to describe the systems or agents that host a set of *categories*, which identify the different types of species that define the diversity of an entity. The term 'value' is used for the amount of a category in each entity. Applied to the financial rulemaking context, entities are time periods (pre and post the GFC), categories are 10 subgroups of stakeholders and values are measured in two different ways. The first measure quantifies the number of stakeholders from a specific subgroup, while the second one refers to the number of comment submissions. These three properties – entity, category and value (more commonly categorised as variety, balance and disparity) – are the key building blocks for most diversity measures (Stirling 2007).

The starting point is the variety measure (Rhoades 1993), which simply quantifies how many categories or types an entity has. As such, variety is not very telling in this context given a predetermined set of 10 subcategories, whose associated value is always larger than 1 stakeholder or comment submission. Furthermore, balance quantifies how much of each category the entity has so the raw indicators of balance are the values of abundance presented in Table 5.6. For example, there are 769 nodes who submitted a total of 1,369 consultations. However, rather than looking at the raw score, more commonly used balance measures are HHI and the Gini-Simpson or Blau Index which emphasise the balance of a system as a whole.

For qualitative attributes of the actors (such as subcategories), Blau's index of variability or heterogeneity can be used, which is conceptually related to the HHI, primarily used for assessing the extent of a monopoly in a given industry. More specifically, HHI measures concentration through computing the probability that two stakeholders taken randomly belong to the same category.

This probability is calculated with replacement, which means that after taking the first individual into account, it is replaced with an identical one and, thus, it neither affects the total number of individuals in that category nor the total amount of individuals in the entity. As the Gini-Simpson Index estimates balance rather than concentration, it simply subtracts HHI from 1, while the same theoretical underpinning

applies to the Blau Index. In addition, I also estimate the Simpson measure and Pielou's evenness as additional checks.

Stemming from the summary statistics in Table 5.5, all five measures (Variety, HHI, Gini-Simpson/Blau Index, Simpson measure and Evenness) confirm an increase in network heterogeneity in the aftermath of the GFC. The same trend of increasing heterogeneity is observed when valuing the number of comment submissions rather than unique stakeholders.

Stakeholder	**Pre-crisis network**	**Post-crisis network**	**Whole network**
Variety	10	10	10
HHI	0.2874	0.2138	0.2562
Gini-Simpson/ Blau Index	0.7126	0.7862	0.7438
Simpson measure	0.7152	0.7877	0.7450
Evenness	0.7361	0.8016	0.7848

Table 5.6: Summary statistics of the heterogeneity measurements[88]

The extent of stakeholder heterogeneity and mobilisation patterns (the count of instances of mobilisation on different rules) of specific subgroups can also be observed through heatmaps. As per Figure 5.5, heatmaps are valued on the number of stakeholders (left/red) and consultation submissions (right/blue) proportionally normalised within an entity (i.e. dividing the value of an entity in each category by the sum of values of the entity in all categories) with a filter of 2 per cent (grey cells).

As normalisation is done at the entity level, it is possible to observe three iterations: pre-crisis, post-crisis and the entire period (i.e. the time overlap between different entities does not distort the visualisation). Industry associations are the darkest, which indicates the highest proportionality value (i.e. the level of involvement in rulemaking procedures).

The third important insight from the regulatory network is the increasing level of heterogeneity of stakeholders. In other words, there is no Big Finance, but rather multiple groups of actors who have different regulatory preferences. Competition as the key driving force of rulemaking processes is the core theoretical proposition of this thesis. How can network theory support this proposition?

[88] Heterogeneity measurements are operationalised by using the 'diverse' R package (Guevara and Mendoza, 2016).

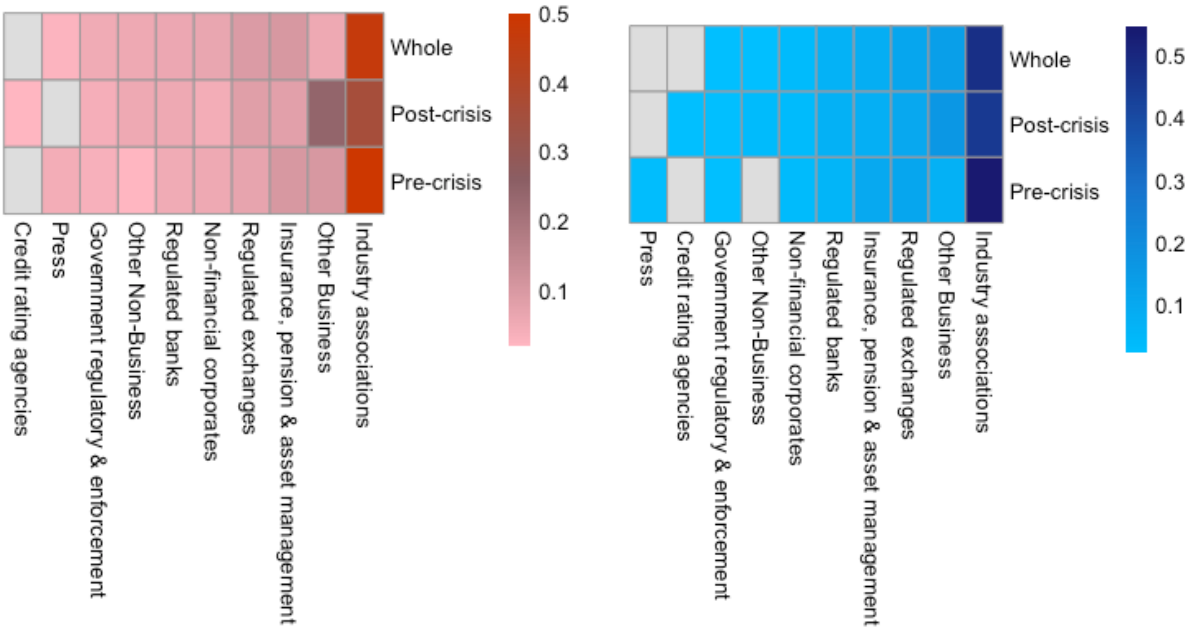

Figure 5.5: Heatmaps of heterogeneity matrices
Note: Red = stakeholders, Blue = submissions; the darker the colour, the higher the value. Grey = empty cells that do not meet the 2 per cent threshold.

Finally, the heatmap visual observations are further assessed through the micro-level analyses of the regulatory network (Table 5.7). The top five most active industry associations (the IMA – Investment Management Association, Die DK – German Banking Industry Committee, the EBFEBF – European Banking Federation, the European Fund and Asset Management Association (EFAMA) and the European Savings Banks Group (ESBG)) are also among the top seven stakeholders overall by the number of written submissions to ESMA, while the remaining two positions are occupied by the LSE and Euronext, the first pan-European exchange.

Despite important insights from observing mobilisation patterns and heterogeneity of different stakeholders, financial networks are not just about heterogeneity of stakeholders, but also about different patterns of interaction among them (James et al. 2019). This is precisely the empirical challenge that the next section tackles.

Overall	Industry associations	Other business (i.e. legal/consultancies)	Insurance, pension and asset management	Regulated markets, exchanges and trading systems	Non-financial corporates
IMA	IMA	PWC	Amundi	LSE	CACEIS Investor Services
Die DK	Die DK	KPMG	State Street	Euronext	MSCI
LSE	EBF	Ernst & Young	BlackRock	Deutsche Borse	ICAP
Euronext	EFAMA	Markit	Aviva Investors	CME Group	Verdipapirsentralen ASA
EBF	ESBG	SWIFT	Union Asset Management	London Metal Exchange	Statoil ASA
EFAMA	**Regulated banking**	**Other non-business**	**Government regulatory and enforcement**	**Press**	**Credit rating agencies**
ESBG	Deutsche Bank	ECT-Group	Comisión Nacional del Mercado de Valores	Thomson Reuters	Moody's Investors Service
Association Française de la Gestion Financière	Barclays	Financial Services Consumer Panel	Cayman Islands Monetary Authority	ENPA – the European Newspaper Publishers' Association	Fitch Ratings
Alternative Investment Management Association	UBS	Better Finance	Financial Services Agency Japan	Bloomberg	Scope Ratings GmbH

Table 5.7: List of the most active stakeholders in ESMA sample

5.3 Competition at the heart of regulatory governance

The analyses examine the impact of competition on regulatory change stringency in the context of ESMA rulemaking, which consists of initial rule proposals, public consultations and promulgation of final rules.

Table 5.8 presents ordinal logit models for rule change stringency across 50 different rules during the study period. There are seven models offering a more comprehensive interpretation of the key explanatory variable COMPETITION and its

iterations FINANCE, BUSINESS, NON-FINANCE and NON-BUSINESS COMPETITION. Models 1 and 2 separately show statistically significant association between the dependent variable RULE CHANGE STRINGENCY and two iterations of independent variables, accounting for both the entire sample of stakeholders (COMPETITION) and just for the subset of financial stakeholders (FINANCE COMPETITION).

Independent variables	**Dependent variable – Rule change stringency (three-point scale)**					
	Model 1	**Model 2**	**Model 3**	**Model 1B**	**Model 2B**	**Model 3B**
Competition	**0.845***** (0.326)			**0.879**** (0.398)		
Finance competition		**0.824**** (0.345)			**1.011**** (0.437)	
Business competition			0.380 (0.315)			0.436 (0.378)
Mobilisation				0.010 (0.016)	0.006 (0.016)	0.016 (0.016)
SIFI				0.644 (0.702)	0.888 (0.709)	0.797 (0.702)
Salience				-0.168 (0.248)	-0.192 (0.250)	-0.147 (0.242)
Complexity				0.627 (0.729)	0.837 (0.730)	0.874 (0.723)
Pre-existing rule				-0.603 (0.737)	-0.717 (0.754)	-0.467 (0.728)
Crisis				0.056 (0.917)	0.017 (0.927)	0.070 (0.899)
Word count				-0.001 (0.000)	-0.001 (0.000)	-0.001 (0.000)
Timeframe				-0.012 (0.068)	-0.010 (0.709)	0.002 (0.068)
N	50	50	50	50	50	50
Cuts	1.779 (1.121) 4.252 (1.270)	1.205 (0.977) 3.636 (1.118)	0.159 (1.038) 2.410 (1.102)	1.378 1.337 4.059 1.467	1.150 1.228 3.855 1.363	0.261 1.283 2.773 1.350

Table 5.8: Order logit regression coefficients with their respective standard errors: *** p<0.01, ** p<0.05, * p<0.1

These preliminary analyses clearly indicate that regulatory agencies are responsive to interest group influence and alter the stringency of rules accordingly. More importantly, a higher level of competition leads to stronger rules, while a unified opposition from interest groups is likely to result in regulatory dilution. Models 1B and 2B sharpen the results by including the alternative explanatory variables (MOBILISATION, SIFI, SALIENCE, COMPLEXITY, CRISIS) and additional controls (PRE-EXISTING RULE, WORD COUNT, TIMEFRAME), but the statistically significant association from the basic models remains broadly unchanged. In other words, by introducing alternative explanatory variables, the models demonstrate that COMPETITION and FINANCE COMPETITION are robust predictors of regulatory change stringency and their coefficients are substantively large.

By observing the marginal effects[89] (Figure 5.6 and Appendix Tables 5A.2 and 5A.3), a unit change in COMPETITION can be associated with up to 15.3 percentage points' fluctuation in the dependent variable, while the equivalent maximum value at the statistically significant level for FINANCE COMPETITION is 17.1 percentage points. The size of marginal effects is similar for both rule weakening and strengthening.

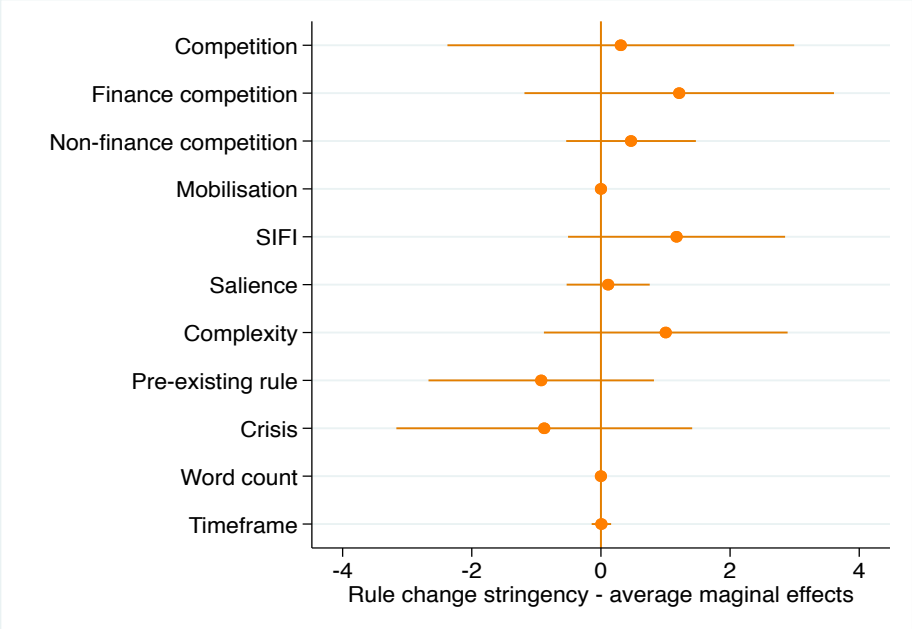

Figure 5.6: Graphic representation of average marginal effects

[89] Although there is significant discussion on applicability of three measures of marginal effects (at the mean, at representative values and average), the average marginal effect seems to be the best summary of the effect of a variable because it averages the effects across all cases in the sample, so it can be interpreted as the average size of the effect in the sample (Long and Freese 2014). In the interest of completeness, I conducted tests for all three measures, and they are broadly in line.

As per Table 5.9, both FINANCE and NON-FINANCE COMPETITION are statistically significant when tested independently (models 2 and 2B in Table 5.8, and 4 and 4B in Table 5.9). However, when FINANCE and NON-FINANCE COMPETITION are combined in the same model with the other control variables, only FINANCE COMPETITION remains statistically significant. Thus, COMPETITION and FINANCE COMPETITION results are robust across all model specifications, including those with alternative explanatory variables and controls.

As the model 6B reveals (in comparison with Model 2B), a unit change in FINANCE COMPETITION can be associated with even higher marginal effect of up to 24.7 percentage points' fluctuation in the dependent variable. This finding would suggest that competitive bargains among financial stakeholders hold more explanatory power in comparison to other groups, either non-financial business or non-business stakeholders. In addition, to ensure the robustness of the empirical findings, I also ran the analyses with RULE CHANGE STRINGENCY against the five-point scale, which yielded the same directional results and, broadly, levels of statistical significance (see Appendix Tables 5A.4 and 5A.5).[90]

It is worth noting that mobilisation of finance stakeholders is usually higher in the domain of securities regulation than in some other, less technical areas of financial regulation. However, these findings could be interpolated to a wider set of issues in light of Chalmers' empirical (2018) research, which suggests that non-financial industry actors seem to have more limited lobbying success regardless of the nature of the proposal for financial regulation.

There are two additional but interrelated observations that stem from the findings on FINANCE and NON-FINANCE COMPETITION. First, it is necessary to move beyond the misleading conceptualisation of finance (or business in general) as a homogeneous group of stakeholders. These regression findings also reinforce the social network observations, which contribute to the most recent shift in the IPE literature of observing the increasing heterogeneity in the markets rather than assuming Big Finance (Helleiner 2014; Pagliari and Young 2016). Second, the ability of the business community – or financial industry in this specific context – to subdue

[90] In addition, the suitability of ordered logit model is confirmed through running a Brant parallel regression assumption test (assumption that probability curves are parallel), which is not violated.

possible frictions and act cohesively is the key driver of their policy influence (Lindblom 1977; Falkner 2008).

Independent variables	**Dependent variable – Rule change stringency (three-point scale)**					
	Model 4	**Model 5**	**Model 6**	**Model 7**	**Model 4B**	**Model 6B**
Finance competition			**1.016****			**1.454****
			(0.470)			(0.599)
Non-finance competition	**0.930****		**0.739****		**0.727****	0.538
	(0.340)		(0.356)		(0.367)	(0.403)
Business competition				0.288		
				(0.441)		
Non-business competition		0.490		0.374		
		(0.308)		(0.352)		
Mobilisation					0.016	0.001
					(0.018)	(0.018)
SIFI					0.864	1.217
					(0.787)	(0.835)
Salience					0.027	0.0980
					(0.305)	(0.322)
Complexity					0.713	1.015
					(0.873)	(0.960)
Pre-existing rule					-0.500	-0.930
					(0.817)	(0.890)
Crisis					-0.167	-0.850
					(1.072)	(1.163)
Word count					-0.001	-0.001
					(0.000)	(0.000)
Timeframe					0.007	0.007
					(0.745)	(0.077)
N	42	42	42	42	42	42
Cuts	1.896	0.860	4.317	1.404	1.666	4.937
	(1.084)	(1.149)	(1.636)	1.426	(1.528)	(2.223)
	4.183	2.910	6.812	3.467	4.194	7.787
	(1.237)	(1.234)	(1.850)	1.512	(1.663)	(2.445)

Table 5.9: Order logit regression coefficients with their respective standard errors: *** p<0.01, ** p<0.05, * p<0.10

Although regression results do not show statistically significant results for alternative explanations, it does not necessarily mean that MOBILISATION/SIFI/SALIENCE/COMPLEXITY/CRISIS in no way contribute to the overall outcome. For example, in reduced models with fewer controls (not accounting for PRE-EXISTING RULE/WORD COUNT/TIMEFRAME), SIFI is statistically significant in two of the reduced iterations (models 6R and 7R in Appendix C – Table 5A.6), while in another three models SIFI closely approaches the traditional threshold for statistical significance. Such findings are interesting in light of the continued dominance of the major broker dealers in some areas of securities markets, particularly for OTC derivatives trading (Spagna 2018).[91]

To summarise the main findings, the quantitative empirical findings lead to three major conclusions. First, regulatory agencies are responsive to interest group influence and alter the stringency of rules accordingly. Second, the models reveal a robust and statistically significant effect for COMPETITION and FINANCE COMPETITION with RULE CHANGE STRINGENCY. In other words, the level of heterogeneous preferences among interest groups provides the most compelling explanation of rule change stringency, which in turn corroborates the theoretical proposition that regulatory competition between multiple different stakeholders leads to increased rule change stringency (i.e. stronger rules), while regulators' activities are significantly limited when faced with homogeneous opposition. Third, the level of competitive dynamics among financial stakeholders holds the most explanatory power, which suggests that regulators' decisions – both rule weakening and strengthening – are most influenced by the industry itself.

What are the broader implications of these findings for the IPE of finance literature? These findings can complement the ongoing empirical debates on the changing public–private relationship in the global political economy (Helleiner 2014). Although the thesis does not offer a definitive answer on the extent to which the state is reasserting its power, the findings are more indicative of the continued influence of market makers as rule shapers. More specifically, the empirical data clearly show that it is difficult for regulators to promulgate stronger rules if they are faced with unified

[91] According to Futures Commission Merchant (FCM) data, the top five largest US broker dealers in the uncleared derivatives market have remained unchanged from 2008 (Skarecky 2018), which illustrates the extent of their centrality in the globally largest financial market.

opposition from all stakeholders, particularly industry representatives. Thus, even if there is a regulatory supply of stronger regulation, the final shape of rules is determined in the markets. Such empirical findings serve as a strong corrective for the ideational school of thought (Tarullo 2008; Baker 2010, 2012; McKeen-Edwards and Porter 2013), which postulates the change in regulatory mindset per se as a necessary and sufficient condition for more stringent rules.

These results, however, do not provide direct evidence for regulatory capture. Rather, the empirical findings show that regulators are responsive to dynamics in the markets. Thus, it is imprecise to proclaim regulatory capture based solely on the quantitative results as there is no smoking-gun evidence (Carpenter and Moss 2014).

Although some empirical literature suggests that industry lobbies are most effective in influencing securities market regulation (Chalmers 2018), case studies in the following chapters shed more light on causal mechanisms and the true extent of possible capture. Furthermore, the case studies also widen the scope of analyses by examining the entire regulatory process including the agenda-setting and compliance phases, rather than just rule production.

5.4 Conclusion

The chapter provided robust empirical support for the main theoretical proposition of the thesis. The level of competition, conceptualised as heterogeneity of regulatees' regulatory preferences, is central to explaining the extent of rule stringency, either rule weakening or rule strengthening. If regulatees compete due to heterogeneous preferences (i.e. disagree on a specific rule proposed by the regulator), then regulators hold more bargaining power to promulgate stronger, more burdensome regulation. Alternatively, when regulatees have homogeneous preferences (i.e. low level of competition), their power of veto over the regulator is increased and rules are consequently weakened. In addition to the robust and statistically significant regression analyses, the chapter also highlighted increasing heterogeneity in the regulatory network, which can be understood as a pre-condition for competition.

Appendix A

Stakeholder	Number of actors	Mobilisation (%)
Industry associations	302	39.27
Other businesses (i.e. legal/consultancies)	158	20.55
Insurance, pension and asset management	68	8.84
Regulated markets, exchanges and trading systems (including clearing houses)	60	7.80
Non-financial corporates	43	5.59
Regulated banking	41	5.33
Other non-business	35	4.55
Government regulatory and enforcement	32	4.16
Press	18	2.34
Credit rating agencies	12	1.56

Table 5A.1: Descriptive statistics of mobilisation across different stakeholders

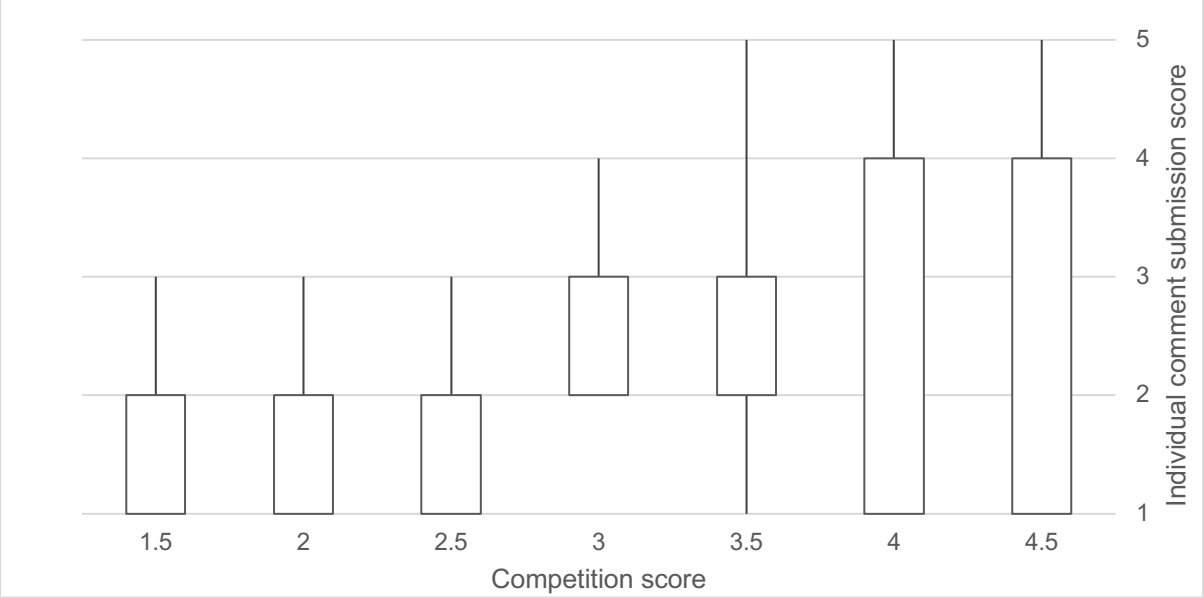

Figure 5A.1: Dispersion of individual comment submissions across the cumulative competition score

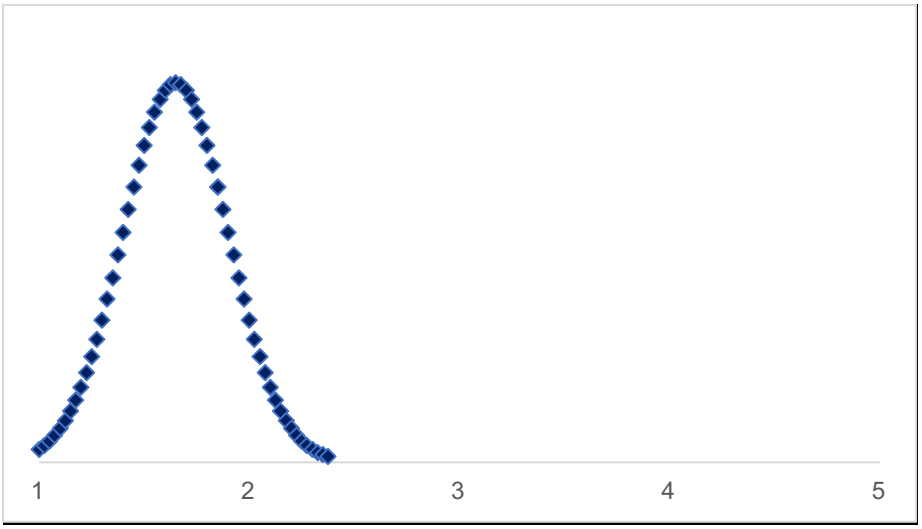

Figure 5A.2: Normalised distribution of submissions which resulted in the competition scores in the range of 1.35 - 2.50

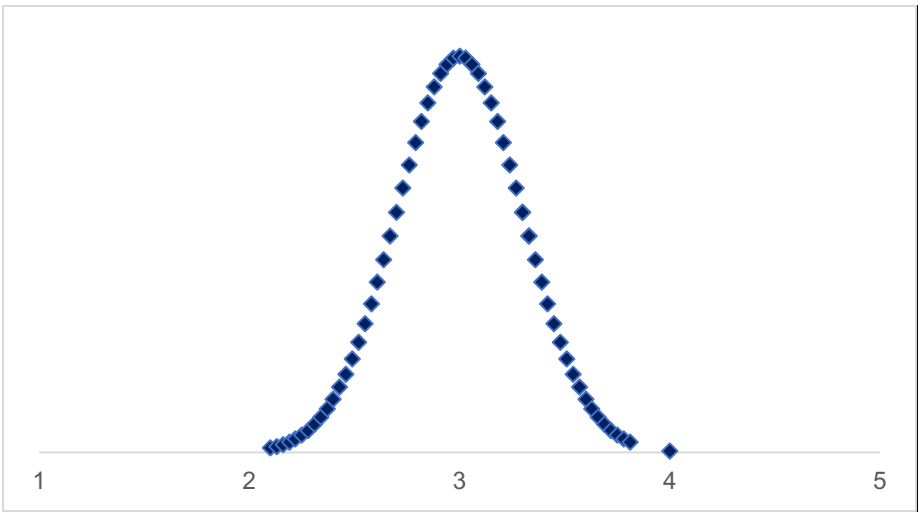

Figure 5A.3: Normalised distribution of submissions which resulted in the competition scores in the range of 2.50 - 3.49

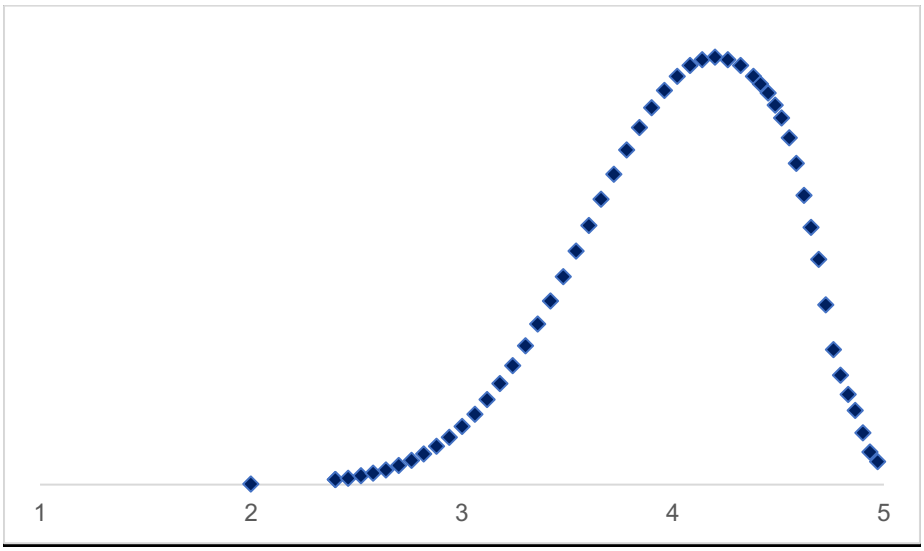

Figure 5A.4: Normalised distribution of submissions which resulted in the competition scores in the range of 3.50 - 4.58

		Competition	Finance competition	Business competition	Non-finance competition	Non-business competition	*Mobilisation*	*SIFI*	*Salience*	*Complexity*	*Pre-existing rule*	*Crisis*	*Word count*	*Timeframe*
Model 1	Outcome 1 (weaker)	**-0.153****												
		(0.060)												
	Outcome 2 (unchanged)	0.010												
		(0.044)												
	Outcome 3 (stronger)	**-0.142*****												
		(0.055)												
Model 2	Outcome 1 (weaker)		**-0.151****											
			(0.064)											
	Outcome 2 (unchanged)		0.002											
			(0.044)											
	Outcome 3 (stronger)		**0.140****											
			(0.059)											
Model 1B	Outcome 1 (weaker)	**-0.150****					-0.002	-0.110	0.029	-0.107	0.103	-0.010	0.000	0.002
		(0.070)					(0.003)	(0.118)	(0.042)	(0.125)	(0.127)	(0.156)	(0.000)	(0.012)
	Outcome 2 (unchanged)	0.010					0.000	0.007	-0.002	0.007	-0.007	0.001	0.000	0.000
		(0.048)					(0.000)	(0.035)	(0.010)	(0.035)	(0.034)	(0.011)	(0.000)	(0.001)
	Outcome 3 (stronger)	**0.140****					0.001	0.102	-0.027	0.100	-0.096	0.009	0.000	-0.002
		(0.063)					(0.003)	(0.113)	(0.040)	(0.117)	(0.116)	(0.146)	(0.000)	(0.011)
Model 2B	Outcome 1 (weaker)		**-0.171****				-0.001	-0.150	0.032	-0.142	0.121	-0.003	0.000	0.002
			(0.076)				(0.003)	(0.119)	(0.042)	(0.125)	(0.129)	(0.157)	(0.000)	(0.012)
	Outcome 2 (unchanged)		0.012				0.000	0.010	-0.002	0.010	-0.008	0.000	0.000	0.000
			(0.055)				(0.000)	(0.048)	(0.011)	(0.046)	(0.040)	(0.011)	(0.000)	(0.000)
	Outcome 3 (stronger)		**0.159****				0.001	0.140	-0.030	0.132	-0.113	0.003	0.000	-0.002
			(0.070)				(0.003)	(0.115)	(0.040)	(0.116)	(0.118)	(0.146)	(0.000)	(0.011)

Table 5A.2: Average marginal effects with their respective standard errors; *** p<0.01, ** p<0.05, * p<0.10

		Competition	Finance competition	Business competition	Non-finance competition	Non-business competition	*Mobilisation*	*SIFI*	*Salience*	*Complexity*	*Pre-existing rule*	*Crisis*	*Word count*	*Timeframe*
Model 4	Outcome 1 (weaker)				**-0.177*** ** (0.066)									
	Outcome 2 (unchanged)				0.138 (0.052)									
	Outcome 3 (stronger)				**0.164*** ** (0.061)									
Model 5	Outcome 1 (weaker)			-0.073 (0.060)										
	Outcome 2 (unchanged)			0.005 (0.020)										
	Outcome 3 (stronger)			0.068 (0.056)										
Model 6	Outcome 1 (weaker)		**-0.189** ** (0.092)		**-0.138** ** (0.068)									
	Outcome 2 (unchanged)		0.026 (0.062)		0.019 (0.044)									
	Outcome 3 (stronger)		**0.163** ** (0.076)		**0.119** ** (0.059)									
Model 4B	Outcome 1 (weaker)				**-0.128** * (0.067)		-0.003 (0.003)	-0.153 (0.138)	-0.005 (0.054)	-0.126 (0.155)	0.088 (0.145)	0.030 (0.190)	0.000 (0.000)	-0.001 (0.013)
	Outcome 2 (unchanged)				0.007 (0.043)		0.000 (0.001)	0.009 (0.051)	0.000 (0.003)	0.007 (0.043)	-0.005 (0.031)	-0.002 (0.014)	0.000 (0.000)	0.000 (0.001)
	Outcome 3 (stronger)				**0.121** ** (0.062)		0.003 (0.003)	0.144 (0.134)	0.005 (0.051)	0.119 (0.147)	-0.083 (0.136)	-0.028 (0.179)	0.000 (0.000)	0.001 (0.012)
Model 6B	Outcome 1 (weaker)		**-0.247** ** (0.112)		-0.091 (0.071)		0.000 (0.003)	-0.206 (0.144)	-0.017 (0.055)	-0.172 (0.164)	0.158 (0.153)	0.144 (0.199)	0.000 (0.000)	-0.001 (0.013)
	Outcome 2 (unchanged)		0.039 (0.093)		0.014 (0.036)		0.000 (0.000)	0.032 (0.078)	0.003 (0.011)	0.027 (0.067)	-0.025 (0.063)	-0.023 (0.061)	0.000 (0.000)	0.000 (0.002)
	Outcome 3 (stronger)		**0.208** ** (0.089)		0.077 (0.057)		0.000 (0.003)	0.174 (0.123)	0.014 (0.046)	0.145 (0.142)	-0.133 (0.128)	-0.122 (0.167)	0.000 (0.000)	0.001 (0.011)

Table 5A.3: Average marginal effects with their respective standard errors; *** p<0.01, ** p<0.05, * p<0.10

Independent variables	Dependent variable – Rule change stringency (five-point scale)						
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Competition	**1.011*** **						
	0.334						
Finance competition		**0.958*** **				**1.280*** **	
		(0.350)				(0.464)	
Business competition			0.480				0.538
			(0.319)				(0.448)
Non-finance competition				**0.832*** **		**0.577***	
				(0.319)		(0.465)	
Non-business competition					0.467		0.253
					(0.298)		(0.341)
N	50	50	50	42	42	42	42
Cuts	0.774	0.042	-0.953	0.103	-0.595	2.817	0.378
	(1.140)	(1.009)	(1.092)	(1.001)	(1.151)	(1.405)	(1.390)
	2.343	1.570	0.495	1.588	0.806	4.585	1.846
	(1.143)	(0.983)	(1.055)	(1.000)	(1.135)	(1.514)	(1.424)
	4.658	3.829	2.540	3.564	2.590	6.793	3.647
	(1.296)	(1.123)	(1.111)	(1.131)	(1.194)	(1.697)	(1.489)
	6.584	5.725	4.355	5.865	4.805	9.178	5.848
	(1.432)	(1.267)	(1.237)	(1.346)	(1.374)	1.879	(1.632)

Table 5A.4: Order logit regression coefficients with their respective standard errors; *** p<0.01, ** p<0.05, * p<0.10

		Competition	Finance competition	Business competition	Non-finance competition	Non-business competition
Model 1	Outcome 1 (weaker)	**-0.0567**** (0.0289)				
	Outcome 2	**-0.124**** (0.053)				
	Outcome 3 (unchanged)	-0.006 (0.052)				
	Outcome 4	**0.143***** (0.054)				
	Outcome 5 (stronger)	**0.044*** (0.026)				
Model 2	Outcome 1 (weaker)		**-0.057*** (0.030)			
	Outcome 2		**-0.117**** (0.052)			
	Outcome 3 (unchanged)		-0.005 (0.049)			
	Outcome 4		**0.136**** (0.056)			
	Outcome 5 (stronger)		**0.043*** (0.026)			
Model 3	Outcome 1 (weaker)			-0.034 (0.026)		
	Outcome 2			-0.059 (0.043)		
	Outcome 3 (unchanged)			-0.002 (0.023)		
	Outcome 4			0.069 (0.047)		
	Outcome 5 (stronger)			0.026 (0.021)		
Model 4	Outcome 1 (weaker)				**-0.056*** (0.029)	
	Outcome 2				**-0.103**** (0.050)	
	Outcome 3 (unchanged)				-0.011 (0.044)	
	Outcome 4				**0.139**** (0.059)	
	Outcome 5				0.031	

	(stronger)		(0.023)	
Model 5	Outcome 1 (weaker)			-0.038 (0.027)
	Outcome 2			-0.057 (0.041)
	Outcome 3 (unchanged)			0.003 (0.023)
	Outcome 4			0.078 (0.052)
	Outcome 5 (stronger)			0.012 (0.017)
Model 6	Outcome 1 (weaker)	**-0.063*** (0.036)	-0.029 (0.021)	
	Outcome 2	**-0.173**** (0.081)	-0.078 (0.050)	
	Outcome 3 (unchanged)	-0.006 (0.073)	-0.003 (0.033)	
	Outcome 4	**0.205**** (0.081)	0.092 (0.056)	
	Outcome 5 (stronger)	0.038 0.028	0.017 (0.015)	
Model 7	Outcome 1 (weaker)	-0.042 (0.038)		-0.020 (0.027)
	Outcome 2	-0.068 (0.063)		-0.042 (0.037)
	Outcome 3 (unchanged)	-0.000 (0.027)		-0.001 (0.013)
	Outcome 4	0.089 (0.075)		0.042 (0.056)
	Outcome 5 (stronger)	0.022 (0.023)		0.011 (0.016)

Table 5A.5: Average marginal effects with their respective standard errors; *** p<0.01, ** p<0.05, * p<0.10

Independent variables	Dependent variable – Rule change stringency (three-point scale)						
	Model 1R	**Model 2R**	**Model 3R**	**Model 4R**	**Model 5R**	**Model 6R**	**Model 7R**
Competition	**0.826****						
	(0.382)						
Finance competition		**0.928****				**1.361****	
		(0.412)				(0.566)	
Non-finance competition				**0.727****		0.532	
				(0.367)		(0.394)	
Business competition			0.410				0.720
			(0.362)				(0.507)
Non-business competition					0.268		-0.039
					(0.353)		(0.416)
Mobilisation	0.006	0.006	0.012	0.009	0.012	0.002	0.013
	(0.012)	(0.011)	(0.011)	(0.013)	(0.012)	(0.012)	(0.013)
SIFI	0.840	1.045	0.972	1.114	1.175	**1.412***	**1.434***
	(0.666)	(0.672)	(0.665)	(0.738)	(0.741)	(0.774)	(0.777)
Salience	-0.204	-0.228	-0.186	-0.031	-0.068	0.022	-0.074
	(0.239)	(0.240)	(0.233)	(0.288)	(0.282)	(0.299)	(0.285)
Complexity	0.641	0.815	0.869	0.661	1.123	0.889	1.373
	(0.720)	(0.715)	(0.712)	(0.864)	(0.862)	(0.915)	(0.904)
Crisis	-0.174	-0.267	-0.086	-0.331	-0.312	-1.214	-0.700
	(0.841)	(0.856)	(0.824)	(0.987)	(0.949)	(1.084)	(0.996)
N	50	50	50	42	42	42	42
Cuts	1.351	1.059	0.207	1.666	0.419	4.645	1.519
	(1.217)	(1.075)	(1.124)	1.379	(1.474)	(2.009)	(1.711)
	3.989	3.713	2.692	4.161	2.732	7.427	3.915
	(1.351)	(1.216)	(1.194)	1.521	(1.531)	(2.236)	(1.798)

Table 5A.6: Order logit regression coefficients with their respective standard errors; *** p<0.01, ** p<0.05, * p<0.10

Rule code (internal)	Date proposal	Date final rule	Rule name
C-FR21-2016	Dec-16	Apr-17	Final Report ESMA Technical advice to the European Commission on fees to TRs under SFTR and on certain amendments to fees to TRs under EMIR
C-FR15-2016	Oct-16	Mar-17	Final Report Draft RTS specifying the scope of the consolidated tape for non-equity financial instruments
C-FR17-2016	Oct-16	Sep-17	Final Report Guidelines on the management body of market operators and data-reporting service providers
C-FR04-2016	Mar-16	Sep-16	Final Report Guidelines on MAR – information relating to commodity derivatives markets or related spot markets for the purpose of the definition of inside information on commodity derivatives
C-FR02-2016	Feb-16	Nov-16	Final Report Technical advice under the Benchmarks Regulation
C-FR18-2015	Nov-15	Nov-16	Final Report Guidelines on the validation and review of Credit Rating Agencies' methodologies
C-FR13-2015	Aug-15	Apr-16	Final Report Review of Article 26 of RTS No 153/2013 with respect to MPOR for client accounts
C-FR12-2015	Jul-15	Jun-16	Final Report Draft regulatory technical standards under the ELTIF Regulation
C-FR23-2014	Dec-14	Aug-15	Technical Advice under the CSD Regulation
C-FR15-2014	Sep-14	Feb-15	Final Report ESMA's technical advice to the European Commission on the delegated acts of the Regulations on European Social Entrepreneurship Funds and European Venture Capital Funds
C-FR17-2014	Sep-14	Dec-14	Final Report on Draft Implementing Technical Standards on main indices and recognised exchanges under the Capital Requirements Regulation
C-FR10-2014	Jul-14	Feb-15	Final Report ESMA's technical advice on possible delegated acts concerning the Market Abuse Regulation
C-FR05-2014	May-14	Dec-14	Technical Advice to the Commission on MiFID II and MiFIR
C-FR03-2014	Mar-14	Feb-16	Draft regulatory technical standards on settlement discipline under Regulation No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012 (CSDR)
C-FR04-2014	Mar-14	Sep-14	Final Report on Draft Regulatory Technical Standards on major shareholdings and an indicative list of financial instruments subject to notification requirements under the revised Transparency Directive
C-FR09-2013	Jul-13	Nov-13	Draft technical standards under EMIR on contracts with a direct, substantial and foreseeable effect within the Union and non-evasion
C-FR20-2012	Dec-12	Jun-13	Guidelines and Recommendations for establishing consistent, efficient and effective assessments of interoperability arrangements
C-FR21-2012	Dec-12	Jun-13	Guidelines and Recommendations on the Scope of the CRA Regulation
C-FR15-2012	Sep-12	Jun-13	Guidelines on remuneration policies and practices (MiFID)
C-FR12-2012	Jun-12	Jul-12	Guidelines on sound remuneration policies under the AIFMD
C-FR05-2012	Feb-12	May-13	Guidelines on key concepts of the AIFMD

C-FR01-2012	Jan-12	Mar-12	Draft technical standards on the Regulation (EU) No 236/2012 of the European Parliament and of the Council on short selling and certain aspects of credit default swaps
C-FR14-2011	Sep-11	Dec-11	Regulatory technical standards on the information for registration and certification of credit rating agencies
C-FR16-2011	Sep-11	Dec-11	Regulatory Technical Standards on the presentation of the information that credit rating agencies shall disclose in accordance with Article 11(2) and point 1 of Part II of Section E of Annex I to Regulation (EC) No 1060/2009
C-FR17-2011	Sep-11	Dec-11	Draft RTS on the content and format of ratings data periodic reporting to be requested from credit ratings agencies for the purpose of ongoing supervision by ESMA
C-FR12-2011	Aug-11	Oct-11	Advice on ESMA's draft technical advice to the European Commission on possible implementing measures of the Alternative Investment Fund Managers Directive in relation to supervision and third countries
C-FR09-2011	Jul-11	Nov-11	Technical advice to the European Commission on possible implementing measures of the Alternative Investment Fund Managers Directive
C-FR05-2011	Apr-11	Nov-11	Technical advice to the European Commission on possible implementing measures of the Alternative Investment Fund Managers Directive
C-FR02-2011	Jan-11	Dec-11	Technical advice on possible delegated acts concerning the Prospectus Directive as amended by the Directive 2010/73/EU
C-FR12-2010	Jul-10	Oct-10	Technical Advice to the European Commission in the context of the MiFID Review – Client Categorisation
C-FR08-2009	Jun-09	Jul-10	Guidelines on Risk Measurement and the Calculation of Global Exposure and Counterparty Risk for UCITS
C-FR04-2009	Mar-09	Oct-09	Technical advice to the European Commission on the level 2 measures related to the format and content of Key Information Document disclosures for UCITS
C-FR02-2009	Feb-09	Dec-09	Technical advice to the European Commission on level 2 measures relating to mergers of UCITS, master-feeder UCITS structures and cross-border notification of UCITS
C-FR16-2008	Oct-08	Nov-08	Technical advice to the European Commission on Indian GAAP
C-FR06-2008	May-08	Oct-08	CESR/CEBS' technical advice to the European Commission on the review of commodities business
C-FR05-2008	Apr-08	May-08	Advice on Canadian and South Korean GAAPs
C-FR01-2008	Jan-08	Oct-08	CESR/CEBS' technical advice to the European Commission on the review of commodities business
C-PR19-2007	Dec-07	Mar-08	Advice on the equivalence of Chinese, Japanese and US GAAPs
C-FR06-2007	Apr-07	Feb-08	Advice to the European Commission on the content and form of Key Information Document disclosures for UCITS
C-FR09-2007	Apr-07	May-07	Technical advice on a mechanism for determining the equivalence of the generally accepted accounting principles of third countries
C-FR01-2006	Jan-06	Jun-06	Financial technical advice on possible implementing measures concerning the Transparency Directive storage of regulated information and filing of regulated information
C-FR14-2005	Oct-05	Jan-06	Advice to the European Commission on Clarification of Definitions concerning Eligible Assets for Investments of UCITS

C-FR11-2005	Jul-05	Jun-06	Financial technical advice on possible implementing measures concerning the Transparency Directive storage of regulated information and filing of regulated information
C-FR09-2005	Jun-05	Oct-05	Advice to the European Commission on a possible amendment to Regulation (EC) 809/2004 regarding the historical financial information that must be included in a prospectus
C-FR06-2005	Apr-05	Jun-05	Technical Advice on equivalence of certain third-country GAAP and on description of certain third countries' mechanisms of enforcement of financial information
C-FR17-2004	Oct-04	Jun-05	Technical Advice on equivalence of certain third-country GAAP and on description of certain third countries' mechanisms of enforcement of financial information
C-FR07-2004	Jun-04	Dec-04	Technical Advice on Possible Implementing Measures of the Directive 2004/39/EC on Markets in Financial Instruments Professional client agreements
C-FR12-2004	Jun-04	Jun-05	Final Technical Advice on Possible Implementing Measures of the Transparency Directive
C-FR13-2004	Jun-04	Apr-05	Technical Advice on Possible Implementing Measures of the Directive 2004/39/EC on Markets in Financial Instruments first Set of Mandates where the deadline was extended and second Set of Mandates
C-FR02-2004	Mar-04	Jan-05	Technical Advice on Possible Implementing Measures of the Directive 2004/39/EC on Markets in Financial Instruments first Set of Mandates

Table 5A.7: The list of rules coded in the data set

Entity	Region	Headquarter country	FSB-G-SIB status	Total capital ratio requirement
HSBC	EMEA	United Kingdom	2011–	13.0% (CET1=min.9.5%)
JP Morgan Chase	Americas	United States	2011–	13.0% (CET1=min.9.5%)
Barclays	EMEA	United Kingdom	2011–	12.5% (CET1=min.9%)
BNP Paribas	EMEA	France	2011–	12.5% (CET1=min.9%)
Citigroup	Americas	United States	2011–	12.5% (CET1=min.9%)
Deutsche Bank	EMEA	Germany	2011–	12.5% (CET1=min.9%)
Bank of America	Americas	United States	2011–	12.0% (CET1=min.8.5%)
Credit Suisse	EMEA	Switzerland	2011–	12.0% (CET1=min.8.5%)
Goldman Sachs	Americas	United States	2011–	12.0% (CET1=min.8.5%)
Mitsubishi UFJ FG	Asia	Japan	2011–	12.0% (CET1=min.8.5%)
Morgan Stanley	Americas	United States	2011–	12.0% (CET1=min.8.5%)
Royal Bank of Scotland	EMEA	United Kingdom	2011–2018	12.0% (CET1=min.8.5%)
Agricultural Bank of China	Asia	China	2014–	11.5% (CET1=min.8%)
Bank of China	Asia	China	2011–	11.5% (CET1=min.8%)
Bank of New York Mellon	Americas	United States	2011–	11.5% (CET1=min.8%)
China Construction Bank	Asia	China	2015–	11.5% (CET1=min.8%)
Crédit Agricole	EMEA	France	2011–	11.5% (CET1=min.8%)
Industrial and Commercial Bank of China	Asia	China	2013–	11.5% (CET1=min.8%)
ING Bank	EMEA	Netherlands	2011–	11.5% (CET1=min.8%)
Mizuho FG	Asia	Japan	2011–	11.5% (CET1=min.8%)
Nordea	EMEA	Finland	2011–	11.5% (CET1=min.8%)
Royal Bank of Canada	Americas	Canada	2017–	11.5% (CET1=min.8%)
Santander	EMEA	Spain	2011–	11.5% (CET1=min.8%)
Société Générale	EMEA	France	2011–	11.5% (CET1=min.8%)
Standard Chartered	EMEA	United Kingdom	2012–	11.5% (CET1=min.8%)
State Street	Americas	United States	2011–	11.5% (CET1=min.8%)
Sumitomo Mitsui	Asia	Japan	2011–	11.5% (CET1=min.8%)
UBS	EMEA	Switzerland	2011–	11.5% (CET1=min.8%)
Unicredit Group	EMEA	Italy	2011–	11.5% (CET1=min.8%)
Wells Fargo	Americas	United States	2011–	11.5% (CET1=min.8%)
Banco Bilbao Vizcaya Argentaria	EMEA	Spain	2012–2015	10.5% (CET1=min.7%)
Commerzbank	EMEA	Germany	2011	10.5% (CET1=min.7%)
Groupe BPCE	EMEA	France	2011–2016, 2018	10.5% (CET1=min.7%)
Lloyds Banking Group	EMEA	United Kingdom	2011	10.5% (CET1=min.7%)
Dexia Group	EMEA	Belgium	2011	N/A

Table 5A.8: The list of G-SIFIs/G-SIBIs ordered by the total capital ratio requirements (source: FSB 2011–2018)

Chapter 6 – MiFID II (part I)

Stronger rules: research inducement regime

Summary

Following the large N study, the next three chapters put the competition-centred theoretical proposition to another test through small N case studies derived from the largest regulatory overhaul in European securities markets regulation since the GFC –MiFID II.

Research unbundling is a textbook example of regulators' success in introducing more stringent rules, which require all investors to pay directly for sell-side research rather than receiving it for free, as was the standard practice for decades. The extent of regulatory stringency was a reflection of competition in the markets: buy-side large asset management firms wanted to capitalise on economies of scale at the expense of their smaller peers. Further, sell-side research providers also got divided: star performers wanted to bring prestige back to their sector, while others have been (legitimately) worried about redundancies.

As per Figure 6.1, Chapter 6 will proceed as follows: the first part (section 6.1) explains the key regulatory pillars of MiFID II reforms and how they fit into a broader regulatory landscape in European securities markets. More specifically, the key focus is on MiFID II (2014/65/EU), accompanied by the Markets in Financial Instruments Regulation (MiFIR – 600/2014/EU) Level II regulation (delegated acts, regulatory technical standards and implementing technical standards) and the Level III ESMA guidance.

The second part (section 6.2) extends the methodological discussions from Chapter 4 in three ways: first, by mapping how case studies fit into a wider mixed-methods methodological framework adopted in the thesis; second, by explaining the case selection process; and third, by analysing the triangulation process in obtaining data from multiple different sources.

The third part (section 6.3) will analyse the core material of this chapter – empirical evidence on how competition among financial stakeholders led to one of the globally most stringent reforms – introduction of the research inducement regime. The chapter will provide detailed analyses of emergence of the new regime, competition

among regulatees, channels of influence over the regulator, and regulatees' preference attainment.

The final section will conclude the chapter.

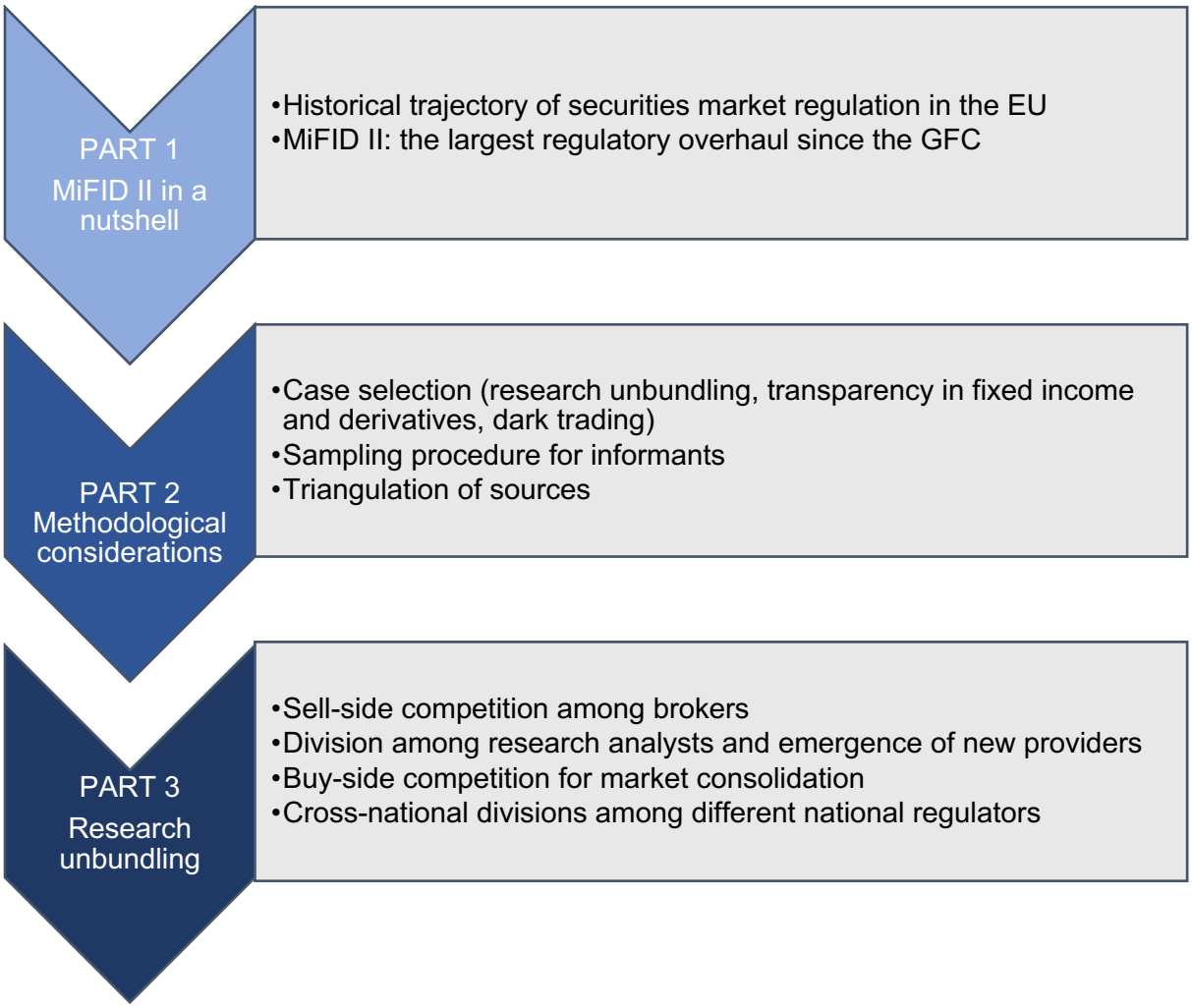

Figure 6.1: Key parts of Chapter 6

6.1 MiFID II in a nutshell – why does it matter?

The original MiFID I came into effect in November 2007[92] with the ultimate goal of creating a level playing field for firms in the EU's financial markets. A larger number of service providers and consequent enhanced customer protection were perceived as

[92] Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments amending Council Directives 85/611/EEC and 93/6/EEC and Directive 2000/12/EC of the European Parliament and of the Council and repealing Council Directive 93/22/EEC.

the cornerstone of the EU's Financial Services Action Plan, an ambitious and wide-ranging project to create a single European market in financial services.

Furthermore, MiFID I was intended to rectify the shortcomings of the Investment Services Directive from 1993, primarily in regard to insufficient harmonisation, weak investor protection and limited competition between trading venues (Busch 2017). However, the pace of technological change and innovation in financial instruments and markets, together with the increased fragmentation of markets and data, led to increasing concerns about the effectiveness of MiFID I. Ultimately, the GFC has exposed major gaps in investor protection and market transparency, which have led to a new legislative package to replace the MiFID regime (Hogan Lovells 2017).

In October 2011, the European Commission adopted a legislative proposal for the revision of MiFID, which took the form of a revised directive and a new regulation. On 15 April 2014, EU members of Parliament voted through MiFID II as part of a draft of legislation to clear the way before the European elections in late May 2014.[93] The new directive was supplemented by a further Level 1 text, the MiFIR.[94] The MiFID II Directive and MiFIR were published in the Official Journal of the European Union on 12 June 2014. Together with related delegated acts and guidance, the legislative package as a whole is commonly referred to as 'MiFID II'.

More broadly, the legislative package has six main goals:

- first, assuring a safer, sounder and more transparent financial system;
- second, contributing to the delivery of the G20 commitment to tackle less regulated and opaque parts of the financial system;
- third, improving organisation and transparency of markets, particularly for OTC instruments and market transactions;
- fourth, improving the oversight and transparency of commodity derivative markets;
- fifth, tackling the most recent market developments such as algorithmic and high-frequency trading; and

[93] Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (recast).
[94] Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012.

- sixth, achieving higher level of regulatory harmonisation across Member States (European Commission, 2011).

Given such a broad scope of regulatory reform, regulators, policymakers and industry representatives spent more than 10 years drafting, negotiating and calibrating the new rules, which were mostly implemented on 1 January 2018.[95] The exceptionally long rulemaking process is a reflection of three main institutional characteristics: a plethora of stakeholders involved with varied regulatory preferences; technical complexity of a very broad range of regulatory initiatives; and complexity of the institutional governance framework, the Lamfalussy process.[96]

As well as achieving six main European Commission priorities, MiFID II tackles a whole variety of regulatory initiatives, such as enhanced governance for trading venues, on-exchange trading of standardised derivatives, more intensive regulation of commodity derivatives, improved pre- and post-trade transparency, greater consolidation of market data, more extensive transaction reporting, enhanced regulation of algorithmic and high-frequency trading, new investor protection requirements and a new framework for non-EEA (European Economic Area) firms accessing EU markets.

When it comes to the EU institutional governance, MiFID II followed the Lamfalussy process, which involves a four-stage legislative procedure. Level 1 consists of framework legislation, which may contain individual articles specifying matters on which the European Commission is delegated to adopt Level 2 measures. Thus, MiFID II Level 1 measures consist of the MiFID II Directive and MiFIR. While the former had to be transposed into national law by each member state by 3 July 2017, the latter came into effect on 3 January 2018 and it was deemed to be directly effective in all Member States without transposition into national law or regulation.

[95] There were some delays in implementation, either minor (i.e. two-month deferrals for dark pool) or major (i.e. in open access exchanges with 30-month deferral granted to a large number of clearing houses, and 36-month deferral for SI regime for derivatives). Source: https://www.thetradenews.com/mifid-ii-si-regime-derivatives-delayed-second-time-2020/

[96] The Lamfalussy architecture – a specific regulatory process in financial services – was first introduced in 2001, when the EU endorsed the proposals of the Lamfalussy Report. This report recommended the adoption of a new approach to improve the regulatory process in financial services in order to make it quicker and more effective.

Level 2 implementing measures were drafted and adopted by the European Commission, following advice from ESMA as the main European Supervisory Authority (ESA)[97] in the area of securities markets regulation. There are two main groups of Level 2 regulatory texts: delegated acts and technical standards based on discussion papers. In contrast to the consultation on the delegated acts, the ESMA discussion papers explored more innovative and technically complex issues and included most of the proposals on transparency, data reporting and market structure. The ESMA discussion papers were followed by a further consultation paper with draft ESMA technical standards.

Level 3 consists of consultation and guidance published by ESMA and other ESAs. Finally, Level 4 involves the supervision and enforcement of the requirements, in particular by individual Member States although with close attention from the European Commission.

6.2 Methodological considerations

Although the large N study provides compelling statistical support for the theoretical proposition that competition in the markets is the key driver of regulatory change stringency, the complex nature of financial regulation warrants methodological caveats. As per the discussion in Chapter 4, two main caveats are centred around the omitted variable bias in the context of the three-stage rulemaking process and possible limitations in quantifying key variables of interest.

First, when it comes to the three-stage rulemaking process, consultations during the production phase are the central stage in devising new rules. However, there are other opportunities for seeking influence. Interest groups can express their regulatory preferences during the agenda-setting phase and, to a lesser extent, during the compliance phase. For example, during the agenda-setting phase, some regulatees can attempt to capitalise on the first mover advantage through their access to knowledge networks, either by gaining an informational edge or through personal interactions with regulators (Lall 2012). Equally important, flawed compliance and regulatory arbitrage should also be considered in assessing the extent of regulatory stringency. Thus, focusing on the central stage of rule production might underestimate

[97] In the EU context, ESAs are the European Banking Authority (EBA), the European Securities and Markets Authority (ESMA), and the European Insurance and Occupational Pensions Authority (EIOPA).

the importance of regulatory dynamics prior to and after the official consultation procedures. The case studies overcome the omitted variable bias by focusing on the entire regulatory process (agenda-setting, rule production and compliance phases, respectively).

Second, despite the robust methodological process of quantifying key variables of interest in the large N study, nuances of financial regulation occasionally require more granularity in order to capture the full extent of stakeholders' interests and, more importantly, the ramifications of specific rules. In financial regulation, the devil is in the detail, so it is essential to pay careful attention to regulatory nuances in order to gain a full understanding of the underlying intuition, causal mechanisms and smoking-gun evidence.

6.2.1 Case selection

Considering that MiFID II spans 7,000 pages and the industry estimated €2.5 billion of compliance costs (Jones, Hadfield and Brush 2018), it was necessary to categorise it into more manageable, discrete units of regulation that target more specific segments of the market or behaviour of market participants. While random sampling is central to most statistical studies, the view that random selection will often result in serious biases in small N research predominates. Therefore, the small N analysis requires a careful, theory-guided selection of non-random cases (Gerring 2008; Collier 2011a).

Furthermore, random sampling is inappropriate for two main reasons: first, it is likely to be unrepresentative and, second, randomly choosing cases is unlikely to result in the full range of values for independent and dependent variables. Thus, in order to isolate a sample of cases that both reproduces the relevant causal features of a larger universe (representativeness) and provides variation along the dimensions of theoretical interest (causal leverage), a case selection for very small samples must employ purposive (non-random) selection procedures (Gerring 2008).

Through surveying the academic literature and industry briefings, I identified three broad domains of MiFID II: first, scope of investment firms and respective services; second, trading practices; and third, supervision and enforcement. Upon careful examination of these three domains, I further refined them into more specific regulatory issues, which present a universe of potential cases for a small N study (Table 6.1): governance of investment firms, customer protection, inducement regime,

principal dealing, organisation of trading venues, transparency thresholds, dark trading, and enforcement mechanisms.

Regulatory domain	Regulatory issue	Competition	Salience score	Complexity measure	Rule change
Investment firms and services	Governance of investment firms	Insignificant	3	0.45	Unchanged
	Customer protection	Insignificant	4	0.67	Unchanged
	Inducement regime (research 'unbundling')	**High – competition**	**4**	**0.55**	**Stronger**
	Principal dealing	Insignificant	2	0.78	Unchanged
Trading	Organisation of trading venues	Insignificant	2	0.67	Unchanged
	Transparency thresholds	**Low – unified opposition**	**3**	**0.64**	**Weaker**
	Dark trading	**Low – unified opposition**	**4**	**0.59**	**Weaker**
Supervision and enforcement	Public and private enforcement mechanisms	Insignificant	2	0.66	Unchanged

Table 6.1: The universe of possible cases of the MiFID II regulation with key independent (Mobilisation, Competition) and control (Salience, Complexity) variables in relation to the dependent variable – Rule change

In addition to the main variable of interest – Rule change stringency – I also control for several related and plausible explanations, which were discussed at length in Section 3.3.2.First, I consider the effect of salience, which stands for the importance that the general public assigns to a specific regulatory matter compared to other issues on the political agenda (Soroka and Wlezien 2005). The Salience variable is operationalised in the same way as for the large N study: by measuring levels of average attention given to the specific issue in general and specialised financial media.[98]

Second, I also control for the possible effect of complexity, which refers to the level of technical expertise required in order to respond to consultations. The Complexity variable is operationalised in the same way as for the large N study:

[98] The LexisNexis database covers major financial media outlets (*Financial Times* and *New York Times*) and financial regulation specialised publications (*The Banker*, *American Banker* and *International Banker*). The frequency statistics are then manually translated into a modified five-point scale, which relies on Gormley's (1986) categorisation of issue salience.

through the dictionary-based programme Linguistic Inquiry and Word Count (Owens and Wedeking 2011; Collins et al. 2015).

Third, I consider the number of stakeholders mobilised across different regulatory issues. Given that MiFID II is the largest regulatory overhaul since the GFC, there has been a large number of regulatees involved in the rulemaking process, which makes all regulatory issues broadly similar regarding the number of mobilised stakeholders and SIFIs (proxy for market power).

As in Table 6.1, there are three cases that require further examination: the inducement regime ('research unbundling'), transparency thresholds (particularly in fixed income and derivatives markets) and dark trading, primarily in relation to the equities markets. Although the outcomes (dependent variable) in all three cases are in line with the theoretical hypotheses, it is necessary to evaluate the underlying intuition, causal mechanisms and alternative explanations to meaningfully confirm validity of the theory.

The most similar system design is the most appropriate selection technique (Seawright and Gerring 2008). More specifically, representative cases exhibit different outcomes (either stronger or weaker rules), different scores on the factor of interest (competition) and similar scores on all other possible causal factors. In other words, the variance in outcomes is explained through the extent of competition among multiple stakeholders, who mobilised in these three specific regulatory procedures.

The case studies draw on a wealth of triangulated sources: first, the official statistics gathered through Bloomberg Professional terminal and Reuters Eikon platform, which collect raw data from regulatory agencies, central banks, trading venues and exchanges in addition to their proprietary statistics; second, 24 semi-structured interviews with industry representatives, regulators, journalists and policymakers in Brussels, Frankfurt, Paris and London[99]; third, secondary sources such as official consultation submissions, white papers and press articles from general (*Financial Times* and *New York Times*) and specialised (Risk.net, Bloomberg, Reuters, *Banker*) media outlets.

[99] Interviews were conducted from July 2018 to April 2019 in accordance to Ethics approval obtained on 26 April 2018 (approval reference No: SSH_DPIR_C1A_18_013). All interviews were recorded although the data was consequently anonymised, and only descriptive attributions are used in the thesis.

The informants were selected based on the large N study ranking of the top 50 most active stakeholders in European consultation procedures. The relevant representatives from all those institutions were contacted via email requesting a meeting. In addition, participants who do not formally submit consultation procedures – such as national regulators, policymakers and journalists – were contacted based on their level of engagement in securities market regulation. In the terminology of the formal research methodology, the sampling design is based on a combination of purposive and snowballing sampling methods for regulatees and other interested parties, respectively.[100]

6.3 Research unbundling – stronger rules

> There is no reason to think that what happened in 'research unbundling' would have happened without MiFID. This is purely a regulators' led initiative, which deeply divided the industry.
>
> (interview, market observer)

6.3.1 The prohibition of inducements

> Research used to work like a distribution of drugs: first, you give some for free, and then you get an addict who you can start charging for services afterwards.
>
> (interview, buy-side industry association representative)

While there are many transformative elements of MiFID II, only a few impact as many different market segments and have such important economic implications as research unbundling (Meager 2017). According to the industry estimates made by management consultancy Oliver Wyman, the research costs make up, on average, one to three basis points of the total charges of active management firms of circa 60 basis points that are ultimately borne by end investors (Turner et al. 2017). Yet,

[100] See Appendix B.1 for the list of all participants.

absorbing these charges could add 2–4 per cent to operating costs for asset management firms, which is equivalent to a 4–7 per cent profit reduction.

When it comes to sell-side research providers, banks and brokers earn revenues of around $5 billion annually from trading activities related to research, and these are expected to decrease 30–60 per cent depending on the extent of price wars among the various providers. This in turn raises a pivotal question: how have the regulators managed to push such strong regulatory change with steep costs for both sell-side research providers (primarily investment banks and brokers) and buy-side investors?

The investor protection aspects of MiFID II were initially addressed in ESMA's consultation paper (ESMA/2014/549) from May 2014, when regulators proposed the most important changes to the MiFID I regulatory framework. These measures included requirements for the conduct of business, and they address the assessment of the suitability and appropriateness of investment products by financial advisers and strengthening of the rules on inducements. More specifically, ESMA proposed requirements in relation to how research could amount to a 'non-monetary benefit', which in turn presents client inducements that had already been prohibited by MiFID I.

By classifying research as an inducement, the buy-side firms are prevented from the previous practices of receiving all but the most generic or widely distributed 'free research' and have to start paying for it (Mahmud 2018). There are two types of research services that are deemed acceptable. First, the so-called 'minor non-monetary benefit' subject to disclosure and open availability of the material. Second, non-substantive material or services consisting of short-term market commentary. More practically, any research provided by research analysts, rather than sales and trading personnel, is in scope of the more stringent rules.

During consultation procedures, the industry expressed significant concerns regarding the initial ESMA proposal. However, the competitive dynamics among regulatees were translated into heterogeneity of policy positions expressed to the regulator. There were some diverging views among regulatees on a whole variety of issues, such as the treatment of bespoke, tailor-made research, as well as possible funding sources for prospective research payments. ESMA's further advice from

December 2014 reinforced the initial proposal[101], while three more stringent developments emerged following the consultations:

- first, the list of prospective inducements has become more extensive (detailed), including services such as bespoke, tailor-made research;
- second, ESMA provided provisions to indicate how brokers need to price and supply execution and research services separately to enable portfolio managers (and independent investment advisors) to meet the new restricted approach to inducements; and
- third, ESMA introduced the notion of *undervalued* research in order to combat possible predatory pricing (i.e. research providers charging unrealistically low fees as a way of artificially complying with the rules)[102].

As per Figure 6.2, despite some concerns from the industry, ESMA managed to preserve the globally most stringent rules, while adding additional stringency in very specific issue areas. More generally, from 3 January 2018, all sell-side firms are obliged not to induce clients to trade by bundling research within their execution services. Furthermore, sell-side firms need to provide clients with unbundled costs of trading, separately identifying and charging for execution, research and other advisory services, while buy-side firms must make explicit payments for research and demonstrate that research contributes to better investment decisions and does not therefore constitute an inducement.

Although there was general negative sentiment towards more stringent investor protection with regard to research inducements, it is important to highlight an extremely high level of competition among the key stakeholders, who have exhibited highly heterogeneous regulatory preferences. In addition to the rule production phase,

[101] The only (very slight) potential retracement was ESMA's acknowledgment that the regulatory list can be supplemented by more specific guidelines on 'minor non-monetary benefits'. Consequently, ESMA advised the Commission to adopt an exhaustive list of what constitutes a 'minor non-monetary benefit' to prevent regulatory arbitrage among Member States: first, information or documentation relating to financial instruments (i.e. generic information that could generally be easily accessible through Bloomberg or Reuters platforms or even on the websites of issuers); second, participating at conferences, seminars and trainings on specific financial instruments; and third, reasonable hospitality of a de minimis value (i.e. meals with the reasonable cap).

[102] The issue of predatory pricing has attracted more attention only after the official implementation in 2018. As reported by Financial Times and Bloomberg, some banks have decreased their research prices significantly, which led to FCA probe in H2 2018 (Flood 2018; Mahmud 2018, 2019). https://www.ft.com/content/8d912582-6fda-11e8-852d-d8b934ff5ffa

the competitive bargains among regulatees and consequent heterogeneous policy positions were also reflected at the implementation / compliance phase.

Although the regulator allowed for two pricing alternatives, the largest asset managers pushed for the costlier compliance model, which has become the unofficial industry standard. The rationale has been very clear: to benefit from the economies of scale. As one industry representative characterised it, 'if we already have to take a hit by more stringent rules, we might as well try to hurt our competitors more'.

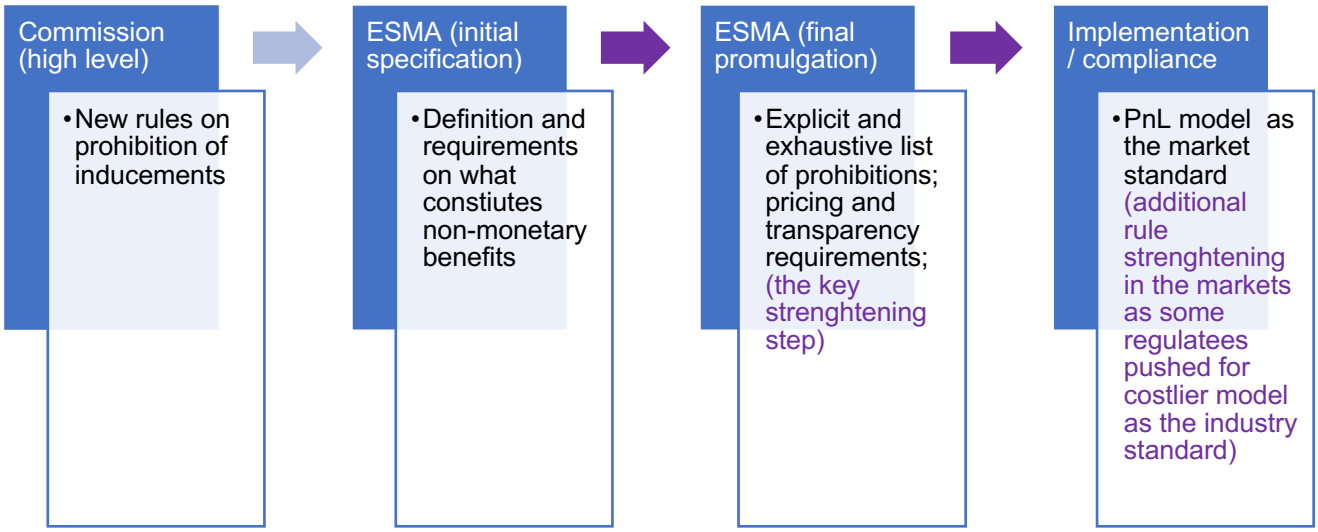

Figure 6.2: The degree of change in the level of stringency across time - the case study of research unbundling

6.3.2 Old and new competitors

Regulatees attempted to influence the regulatory process through strategic provision of information during consultation submissions and by leveraging their reputational power. However, the cacophony of industry voices is precisely what prevented regulatees from achieving regulatory concessions. As one industry observer points out: 'I have not seen the industry so divided on a specific regulatory issue for a long time'.

On the sell side, the pre-existing divisions between the largest European and American banks have re-emerged. While equity research is clear-cut in terms of inducements, reports on macroeconomics and FICC (fixed income, currencies and commodities) are more contentious regarding the extent to which they form an investment recommendation. Thus, several European banks – including BBVA, NatWest, Credit Suisse and ING – together with Japanese Daiwa, decided to provide

some or all of their FICC research for free (Mannix 2017; Wilkes 2017a). In order to comply with the relevant legislation, they must disseminate their research on the Internet, so it does not fall within the MiFID II definition of 'research'.

The other camp, led by the biggest US banks, refused to make any research available for free, claiming it could be risky and does not make commercial sense. Furthermore, American bankers, who traditionally have benefited from stronger balance sheets and have much larger fixed income trading operations, reiterated their commitment not to defy the spirit of MiFID rules (Murphy 2017b). This business approach is also more aligned with ESMA's view that most macroeconomic research should be chargeable on the basis that it is likely to explicitly or implicitly suggest an investment strategy.

The differentiation on the macroeconomic and FICC research is just one of the indicators of increasing competition in the research industry. More broadly, larger investment banks, which have financial capabilities to subsidise their research and offer a wider range of ancillary services, are expected to thrive in a more competitive market due to economies of scale, while the second-tier banks without niche specialisation have faced most challenges.[103]

Interestingly, there has been significant proliferation of new research providers. Portfolio managers have become more selective about the research they buy, which has opened up space for independent providers to offer alternative products and differentiated pricing arrangements. For example, non-bank research providers – such as Autonomous, IHS Markit, Edison and Morningstar – together with exchanges such as the London Stock Exchange (LSE), started offering new research products, which puts them in direct competition with the traditional research powerhouses such as Citi, JP Morgan or Credit Suisse and niche providers like Liberum, Numis and Shore Capital.

Furthermore, a significant number of new research providers have emerged since 2016. These new firms are primarily led by 'star' analysts from the sell-side who identified MiFID II as an opportunity to start new niche businesses (Quinlan & Associates 2017). For example, in 2016, Mark Pacitti, a former Goldman Sachs researcher and quantitative strategist at hedge fund Citadel, founded research firm

[103] The preliminary data is still scant to corroborate the anecdotal evidence of 'research unbundling' effects on a larger scale.

Woozle Research,[104] while Rod Manalo, a former mergers and acquisitions director at Jefferies, launched the research firm Manalo LLP.[105]

Des Supple, Nomura's former global head of research, founded Event Horizon, while Jens Nordvig, ex-head of fixed income research, launched Exante Data,[106] a big data firm targeting hedge funds. Phil Rush, Nomura's former UK chief economist, also founded a firm called Heteronomics.[107] Interestingly, with the global repercussions of MiFID II research requirements, there were some cases of new research providers in Asia, such as M Corp Review, specialising in Thailand thematic equity, and REAL-Economics.com,[108] focusing on Asia macro and thematic research.

Finally, research providers are also considering offering corporate sponsored research for the first time, in order to capitalise on increased demand for research coverage from issuers.[109] Although sponsored research has not traditionally been very popular among investors due to possible conflicts of interest (i.e. issuers paying for an assessment of their own firms), the industry associations expect a marginal increase in the importance of sponsored research under the strong assumption of an arm's-length modus operandi.

The competition from the research business area is very likely to spill over into the execution domain, which has been the primary concern for the largest investment banks. In the equities markets, about one-half of the high-touch cash commissions and revenues from single-name swaps are attributed to research and the content provided by salespeople (i.e. market commentary or trading colour on the investor flows). This represents $5 billion of the annual revenues or 8 per cent of the total global equities revenue pool, while the remaining $55 billions of equities revenues come from financing and risk management (Turner et al. 2017).

Before MiFID II, the need to reward a wide panel of research providers through execution commissions has effectively capped the market share possible in execution. By removing this effect and putting increased emphasis on the cost of execution as a service in itself, the new MiFID II rules could lead to a significant fee pressure and

[104] https://www.woozleresearch.com
[105] http://www.manalo-llp.com
[106] https://exantedata.com
[107] https://heteronomics.com
[108] https://www.smartkarma.com/companies/real-economics-com/team
[109] https://www.latham.london/2018/07/mifid-ii-research-unbundling-6-months-on-what-are-we-seeing-in-the-market/

consolidation of flows around the most cost-effective providers. There are two sets of stakeholders who are expected to benefit the most from the new regulatory regime.

First, the four largest investment banks have captured 70 per cent of all profits available in the equities execution business since 2016, which is a significant increase from 50 per cent in 2012 (Turner et al. 2017). Thus, the largest investment banks are expected to see further increases in profit margins as the buy-side preferences for 'rewarding' research have started to change[110]. Second, the specialist execution houses offering technology-driven platforms have actually pushed hard for the introduction of the inducement regime as it has allowed them to offer low-cost execution services without the need to provide any research or market commentary.

According to the Greenwich Associates report from the second quarter of 2018, 37 per cent of managers subject to the new best execution rules are planning to shift or have already moved their order flow to specialist electronic broker traders. This in turn is expected to lead to a 2 per cent net flow increase for electronic traders, while large investment banks[111] and brokers are expected to see a drop of 1.1 per cent and 3.7 per cent, respectively.

6.3.3 Who pays for research?

On the other side of the research business are buy-side investors, who have been equally divided over optimal research unbundling rules. A recent survey of European asset management firms conducted by the CFA Institute showed that European management firms with less than €20 billion ($23.5 billion) in assets (half of the total 365 respondents) estimated research costs in the range between 10 and 38 basis points[112] (Preece et al. 2017). In contrast, the larger buy-side firms such as the Man Group and Jupiter claimed that research would cost them around 1 basis point (Mahmud 2018). The difference in the cost structure and funding of research has become a major point of disagreement on the buy side.

[110] There are already some first signs of the industry consolidation. For example, Deutsche Bank has exited equities trading business. Although this cannot be fully attributed to MiFID, the research inducement regime has certainly contributed to their business decision https://www.ft.com/content/b98ea194-a3c5-11e9-a282-2df48f366f7d

[111] The Greenwich Associate report refers to all large investment banks rather than the top four discussed in the Oliver Wyman report.

[112] Oliver Wyman research estimated 1 to 3 basis points; however, all estimates are highly dependent on the size of AUM and business model of a specific fund.

Following the ESMA requirement to unbundle research costs from total execution costs, the largest asset management firms identified the new regime as an opportunity to benefit from economies of scale. Absorbing research costs is disproportionately burdensome for small and mid-sized investment management firms, especially those with diversified portfolio offerings. Research is one of the costs in investment management that does not increase in direct proportion to assets under management (AUM), but it is more closely connected to the breadth of offering.

As such, smaller firms will not be able to afford such a wide range of external research providers, nor will they be able to rely on the in-house research teams available at the largest investment management firms. Small and mid-sized firms, particularly those focused on equities, may need to substantially reduce their consumption of research or pass the cost on to end investors, which means being able to justify the use of research through differentiated performance.

Article 13 of the Delegated Directive (2016) allows two forms of payment for research, which are compliant with the inducement prohibition: first, a direct payment by a research recipient (i.e. asset management firm) out of its own resources (so-called P&L method) and, second, a payment from a separate research payment account (RPA). If an asset management firm implements the P&L method, research is paid out of its own P&L, thus reducing profit margin. However, the P&L method reduces regulatory reporting burden (i.e. there is no need to as there are no regulatory budget and disclosure rules) as they do not rely on investors' money to pay for research costs. In addition, there is a significantly reduced risk of regulatory penalties for erroneous reporting.

If an asset management firm implements the RPA method, clients (i.e. the asset owners or ultimate investors) provide specific funding for research. Thus, research is paid out of client commissions, and not out of the asset management firm's P&L. However, for the RPA method, strict regulatory requirements must be followed, including setting up ex ante monetary research budgets along with client disclosures and record-keeping requirements. Furthermore, RPAs are potentially plagued by free-rider problems, as illustrated by a representative of the law firm Sidley Austin:

> People are asking: what happens if client A wants a research budget of $10, and client B wants one of $50? Does client A get

> the benefit of the research anyway? The portfolio manager can't exactly split their brain.
>
> (reported by Meager 2017)

According to the CFA Institute survey from 2017, paying for research services using the P&L method was the preferred option among 67 per cent of larger management firms and only 42 per cent of smaller management firms. For example, Vanguard reported spending around $5 million annually on external research (Mooney 2017b), which equates to merely 0.011 basis points of their $4.4 trillion AUM.

For a $40 billion asset management firm (such as Hermes Investment Management), a mere $0.5 million research cost translates into 0.125 basis points. Thus, it comes as no surprise that larger asset management firms have been in favour of research unbundling and have pushed for more stringent market practices through widespread adoption of the P&L model.

As per Table 6.2, four months prior to the MiFID II implementation date (January 2018), asset management firms were believed to be evenly split between planning to absorb the cost of research (P&L method) and implementing the RPA method. Initially, many gravitated towards RPA, only to change their business practices later. For example, the *Financial Times* (Mooney, 2017b) reported in August 2017 that seven asset management firms, controlling some $4.3 trillion in AUM, plan to pass research costs on to clients; all of those firms would later switch to the P&L method.

Vanguard was the first large US asset management firm to announce that any research cost would be paid out of its own P&L, followed by J.P. Morgan Asset Management during the same week. With AUM amounting to $4.4 trillion and $1.7 trillion, respectively, this created significant momentum for other asset management firms to join the trend. In 2017, the number of asset management firms known to use the P&L method rose from 12 in August to 24 in September (Mooney 2017c) and 71 in December (Mooney 2018).[113] As of February 2018, only two assets management firms were identified by the same *Financial Times* poll to pass research costs on to clients (Carmignac and Deka). As previously highlighted, the largest asset management firms perceived research unbundling and P&L market practice as an

[113] It is worth acknowledging that there is some criticism of the unintended consequences of the P&L model. According to the report from German ratings firm Scope Analysis and research procurement specialist Frost Consulting, a move to a P&L research pricing scheme could reduce the transparency of research spending that European regulators aimed to achieve.

opportunity to capitalise on economies of scale, while indirectly imposing additional costs on their smaller peers. In addition, the P&L model created communication advantages for non-European asset management firms who were able to claim compliance with the MiFID II inducement regime, while their actual costs of research are very limited, either because of their portfolio mandate (i.e. focus on fixed income) or customer base (i.e. non-MiFID compliant investors).[114]

Interestingly, even the domestic regulators within the EU were sending mixed signals. In September 2016 both the UK's FCA and France's Autorité des Marchés Financiers (AMF) released conflicting reports outlining how they plan to approach research unbundling within the same directive. While the FCA advocated for conventional unbundling, the AMF supported commission-sharing agreements (CSA), a sort of middle ground between the two whereby fund managers pay brokers for trade execution with a portion of the commission allocated to a research provider (Meager 2017; Wilkes 2017c). The different interpretations from domestic regulators reflect the long-standing conflict among European financial lobbies that aim to promote their national champions (Quaglia 2017).

In other words, French asset management firms tend to be smaller in comparison to their British peers, so the new industry trend of absorbing research costs affects them significantly more. Even Carmignac, the largest French investment house with €61 billion AUM, warned that an industry-wide move to cover the cost of research from asset management firms' own pockets would have dire consequences for Europe's fund sector (Mooney 2017a).

[114] As one industry association representative points out, some of the managers who were first to declare the P&L model actually have minimal costs for European research. In other words, 'they can declare whatever they want when it does not affect them. In addition, some global players apply MiFID research rules only to MiFID clients, which creates an uneven level playing field'.

First mover P&L (August 2017)		First wave of P&L followers (September 2017)		Second wave of P&L followers (January 2018)			RPA (August 2017) into P&L (January 2018)		RPA (January 2018)	
Vanguard	4,400	Brewin Dolphin	53	Allianz Global	Fisch AM	Legal & General IM	Amundi	1,480	Carmignac	64
JP Morgan	1,680	Brooks MacDonald	16	Artemis	Flossbach von Storch	Lyxor	BNP Paribas	672	Deka	115
Aberdeen AM	409	Charles Stanley	32	Ashmore	Franklin Templeton	Majedie AM	Fidelity International	2,450		
Baillie Gifford	190	Evenlode	2.6	Aviva Investors	GAM	Morgan Stanley	Invesco	859		
Hermes	40	JO Hambro	40	Axa IM	Generali Investments	Natixis Global AM	Janus Henderson	331		
Jupiter	57	NN Investment Partners	280	Barings	Goldman Sachs AM	Newton IM	Man Group	89		
Kempen	41	Northern Trust AM	135	BlackRock	Hermes	Nordea	Schroders	531		
M&G	347	Pimco	1,770	BlueBay AM	HSBC Global AM	Old Mutual	Union Investment	353		
Rathbones	48	Robeco	195	Brooks Macdonald	Insight Investment	Pictet				
Russell Investments	277	Standard Life Aberdeen	34	Canada Life	Investec	RBC				
Stewart Investors	31	T Rowe Price	991	Candriam	Legal & General IM	Royal London				
TwentyFour AM	9	Unigestion	25	Columbia Threadneedle	Lyxor	Ruffer				
Woodford IM	18			Credit Suisse	Majedie AM	Seven IM				
				Deutsche AM	Morgan Stanley	State Street				
				Equitile	Natixis Global AM	SVM				
				Evenlode	Newton IM	Troy AM				
				First Eagle IM	Investec	UBS				

Table 6.2: Timescale of research payment implementation (August 2017–January 2018) with AUM (in USD billions) in the accompanying columns
Source: *Financial Times* (Mooney 2017b, 2017c, 2018) and Bloomberg

To summarise the case study, research unbundling is a clear example of a relative success for European regulators who managed to promulgate much more stringent rules for investor protection in light of fierce competition among industry stakeholders, which translated into heterogeneous policy positions.

First, there was a conflict between research providers: the larger banks saw the prohibition regime as an opportunity to benefit from economies of scale in research and execution at the expense of smaller providers, particularly brokers. However, even within the broker community, there was a strong push from 'star' analysts to support new legislation as they expected MiFID II to award the best-performing researchers and restore prestige for the research sector. Interestingly, there has been a significant trend in setting up new, independent research firms and expanding service offerings from other financial services firms that were not previously involved in the research business.

Second, the large asset management firms perceived research unbundling as an additional opportunity to solidify their market position through the P&L model and jeopardise the relative position of their smaller peers, who are disproportionately affected by the inducement prohibition regime. In addition, pre-existing divisions between European and American asset management firms re-emerged.

In addition to some positive developments in Europe since the implementation of MiFID II,[115] it is interesting to acknowledge the growing global impact of European legislation. The SEC has initiated a formal consultation procedure on research unbundling, which was partially a product of buy-side pressures for global rule harmonisation. A number of buy-side firms want to unbundle research across all jurisdictions, so they apply pressure[116] on the SEC to change the process and allow US buy-side firms to unbundle and pay their largest brokers with hard dollars, either using cheques or CSA funds (Tabb 2019).

[115] According to Andrew Bailey, chief executive of the FCA, equity investors in the UK had saved more than £180 million from changes to the way asset management firms paid for research in 2018. https://www.ft.com/content/9a037d90-3908-11e9-b72b-2c7f526ca5d0 Furthermore, the FCA estimates £1 billion of savings for asset management firms between 2018 and 2023. https://www.ft.com/content/08411d9c-390b-11e9-b856-5404d3811663

[116] One of the strongest advocates for unbundling is the Council of Institutional Investors (industry association representing 135 US asset owners overseeing $4 trillion in assets), which claims that the EU exemption has had 'harmful effects on US retirees and workers' https://www.ft.com/content/2c040eff-14a8-3b4c-aef7-09cc94957c27 https://www.ft.com/content/f2a46c41-4bd4-3580-92a0-3dd0bae8daf3

Similar to European dynamics, both buy- and sell-side stakeholders in the United States seem to be divided over whether unbundling should be introduced at all and, if so, under what payment conditions.[117] Perhaps the best synthesis of the situation is FCA Chief Executive Andrew Bailey's remark that increased competition and more transparent pricing directly create 'winners and losers' in the industry (Stafford and Riding 2019).[118]

6.4 Conclusion

Chapter 6 is the first of three empirical chapters discussing case studies and providing an additional test for the competition-centred theoretical framework. This chapter started with an overview of MiFID II as the largest regulatory overhaul. Following the analysis of key regulatory reforms, I justified the case selection procedure, which resulted in three cases of interest: research unbundling, transparency thresholds and dark trading.

By analysing the research unbundling case study, this chapter corroborated the first part of the competition-centred theoretical proposition: regulatory competition between multiple stakeholders leads to increased rule change stringency (i.e. stronger rules). Such findings were derived by analysing competitive bargains on the sell side among broker dealers and research providers, and on the buy side among asset management firms.

Although all firms attempted to influence the regulatory through strategic information provision and reputational leverage, heterogeneous regulatory preferences resulted in cacophony of squawking, which has offset the conflicting voices from the industry. This in turn allowed the regulator to reiterate their stringent position, while also introducing more extensive list of prohibitions and rules on pricing.

[117] According to Tabb (2019), there are three possible solutions – notwithstanding the brokers' business model – to the problem of allowing US money management firms to unbundle their research and pay large brokers in hard dollars. First, open the 1934 Securities Exchange Act, section 28(e), and authorise the payment of research bills with hard dollar payments. Second, rework and extend the SEC no-action letter to allow US asset management firms to pay hard dollars for research. Third, let the no-action letter expire and exert pressure on brokers to register as investment advisors (at the time of writing, Bank of America Merrill Lynch is the only major stakeholder that has followed this route). https://tabbforum.com/opinions/research-unbundling-in-the-us-leaves-buy-side-sec-in-a-quandary/

[118] https://www.ft.com/content/9a037d90-3908-11e9-b72b-2c7f526ca5d0

Appendix B

B.1: List of participants

London
Philip Alexander – Risk.net
Sarah Mahmud – Bloomberg
James Roberts – ISDA (International Swaps and Derivatives Association)

Brussels
Alexander Weber – Bloomberg
Vincent Ingham – EFAMA (European Fund and Asset Management Association)
Federico Cupelli – EFAMA (European Fund and Asset Management Association)
Vincent Dessard – EFAMA (European Fund and Asset Management Association)
Pablo Portugal – AFME (Association for Financial Markets in Europe)
Rainer Riess – FESE (Federation of European Securities Exchanges)
Karel Lannoo – CEPS (Center for European Policy Studies – think tank)
Evelyne Christiaens – ALFI (Association of the Luxembourg Fund Industry)
Marieke van Berkel – EACB (European Association of Co-operative Banks)

Frankfurt
Torsten Schaper – Deutsche Borse
Rudolf Siebel – BVI (German Investment Funds Association)
Ullrich Hartmann – PwC
Wolf Kopp-Colomb – BaFIN (Bundesanstalt für Finanzdienstleistungsaufsicht)
Christian Schindler – BaFIN (Bundesanstalt für Finanzdienstleistungsaufsicht)

Paris
Stephane Giordano – Société Générale & AMAFI (L'Association française des marchés financiers)

Berlin
Steffen Kern – ESMA (European Securities and Markets Authority)
Daniel Hardy – IMF (International Monetary Fund)
Thierry Philipponnat – Institut Friedland

Washington
Jennifer Choi – ICI Global
George Gilbert – ICI Global
Sean Collins – ICI Global

Chapter 7 – MiFID II (Part II)

Weaker rules: transparency thresholds and dark trading

Summary

Following Chapter 6 with the *positive* case of competition as a driver of regulatory stringency, Chapter 7 focuses on two *negative* cases – transparency thresholds and dark trading – which corroborate the theoretical proposition that unified opposition among regulatees leads to regulatory watering down.

The first case study (section 7.1) analyses how the European regulators attempted to introduce transparency requirements for liquid non-equity instruments, such as fixed income and derivatives. The new rules would directly support their endeavours in protecting investors through execution cost reductions, while allowing the regulatory community and central bankers to have a more comprehensive insight into systematic risks. However, the final rules were significantly diluted from the initial calibration in 2014 until final implementation in 2018.

At the time of writing, the volume of proclaimed liquid bonds (which must comply with the transparency requirements) presents a 22.7-fold decrease in the number of in-scope instruments: from 3,857 in 2014 to 220 in 2019. Similarly, the OTC derivatives markets witnessed a 10-fold drop in the number of proclaimed liquid in-scope instruments: from 475 during the first calibration in 2014 to 51 in 2019. Even more striking, only 4 ‘vanilla’ interest rate swaps are currently deemed liquid (from 247 in 2014), although in some of these financial instruments an average daily notional traded is in excess of $1 trillion dollars.

The second case study on dark trading (section 7.2) is more peculiar as it might resemble competition among various financial stakeholders, although the nuanced empirical analyses show regulatory watering down due to homogeneous opposition from the industry. The empirical analyses of dark trading are split into two subsections: first, the analyses of ownership structure of various trading venues as an indication of regulatory preferences and, second, market developments since the implementation of MiFID II that have directly jeopardised the main regulators’ goal of moving flows from the darks to lit platforms, i.e. the exponential increase in the number of systematic internalisers, increased amount of trading through periodic auctions and an

exponential increase in the number of transactions that are just below the large-in-scale (LIS) waivers.

Although both studies fall in the category of *negative* cases, there are some differences that make them complementary from the empirical and methodological perspectives. The transparency threshold case study is a textbook example because it clearly shows the extent of regulatory watering down through the official process of rule production. Further, the industry's homogeneous preferences can be easily derived from comment submissions, which are also reflected in how regulatees influenced the regulator: through strategic provision of information, primarily trading data, and reputational leverage.

In the dark trading case study, the regulatory weakening is primarily achieved through intentional regulatory loopholes, while repercussions are fully observable only when the compliance phase is taken into account. Thus, empirical analyses of the dark trading case span both rule production and compliance phases, which emphasises the importance of the industry engagement into regulatory innovation (i.e. regulatory arbitrage or forbearance).

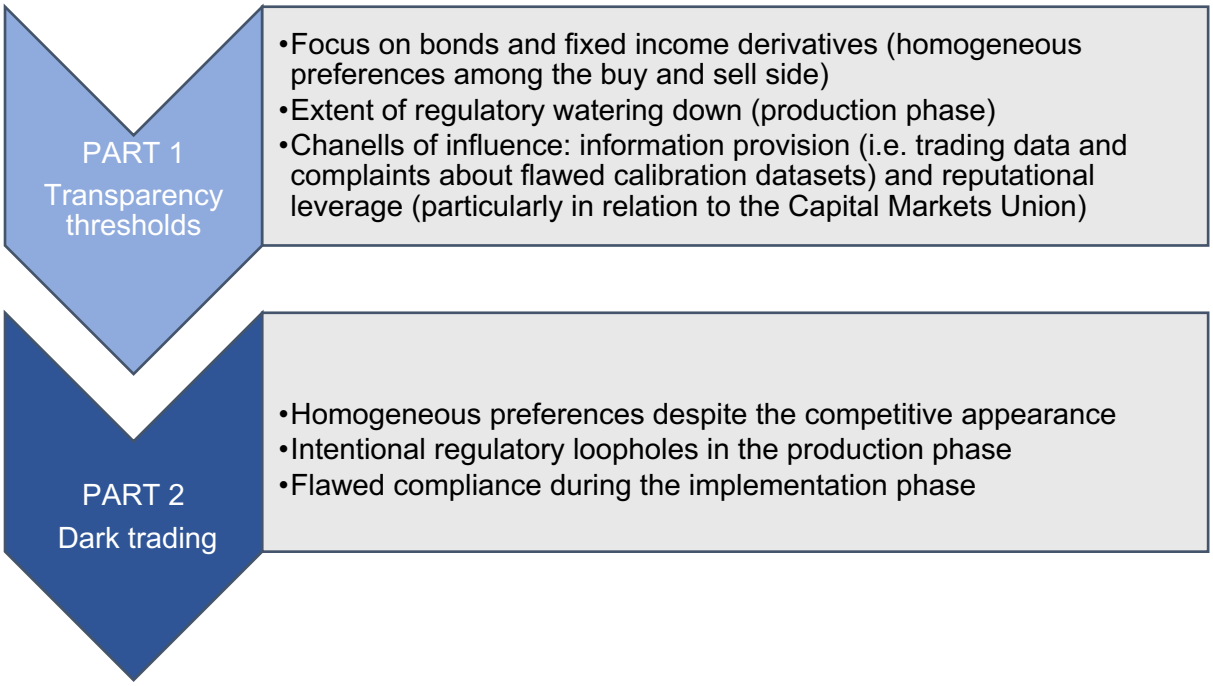

Figure 7.1: Two key parts of Chapter 7

7.1 Transparency thresholds – weaker rules

> A lot of MiFID II is good, clearly a step in the right direction, but it probably tried to achieve a lot across multiple different markets – very ambitious piece of legislation indeed. However, transparency is the part of MiFID which least achieved its objective.
>
> (interview, sell-side industry association representative)

Following the disastrous effects of the global financial crisis, the G20 made a strong commitment to improve the transparency of financial markets as one of the most efficient levers in mitigating systemic risk and protecting investors. The European legislation – MiFID II and MiFIR – has been designed to address these objectives by strengthening the transparency framework for all financial instruments, which is a significant step forward in comparison to the MiFID I that encompassed only equity instruments.

However, as per Figure 7.2, 28 technical standards have been significantly watered down during three consultation procedures (in May 2014, December 2014 and February 2015) and final technical guidance before the implementation in January 2018. ESMA has made a number of substantial changes, particularly regarding the liquidity assessment for non-equity instruments, as well as recalibration of the thresholds for pre-trade waivers and post-trade deferrals for large transactions.

For example, in the very first liquidity calibration in 2014 (the initial rule specification), ESMA classified 3,857 bonds and 475 fixed income derivatives as liquid (i.e. sufficiently often traded to be deemed liquid from the regulatory perspective, which entails more burdensome reporting requirements). However, the final calibration (the final promulgation) resulted in much smaller number of bonds and derivatives that ESMA identified as liquid: 220 bonds and 51 derivatives. In other words, following unified pressure from the industry, a majority of non-equity instrument thresholds were significantly softened.

Two most salient groups of instruments are analysed in depth: bonds (both corporate and sovereign debt), and interest rate derivatives which are traded on both exchanges and OTC.

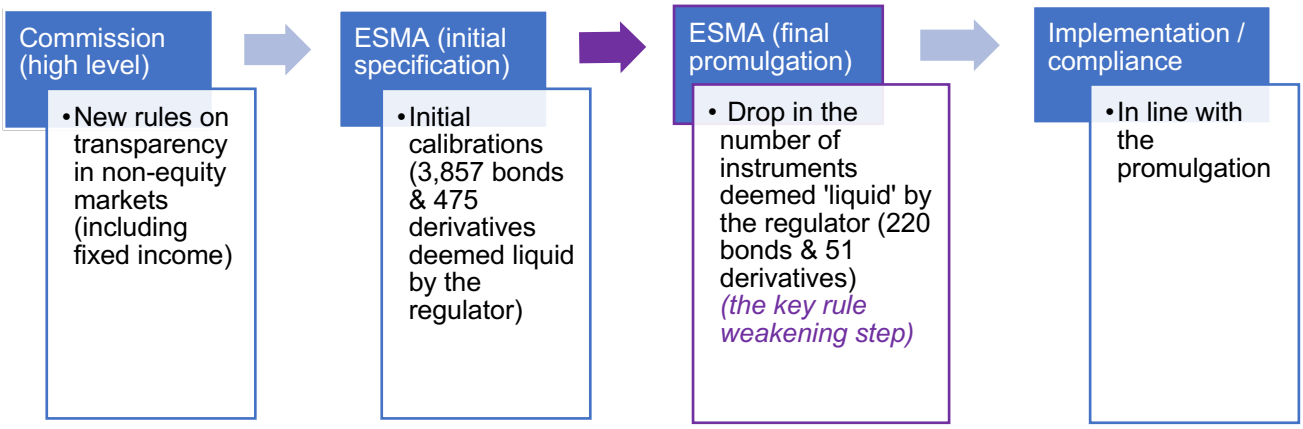

Figure 7.2: The degree of change in the level of stringency across time - the case study of transparency thresholds

7.1.1 MiFID II: Transparency and/versus liquidity

Before I proceed with analyses of the specific political bargains regarding bonds (section 7.1.2) and derivatives (section 7.1.3), it is useful to briefly reflect on the importance of transparency and how it can be achieved through the regulatory requirements of a disclosure.

Transparency rules are conceived to govern the mandatory disclosure of prices, trading volumes and general transaction information for trades executed primarily on different trading venues. The legal requirement of mandatory disclosures has a long tradition in the equities market. More specifically, mandatory disclosures are used at the IPO stage by institutional investors to determine the appropriate price and to mitigate possible conflicts of interest between an issuer, their financial adviser and investors, either institutional or retail.

In secondary markets, mandatory disclosures are primarily focused on the protection of retail investors as institutional ones are deemed to be sufficiently sophisticated to understand various risks. Thus, disclosures contribute to better informational efficiency, which is one of the key conditions for efficient and liquid markets. More systematically, there are three main benefits of transparency in financial markets:

- first, supporting price formation and fostering liquidity;
- second, addressing fragmentation risk by corroborating data from different trading venues; and
- third, informing regulators of the market trends and emerging risks so they can better perform their supervisory duties (Moloney 2017a).

The transparency rules have a long tradition in the equities market where the transparent modus operandi is directly linked to the price formation process, deeper liquidity (tighter bid–offer spread) and generally more efficient resource allocation. Deep secondary markets are beneficial for all parties involved: corporate issuers (reduction in cost of capital for primary market issuances), investors (lower transaction costs) and trade facilitators from various trading venues (more liquid markets encourage additional trading, which in turn translates into higher commissions).

The G20 in Pittsburgh made a strong commitment to improve transparency of financial markets as one of the most efficient levers in mitigating systemic risk and protecting investors, even in non-traditional markets such as fixed income and derivatives (Ferrarini and Saguato 2014). Thus, MiFID II was intended to increase transparency in non-equity markets by introducing pre- and post-trade requirements on all liquidity providers to publish their quoted prices before a prospective execution, and after a trade has been agreed.

More specifically, there are three most salient differences between MiFID I and MiFID II in regard to transparency regulation: first, maximum level of harmonisation across the Member States; second, much larger number of financial products in scope, including fixed income and derivatives; and third, significantly higher level of rule granularity and overall complexity (Moloney 2017b).

First, in line with the other aspects of MiFID II and MiFIR legislation, the Member States do not have to transpose the transparency rules as they apply automatically across the EU. The national discretion remains only in the domain of waivers and publishing deferrals, although the role of ESMA has been strengthened in order to coordinate exemptions at the Union level.

Second, in stark contrast to MiFID I, the transparency rules apply to a significantly wider range of financial instruments and trading venues. While MiFID I primarily focused on equities, the new legislation imposes pre- and post-transparency requirements for depositary receipts, exchange traded funds, certificates, other similar financial instruments, bonds, structured finance products, emission allowances and derivatives. Furthermore, the range of venues in scope has also expanded so the transparency rules apply to regulated markets, multilateral trading facilities (MTF) and organised trading facilities (OTF).

Third, the new regime is significantly more granular, which is a reflection of the vast amount of legislation in place: a) the Level 1 rules set out in MiFIR; b) a

comprehensive rule book comprising Level 2 Binding Technical Standards, adopted by the Commission but proposed by ESMA, together with 'standard' Level 2 administrative rules, adopted by the Commission and in relation to which ESMA provides Technical Advice; and c) a draft of soft Level 3 guidance and similar measures, adopted by ESMA. Given a much larger scope of products, in the words of Steven Maijoor:

> one of the most challenging tasks for ESMA has been to specify the notion of liquidity per asset class without harming liquidity by introducing a complex set of waivers and deferred publication options.
>
> (Maijoor 2014)

The dilemma between transparency and liquidity is at the core of regulators and central bankers' endeavours to promote a stable yet efficient financial architecture.[119] The following two sections look more specifically into fixed income markets (bonds and interest rate derivatives) to assess the extent to which a unified opposition from multiple financial stakeholders has legitimately, or otherwise, relied on the argument of hindering effects of transparency in order to preserve opaque trading practices and hefty profit margins.

[119] Ben Bernanke, the former Chair of the US Federal Reserves, verbalised the same consideration of the trade-offs between liquidity and transparency in the context of Fed emergency lending procedures: 'Disclosure provisions serve the important purposes of advancing transparency, accountability, and democratic legitimacy, and I am not advocating that they be changed. But we should be aware that, by increasing the risk of early disclosure of borrowers' identities, these requirements will probably reduce the willingness of firms to borrow from the Fed in a panic and thus potentially impair the effectiveness of the government's crisis response' (2015). https://www.brookings.edu/blog/ben-bernanke/2015/12/03/fed-emergency-lending/

7.1.2 Focus on bonds

> Lobbyists have been very strong in discussions about implementing measures of MiFID II. They've been trying to defend their huge margins as much as possible. If you sell a corporate bond as a retail investor, you never know the exact price at which you will trade. You're over to a good will of a bank to give you a good or a bad price. A quarter or a half of a basis point might not affect you that much, but for banks that trade thousands of trades like this every day, it certainly means a lot.
>
> (interview, market observer)

> We hate every bond which is deemed liquid. I mean we don't hate them, but it is a serious concern for us in regard to execution costs, so they better stay illiquid for regulatory purposes.
>
> (interview, buy-side industry association representative)

Although the European bond market is enormous compared to public equities, it is fundamentally different as the largest proportion of trading is still quote-driven or occurs on dealer trading venues. While a majority of liquidity providers in the equities market conduct brokerage business, bond dealers take on principal risk, so they actually have a strong preference for opacity which allows them to hedge or recycle the risk without the market being informed about the specific trade. In other words, prospective dissemination of trading information generates liquidity risks for dealers, as the disclosure of an open position can lead to strategic behaviour by other traders and expose the dealer to market impact/position risk.

From the trader perspective, pre-trade transparency rules carry market impact risks. More specifically, when dealers execute orders against their proprietary instruments or capital and thereby take on principal risk, they become subject to market impact risk (as their trading position is exposed to the market and their capital is at risk). Dealers' positions could be systematically undermined, and it could become uneconomic for them to offer execution services. Liquidity could accordingly suffer should dealers become less willing to take large risk positions (i.e. buy or sell a large amount of assets), particularly in illiquid instruments. This is certainly a legitimate concern, and the most common argument against increased transparency.

However, although the GFC clearly demonstrated that some transparency is necessary in opaque markets in order to preserve the general sustainability of the financial system, to what extent have regulators managed to make European bond markets more transparent?

At the time of writing, only 0.3 per cent of European-issued bonds are actually subject to real-time trade-reporting requirements as the remaining 99.7 per cent are deemed illiquid. The current percentage of liquid bonds represents a 22.7-fold decrease in the number of in-scope bonds that have to comply with the transparency rules: from 3,857 in 2014 to 220 in 2019.

Table 7.1 summarises how the regulatees managed to attain their preference for reducing the number of bonds that would have to comply with more stringent rules. Faced with a unified industry opposition, the regulators have significantly watered down the scope of transparency rules. During the four stages of rule calibration, regulatees managed to influence the final regulatory outcome through strategic provision of information and by leveraging their reputational power.

Methodology	**Liquid bonds/ ISINs**	**Total universe**	**% of liquid bonds**
COFIA (2014)	3,857	56,617	6.81
IBIA – Stage 1 (2015)	3,000	70,000	4.29
IBIA – Stage 2 (2017)	566	61,761	0.92
IBIA – Stage 3 (2018–implementation)	220	71,000	0.30

Table 7.1: Genesis of the definition of 'liquid' bonds (ISIN - International Securities Identification Numbers)

In its December 2014 consultation paper, ESMA considered two methods of calibrating liquidity measures for bonds: Categories of Financial Instruments Approach (COFIA) and Instrument by Instrument Approach (IBIA), with a strong preference for the former. The COFIA approach is based on segmenting asset groups into more granular classes that shape largely homogeneous liquidity characteristics.

Thus, around 56,000 bonds were classified in 10 groups as EU sovereign, other European public, covered, senior corporate (financials and non-financials), subordinate (financials and non-financials), convertible (financials and non-financials) and structured finance products. Subsequently, ESMA assessed the liquidity of these classes based on the liquidity of all the instruments within the specific sub-asset class.

At the time, ESMA was under the impression that COFIA is the preferred approach given the following advantages: the assessment of newly issued financial instruments is straightforward; it gives greater certainty to the market and accommodates instruments with a very short lifespan; and it is consistent with, but not identical to, the approach taken under the European Market Infrastructure Regulation (EMIR). According to the preliminary estimates from 2014, 6.81 per cent of the entire bond universe was expected to be deemed liquid (ESMA/2014/1570).

It did not take long for the financial industry to mobilise against the extent of proclaimed liquid bonds. The large investment banks raised concerns regarding their ability to provide liquidity, particularly during times of market distress, as the fixed income market is much opaquer, and transparency often decreases liquidity.[120] Their appeal to change transparency requirements was supported by brokers who were not concerned with balance sheet or risk limit issues, but simply did not want to lose out on business if there is a decrease in bond trading (Maxwell 2016; Wilkes 2017b).

On the other hand, buy-side asset management firms expressed serious concerns regarding diminished liquidity, which would potentially harm them in initiating large-risk positions and, more importantly, limit their ability to reduce risk in times of distress. Even corporate issuers supported the anti-regulation coalition although primary issuances were not directly tackled through the transparency requirements, but they raised their concerns over the possible spillover effects from the secondary market to primary debt originations.

All stakeholders were very concerned with the methodological approach as well, which was certainly a valid criticism considering that ESMA's own estimates indicated a rather large number of false positives (i.e. bonds classified as liquid on the basis of the issuance size but not according to the trading activity presented). More specifically, up to 20 per cent of bonds deemed to be liquid (in the first quarter considered) and up to 2 per cent of bonds deemed to be illiquid (in the first quarter

[120]Sell-side stakeholders also referred to the more stringent banking regulation (i.e. capital requirements), which resulted in internal charges for balance sheet costs. In other words, holding inventory for principal traders has become more expensive. The argument goes that the increased transparency can only augment the negative effects of higher capital requirements in the bonds market. In the words of one industry association representative, 'increased capital requirements have already reduced liquidity in more illiquid names as the internal balance sheet costs for traders are at record high levels. If you add transparency requirements into the equation, then bond traders can close the business and go home'.

considered) were incorrectly classified in at least one of the following periods (ESMA/2015/1464).

Consequently, ESMA dropped COFIA in favour of the IBIA approach, which requires that each individual bond is assessed against the pre-determined liquid market definition in order to determine the scope of pre-trade and post-trade transparency rules. Under IBIA, which is a more conservative liquidity assessment approach, ESMA estimated that fewer than 3,000 bonds would be classified as liquid and therefore subject to transparency rules, while more than 70,000 bonds would be exempt due to their illiquid status. In other words, the number of in-scope ISINs dropped from 6.81 per cent to around 4.2 per cent of all bonds.

Although the initial calibration method was likely to be inadequate and non-operational, the key goal for the largest majority of stakeholders was to reduce the number of bonds deemed liquid. The industry raised a more pragmatic objection to ESMA calibrations claiming that data used for calibrations is flawed. In addition to officially submitting their data concerns to the regulator through consultations, the industry was also very vocal in the specialised press. As Risk.net reported in 2015, MiFID II liquidity data was described as 'garbage' by the industry sources (Maxwell 2015). Before the final implementation in 2018, ESMA revised the estimates twice.

At the time of writing, only 220 of the European-issued bonds are subject to transparency requirements, which is a 22.7-fold decrease in the number of in-scope assets that must comply with the transparency rules. As a Bloomberg article bluntly describes it, ‘traders win as MiFID II’s impact on the bond market is waning, leaving traders largely unaffected by price-disclosure rules they fought against for years’ (Glover and Brush 2017).

However, it is important to highlight that it was not only the sell side (i.e. broker dealers) who pushed strongly for a limited number of instruments deemed to be liquid, but a much larger coalition of stakeholders. As both buy-side and sell-side investor association groups confirmed in multiple interviews, the regulators ‘listen most when big banks partner with investor association groups, particularly from continental Europe’ (interview, sell-side industry association representative 2018). In other words, as regulators were exposed to similar arguments from both sides of the market, it was significantly more difficult for them to defend their initial liquidity assessment. The industry squawking was just too loud.

In addition to the objections about data quality and prospective effects on market stability, the industry raised concerns about negative effects of MiFID II bond transparency rules on the broader European Commission endeavour of building the Capital Markets Union in Europe[121]. This was a strong reputational lever for pushing against the liquidity calibrations. For example, the world's largest and most reputable asset management firm BlackRock claimed for the press:

> [The EU's MiFID II rules on transparency] could even undermine the broader aims behind capital markets union if the calibration is not carefully tailored to the particular liquidity dynamics of a given instrument.
>
> (reported by Moshinsky, 2015)

Although the current bond calibration figures are very low[122], it is vital to reiterate a rather sensible practitioners' insight that bond markets are fundamentally different from stock markets as bond opacity stimulates liquidity and reduces transactional costs (Holmstroom and Tirole 2011; Holmstroom et al. 2016). This argument could warrant some doubt that the regulators' decision was independent in light of fundamental market conditions[123] and limited data. However, it is remarkable that the largest market in the world – interest rate OTC derivatives – has also been proclaimed to be illiquid.

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[121] The importance of debt market for the CMU is best encapsulated in Niall Bohan's (the Head of Unit Capital Markets Union European Commission) claim: 'The whole CMU process is about building equity financing and strengthening the equity underpinning of the European economy. That is probably the one single driver to try to make our corporate sector less dependent on bank loans and give it new funding opportunities. Ironically, the place we are going to start, or the most promising path to deepening our capital markets in Europe, is probably through deeper and more advanced corporate debt markets rather than equity directly.' The statement from the European Liquidity Conference in London (hosted by the Association for Financial markets in Europe) in February 2017 (as reported by Contiguglia 2017a).

[122] It is worth acknowledging that during the first year of implementation (2018) the threshold for liquid instruments has been set at 15 daily trades. However, the threshold will decrease for three consecutive years: 10 daily trades in Year 2, 7 in Year 3 and 2 in Year 4. According to the estimates from Trax, in the final year of implementation the total number of in-scope bonds will increase to 5 and 20%, respectively for corporate and sovereign bonds (Wilkes 2017).

[123] An additional consideration for policymakers might have been the broader market sentiment and political pressures in light of the Eurozone sovereign crisis. As one buy-side industry association representative illustrates, the 'Bundesbank does not want its bond auctions to be spoiled due to transparency. Even if they are not too concerned, the same does not go for Italian and Spanish central bankers'. That said, there is no systematic evidence that could support this argument, but it certainly portrays the broader regulatory environment.

7.1.3 Focus on derivatives

> The initial reaction was: 'Really? [giggle] Is it all it is? Seriously, I spent two years of my life on this.' Some parts of the industry were quite surprised as they expected more instruments to be liquid, but there is a recognition that in a couple of years there will be a much broader set of instruments deemed liquid.
>
> (interview, industry association representative)[124]

According to the 2019 calibration from ESMA, only four OTC interest rate fixed-to-floating – vanilla – swaps are in scope as sufficiently liquid: 3 EUR-denominated interest rate swaps at the benchmark tenors (maturity) of 5, 6 and 10 years; and 1 USD-denominated interest rate swap with a maturity of up to 6 years. This is rather striking given that the OTC interest rate derivatives market is the largest globally with $426.65 trillion notional amount outstanding (BIS 2017).[125]

Furthermore, in 2017, ESMA produced a report 'EU derivatives markets ─ a first-time overview (ESMA50-165-421), which unambiguously quantified the size of the European derivatives market. The report states a record total of 5.4 million open transactions amounting to a total notional value of around €282 trillion, making interest rate derivatives the largest derivatives asset class in terms of gross notional amounts outstanding.[126] 94 per cent of the transactions were executed OTC, while the remaining 6 per cent were traded on exchanges.

Interestingly, in terms of number of transactions, the EU equity derivatives market is the largest (48 per cent of the total number of transactions reported), followed by foreign exchange products (19 per cent), interest rate derivatives (15 per cent), commodity derivatives (14 per cent) and credit derivatives (4 per cent).

[124] Similar industry surprise regarding the negligible number of officially *liquid* instruments can be corroborated with media reporting. For example, as Wilkes (2018) reports from an interview with an industry representative: 'ESMA declared almost every dollar, euro and sterling interest rate swap to be illiquid in the transitional phase, which is crazy because a lot of these instruments are subject to the clearing and trading obligations, so they are clearly liquid'.

[125] ISDA reports $ 543.3 trillion globally (24 February 2017).

[126] In terms of market size, it is worth noting that the coverage of the EMIR data set used for the ESMA study is based on mandatory regulatory reporting and is more comprehensive than data reported by the BIS. The BIS Semiannual and Triennial derivatives statistics are based on surveys of members or derivatives dealers. For example, the gross notional amounts outstanding in the EU total €13.8 trillion (of which €13.3 trillion are OTC) for credit derivatives. This compares with $11.8 trillion of OTC derivatives outstanding globally as reported by big dealers to the BIS.

However, in terms of market size as measured by the value of gross notional amount outstanding, interest rate derivatives constitute the largest market (€282 trillion), followed by foreign exchange derivatives (€112 trillion).[127] Equity, credit and commodity derivatives markets are much smaller (€36 trillion, €13.8 trillion and €9.1 trillion respectively). Given such an enormous market, how is it possible to explain the regulatory assessment of overwhelming illiquidity?

Put simply, the regulators' endeavour to bring more transparency into non-equity products has been significantly jeopardised due to strong opposition from almost all the main business stakeholders – investment banks, brokers, institutional investors and corporate debt issuers – who portrayed increased transparency as the main obstacle to liquid and functioning capital markets; while investors once again joined them in their appeal to keep fixed income opaque (Davis 2017a, 2017b).

Similar to the bond transparency case study, there are two channels of influence through which the industry attempted to influence the regulation: strategic provision of information and reputational leverage. The reputational leverage argument was somewhat weaker as it has been more difficult to link the liquidity of fixed income derivatives with the CMU project although the industry still attempted to leverage their concerns about well-functioning of the markets. However, a much more potent argument against the ESMA calibrations was data availability and reliability, which has proved to be detrimental.

In the first ESMA calibration proposal from 2014 (ESMA/2014/1570) there was a much larger number of interest rate derivatives in scope as liquid. However, as Table 7.2 shows, the number of products in scope decreased almost 10-fold.[128]

[127] It is important to acknowledge the criticism that the conventional methodology of measuring market size through notional amount outstanding might be misleading. Haynes et al. (2018) suggest an alternative measure called 'Entity-Netted Notionals', which would convert the long and short notional amounts of each entity to five-year risk equivalents; net longs against shorts in a given currency within pairs of legal entities; and sum the resulting net longs (or net shorts) across entities. However, this measure is deeply flawed as it omits three sets of risk considerations regarding: yield curve market behaviour (i.e. a specific yield curve does not move in parallel, and the front end of the curve is historically more volatile); liquidity (i.e. different interest rate products have different liquidity profiles); and counterparty (i.e. by netting positions among different counterparties the total level of exposure is underestimated). However, understanding interest rate assets through risk exposure rather than notional sizes is a sensible suggestion, and adopted in Table 7.4.

[128] Additional tenors were introduced for bond and interest rate futures in the 2018 list of products, which were not specified in 2014 due to the COFI approach of treating derivatives as liquid.

Category	Sub-asset class	Total	Liquid in 2014	Liquid in 2018
Single currency swaps	Fixed-float	829	247	4
	Float-float	290	48	0
	OIS	282	32	0
	Inflation	165	6	0
Multi-currency swaps	Fixed-float (cross-ccy)	597	22	0
	Float-float (basis)	711	39	0
FRA	FRA	108	28	10
Swaptions	Swaption	49	19	6
Futures	Bond	31	23	22
	Swapnote	22	5	0
	Interest rate	10	6	9
Total		3,094	475	51

Table 7.2: Genesis of the definition of 'liquid' interest rate derivatives

In order to calibrate liquidity measures, ESMA conducted two studies focusing on trading venue data (currently around 6 per cent of the total market volume) and bilateral OTC trading volumes (circa 94 per cent of the total market volume). Interestingly, the calibrations made for the trading venue products (primarily futures) are broadly similar with the current transparency requirements, while the much more often traded OTC assets have been significantly revised downward.

There are three sets of rather unusual outcomes of the liquidity calculations, which are clear evidence of the industry preference attainment in reducing the regulatory scope of legally deemed liquid derivatives:

- first, there are only four interest rate swaps deemed liquid although this is the deepest market globally;
- second, GBP-denominated swaps were completely eliminated although they are significantly more liquid than CHF- or PLN- denominated assets that are in scope; and
- third, even the assets deemed liquid have rather low thresholds given daily average volumes and hedging practices.

First, the most significant drop in the number of liquid products was in the sub-asset class of single currency swaps, which are also the most vanilla products. For example, the number of fixed-float swaps plummeted more than 61-fold. The regulators' assessment is even more counterintuitive in light of data presented in Table

7.3, according to which swaps are actually the most often traded OTC products that account for nearly 75 per cent of the total notional outstanding ($318.9 billion).

Furthermore, although USD-denominated swaps account for almost a third of the global volume with daily average volumes twice that of the EUR swaps,[129] ESMA proclaimed only one USD-denominated interest rate swap as liquid (maturity between 5 and 6 years), while there are three EUR-denominated liquid swaps at the benchmark tenors (maturity) of 5, 6 and 10 years.[130]

It is even more puzzling how three times the smaller forward rates agreement (FRA) market has more liquid products in a larger number of currencies. From the risk perspective, the FRA market is even smaller than swaps as tenors are up to one year, which in turn requires significantly larger notional amounts for the same amount of risk exposure.[131] Alongside USD (Libor) and EUR (Euribor) FRAs, CHF (EuroSwiss) and PLN (WIBOR) agreements are also deemed liquid, which is rather unusual in light of the fact that there is no single GBP-denominated product. As per Table 7.3, the GBP interest rate market is among the top four largest globally.

Notional amounts outstanding (in $ bio)	**Swaps**	**FRAs**	**Options**	**Total**
USD	101,025	36,846	18,623	156,494
EUR	88,161	18,763	14,966	121,890
JPY	37,058	26	1,688	38,772
GBP	28,568	6,247	2,755	37,570
CHF	3,125	947	35	4,107
CAD	10,900	7	37	10,944
SEK	3,706	2,113	166	5,985
Other	46,327	3,386	841	50,554
TOTAL	318,870	68,335	39,111	426,316

Table 7.3: Notional amounts outstanding of the globally largest market: interest rate OTC derivatives, which confirms that USD-, EUR-, JPY- and GBP-denominated assets are the most liquid, while on the product side swaps and FRAs attract the most liquidity. The swaps category is the cumulative value of all different swaps (both single and multi-currency). Source: BIS 2017

[129] An average daily turnover of the USD and EUR denominated OTC swaps is $1,357 and $641 billion, respectively (BIS 2018).

[130] The most common tenors are 1, 2, 5, 10 and 30 years so it is not fully clear how 6 years ended up as being deemed liquid. As independent data consultancy Clarus financial technology highlights, 30-year swaps traded 30 times more often than 6-year swaps and traded 6 times more in DV01 terms. This example highlights some serious methodological issues with calibration https://www.clarusft.com/mifid-ii-transparency-will-leave-us-in-the-dark/

[131] For example, 1x4 FRA (3-month contract starting in 1 months' time) requires a 4-times larger notional amount than 1-year interest rate swap for the same amount of risk exposure. In other words, 100million notional for the 1-year swap is an equivalent of 400million notional for the aforementioned FRA.

The standard industry explanation of these thresholds would point to the complex nature of highly customisable derivatives. As industry association representatives emphasised in multiple interviews, clients often want customisable products, which can involve offsetting the prior risk exposure and settling the present value of the trades in order to realise profit or loss. Furthermore, different clients might have different ISDA agreements, which can potentially impact pricing due to credit support annex curve differences.[132]

Although interest rate swaps allow for a great level of customisation, the academic research in this area is rather telling: roughly 60 per cent of trading in the top products and currencies occurred in a select group of tenors (Fleming et al. 2012),[133] which undermines the customisation argument as the key explanation for such a low number of instruments deemed liquid.

Third, the notional sizes in scope are rather small and certainly do not present a hedging risk for dealers. To gain a better understanding of prospective exposure that pre-trade transparency creates for dealers, it is worth briefly introducing the concept of dollar duration or DV01 as a measure of risk exposure, which estimates the dollar variation in an interest rate product's (i.e. vanilla swap or, more conventionally, bond) value per one-unit change in the yield.

Most simply, DV01 is a measure of how much money an investor makes or loses if the yield moves one basis point (one-hundredth of one percentage point or 0.01 per cent) higher or lower. One more caveat is needed. The transparency requirements can be waived for: financial instruments for which there is not a liquid market, orders that are LIS compared to normal market size or orders on request for quotation (RFQ) or voice trading systems that are equal to or larger than the relevant size specific to the instrument (SSTI).

As per Table 7.4, the actual risk amounts that traders need to hedge or recycle are not particularly large. For example, they are not larger than 500 DV01 for FRAs

[132] The credit support annex component of an ISDA agreement determines the currency of discounting curve, which has an economic impact on a derivative valuation, and varies according to instrument, tenor and market rate (convexity).

[133] Anecdotal evidence highlights an increase in standardised products due to a larger number of mandatory cleared trades, and the new service of risk compression offered by clearing houses. In other words, rather than requesting a bespoke derivative product with the specific PV calculation, investors increasingly trade two products with the exactly the same characteristics (one buy and one sell) as clearing houses allow them to net off exposure and realise P&L.

according to SSTI pre-trade rules, which is a relatively limited size given average daily volatility of around one basis point.

Sub-asset class	Currency/index	Tenor	SSTI pre-trade	LIS pre-trade	SSTI post-trade	LIS post-trade
Vanilla interest rate swaps (fixed-float)	EUR	4–5 yrs	20,000,000	55,000,000	125,000,000	150,000,000
			10,000	*27,500*	*62,500*	*75,000*
	EUR	5–6 yrs	20,000,000	35,000,000	70,000,000	125,000,000
			12,000	*21,000*	*42,000*	*75,000*
	USD	5–6 yrs	25,000,000	50,000,000	90,000,000	100,000,000
			11,500	*23,000*	*42,000*	*47,000*
	EUR	9–10 yrs	15,000,000	35,000,000	55,000,000	80,000,000
			15,000	*34,000*	*51,000*	*75,000*
FRAs	EuroSwiss	≤ 3 mos	5,000,000	10,000,000	20,000,000	25,000,000
			130	*260*	*520*	*650*
	EURIBOR	≤ 3 mos	5,000,000	10,000,000	20,000,000	25,000,000
			130	*260*	*520*	*650*
	LIBOR	≤ 3 mos	5,000,000	10,000,000	20,000,000	25,000,000
			130	*260*	*520*	*650*
	EuroSwiss	3–6 mos	5,000,000	10,000,000	20,000,000	25,000,000
			250	*1,000*	*1,000*	*1,250*
	EURIBOR	3–6 mos	5,000,000	10,000,000	20,000,000	25,000,000
			250	*1,000*	*1,000*	*1,250*
	LIBOR	3–6 mos	5,000,000	10,000,000	20,000,000	25,000,000
			250	*500*	*1,000*	*1,250*
	EuroSwiss	6–12 mos	5,000,000	10,000,000	30,000,000	45,000,000
			500	*1,000*	*3,000*	*4,500*
	EURIBOR	6–12 mos	5,000,000	10,000,000	20,000,000	25,000,000
			500	*1,000*	*2,000*	*2,500*
	LIBOR	6–12 mos	5,000,000	10,000,000	20,000,000	25,000,000
			500	*1,000*	*2,000*	*2,500*
	WIBOR	6–12 mos	5,000,000	10,000,000	20,000,000	25,000,000
			500	*1,000*	*2,000*	*2,500*

Table 7.4: Snapshot of ESMA regulatory treatment of the globally most liquid OTC interest rate derivatives: vanilla interest rate swaps and FRA. The last four columns contain notional threshold (set by ESMA) and approximate risk measure DV01 (calculated by the author) for every specific product. For example, a EUR-denominated swap with up to 5-year maturity has a SSTI pre-trade threshold of EUR20 million, which corresponds to 10 thousand DV01.

Furthermore, in EUR vanilla swaps markets, where the daily average volume is around 1,000,000 DV01, all trades larger than 10,000 DV01 do not have to comply with pre-trade disclosure rules. When it comes to post-trade transparency, there are

deferrals from two days to four weeks, which certainly allows plenty of time for hedging.[134]

As the academic literature empirically examines, dealers are able to undertake a statistically significant amount of opposite-direction trading in the same product and currency within 30 minutes of the execution of a large-size investor transaction (Fleming et al. 2012).[135] More specifically, dealers can offset their interest rates derivatives' positions by transacting with other dealers in the interdealer market or by finding a different investor with interest in an opposing transaction.

Although in ideal circumstances dealers would offset the risk with a completely opposite transaction, there is a whole variety of products at their disposal: an offsetting trade at a different maturity or through a different product, which can also provide a meaningful risk reduction. The relative size of the current liquidity requirements can also be observed through Table 7.5 which puts the pre- and post-trade requirement amounts into the perspective of total average daily volumes.

Currency / index	**Tenor**	**SSTI pre-trade**	**LIS post-trade**	**ADV on swap data repositories (SDR)**	**AVD globally (estimates)**	**Requirement / AVD (%)**
EUR	4–5 yrs	20,000,000	150,000,000	8,705,000,000	34,820,000,000	
		10,000	*75,000*	*4,352,500*	17,410,000	0.43
EUR	5–6 yrs	20,000,000	125,000,000	8,705,000,000	34,820,000,000	
		12,000	*75,000*	*4,352,500*	17,410,000	0.43
USD	5–6 yrs	25,000,000	100,000,000	27,490,000,000	45,816,666,667	
		11,500	*47,000*	*12,645,400*	*21,075,667*	0.22
EUR	9–10 yrs	15,000,000	80,000,000	5,929,000,000	23,716,000,000	
		15,000	*80,000*	5,929,000	23,716,000	0.34

Table 7.5: Comparison of liquidity thresholds in relation to the average daily trading volumes. Bloomberg figures obtained through SDRV function for the period of 1 January 2017 to 1 July 2018. All SDRV values are based on raw data, while global average daily volumes (ADVs) are estimates based on the coefficient provided by Clarus Technology, according to which USD IRS and non-USD IRS (including EUR) executed on SDR constitute 0.60 per cent and 0.25 per cent respectively of the entire market volume https://www.clarusft.com/how-much-data-do-we-have/. Furthermore, the last column is the ratio of the largest LIS post-trade threshold and global ADV. Finally, SDR data provides the following tenors: 1, 2, 3, 5, 10 and 30 years; hence the EUR 4–5 and 5–6 swaps have the same values.

[134] A very interesting observation raised in multiple interviews is that MiFID II actually imposes a lower level of transparency than MiFID I in some markets. Moreover, due to longer deferral windows, even post-trade transparency has been reduced in major markets, where national authorities opted for the longest period possible. The most prominent examples are the UK, France and Germany, while Sweden is the most stringent with the two-day deferral window.

[135] The authors note that the actual proportion of risk offset, on average, may be somewhat higher or lower given that the estimate excludes transactions outside of the price-forming data set and trades in other markets.

More specifically, any trade that is larger than 0.43 per cent of the total market size does not have to comply with the post-trade requirements, which can be deferred up to four weeks anyway. Further, if a swap is deemed either illiquid, or the transaction size is above the SSTI thresholds for post-trade (i.e. is more than €55 million for a 10-year EUR IRS as per Table 7.4), then a 4-week deferral period applies for publication of the post-trade transparency data. According to Clarus Financial Technology estimates, the RTS2 data from Bloomberg (both APA and MTF), shows that 72 per cent of EUR IRS traded (by volume) is reported with a deferral (Barnes 2019).[136]

Interestingly, the US securities market rules (i.e. Dodd-Frank) are significantly more stringent in terms of post-trade transparency (Wright 2017). While the Dodd-Frank reporting rules require all US persons to report in real time with a 15-minute delay for block trades, the EU requirements are much laxer: 15-minute real-time reporting and deferrals up to 4 weeks, subject to national regulators' policies. Furthermore, American regulators have a much broader scope of products that have to be mandatorily traded and disclosed on the swap execution facility (SEF), while remaining instruments have to be transacted by RFQ-to-3 or on an order book, which allows market participants to have an overview of competing quotes or bid/offers that are visible prior to execution.

In order to put the extent of liquidity differences between European and American calibrations, it is useful to look at SDR aggregate volumes, which are a mandatory reportable for US legal entities. For example, if the MiFID II pre-trade transparency rules applied in the United States, that would require pre-trade transparency for just 8 per cent of the 10-year USD IRS trades reported in the United States during 2018 (as measured by trade count). In other words, 92 per cent of 10-year USD IRS trades would have had no pre-trade transparency[137] (Barnes 2019).

The granular analyses of the possible impact of different liquidity requirements on various liquidity providers (i.e. large investment banks) explain such concerted opposition to the regulators' attempts to shed light on fixed income. However, the investors' support for opacity is rather puzzling. The academic literature and anecdotal evidence suggest that, historically, the structure of decentralised dealer broker

[136] https://www.clarusft.com/mifid-ii-transparency-update/
[137] https://www.clarusft.com/mifid-ii-transparency-update/

markets has imposed high search costs on investors looking to obtain the best possible price.

Furthermore, it has also generated potentially acute asymmetries of information between investors and the dealers upon whom they must rely for prices and liquidity, opening the door to potential opportunism (Green, Hollifield and Schürhoff 2007). Thus, investors in public bond and OTC derivatives markets predictably experience higher trading costs than for equivalent-sized trades in public equity markets and on exchanges (Duffie, Gârleanu and Pedersen 2007).

A number of empirical studies report that trade execution costs fell following the implementation of an analogous transparency initiative – the Trade Reporting and Compliance Engine in the United States (Bessembinder, Maxwell and Venkataraman 2006; Goldstein, Hotchkiss and Sirri 2007). The post-trade transparency was generally associated with tighter bid–offer spreads (i.e. cheaper execution costs). Interestingly, new transparency measures and tighter spreads were not associated with a decrease in trade volumes.

These findings serve as a rebuttal to the common sell-side arguments that greater post-trade transparency – namely, real-time publication of the price, size and parties to an executed trade – undermines the incentives of dealers to act as market makers, thereby precipitating a decrease in trade volume, wider spreads and reduced liquidity (Armour et al. 2016).

Despite the academic literature and some anecdotal evidence, the investors' response in consultations and press was unanimous, and also reflected in interviews: when it comes to large sizes, asset managers (i.e. broader investment community) are convinced that transparency would lead to worse pricing. As one industry association representative highlighted:

> We are very fond of liquidity as long as it does not relate to our trades. Liquidity is something like a public good: everyone is keen to enjoy it, but no one really wants to contribute. Transparency would certainly be beneficial for retail clients to avoid hefty charges, but for large institutional investors it is more important that our competitors do not know what we are up to.
>
> (interview, buy-side industry association representative)

Similar to the industry's response to the bond transparency initiative, the buy-side and sell-side firms and their respective industry associations collaborated to inform the regulators about possible drawbacks of introducing transparency into the derivatives market. A particularly strong lever for pushing the industry agenda was the lack of available data that regulators could use to inform their calibration decisions. In addition to official comment submissions to ESMA, the industry representatives were also very vocal about data quality in the press and conferences.

For example, speaking at the annual general meeting of the International Swaps and Derivatives Association in April 2015, Mario Muth, the head of electronic trading at Deutsche Bank, claimed that the ESMA's data was fundamentally flawed.

> The data they've been using is very questionable. As one example, their data indicates that the 10-year US dollar swap market in the European Union is three times bigger than in the US, which clearly is not the case. If there are so many fundamental issues with the quality of the data, you either need to source different data or take a qualitative approach to establish what is liquid or not liquid. If something is called liquid when it is not, it will have big consequences for the way we trade.
>
> (reported by Maxwell 2015)

The industry complaints about the data reliability persisted until the very last calibration[138]. However, an interlinked issue is the quality of data that regulatees themselves submit to the regulator. Very often the data from the industry can be erroneous, either intentionally misleading or operationally sloppy. During the initial derivatives' calibrations in 2014 and 2015, some of the regulatees did not properly classify compression trades (despite clear instructions from the regulator), which in turn resulted in potentially erroneous cumulative values of daily traded notionals.

The compression trades have a large notional value, but they are not used to add new risk (i.e. increase risk positions), but rather to offset the pre-existing derivative

[138] Similar to the complaints at the ISDA meeting in 2015, two years later the ISDA's chief executive, Scott O'Malia, claimed: 'Chairman Maijoor made a strong defence of data, but let's be honest, all the regulators are struggling with the quality of the data, trying to make improvements, but it is still a long way to go.' (reported by Wilkes 2017).

positions in order to reduce margining costs[139]. In other words, the compression trades have to be excluded from the calculations of total daily averages. The regulator could not exclude the compression trades unless they were appropriately classified by individual submitters (i.e. regulatees).

> Of course, we know that there are issues with the data, we are saying that expressly in the consultation paper. No compressed trades have been used if they have been flagged as compressed trades. If they have not been flagged, market participants have themselves to blame.
> (ESMA official response to the press request, reported by Maxwell 2015).

Even after the official introduction of the new, heavily watered-down rules, the OTC instruments remain particularly vulnerable to being misclassified as illiquid due to continuously poor data. While there are some legitimate operational difficulties[140], a significant number of stakeholders have already been fined for intentionally misreporting (i.e. reporting erroneous information or overburdening the regulator with irrelevant information)[141]. More generally, it seems the incentives for accurate

[139] Trade compression was a new service by clearing houses introduced in 2014, which led to a large number of counterparties reducing their margining costs through retroactively clearing trades, which allowed them to offset the risk positions regardless of specific countparties (i.e. clearing houses such as LCH or CME became the legal counterparties instead of previous bilateral arrangements with numerous banks or institutional investors). For more details, see https://www.risk.net/derivatives/2384166/compression-save-swaps-business-dealers-predict

[140] The system of reporting identifiers often treats the same instrument as a string of different ones. The ISINs do not seem to be appropriate for derivatives (compared to bonds), which are traded on tenor rather than on a maturity date. Consequently, there are thousands of ISINs for what is effectively the same product The industry associations also raised some issue of erroneous trade reporting to ESMA. As per a sell-side industry association representative: 'multiple associations and regulated firms raised the issue of misleading reporting requirements with the regulator, but they were unwilling to delay the process and change their own operational systems to accommodate better reporting processes. More generally, the TOTV [traded on a trading venue] is a fundamentally flawed concept as the largest proportion of derivatives trade OTC. There are a lot of flows that stem from this misguided concept. TOTV determines ISINs, which in turn results in tens of thousands of ISINs for the very same swap as the regulation requires a maturity date rather than a tenor. We had conversations with ESMA over two years ago, and they understood the issue but could not fix the problem. We exactly predicted what would happen and told the regulator, and that has become the reality now. Transparency data for fixed income is meaningless so any calibrations done on it will, unfortunately, be useless'.

[141] The first example of improper data reporting was investigated in August 2018, when a whistle-blower at Goldman Sachs reported to the FCA that the bank had been intentionally misreporting MiFID data https://www.ft.com/content/7046e5f4-a24b-11e8-85da-eeb7a9ce36e4. Consequently, Goldman Sachs was fined £34 million for more than 200 million MiFID transaction reporting errors in March 2019 https://www.thetradenews.com/goldman-sachs-fined-34m-200-million-mifid-transaction-reporting-

reporting are very limited, which in turn allows the regulatees to strategically provide information they want the regulators to see.[142]

In summary, the regulators' endeavour to bring more transparency into non-equity products has been significantly jeopardised due to strong opposition from almost all main business stakeholders. Investment banks and brokers were concerned about market risks and the possible impact on hedging capabilities, which would consequently decrease their profit margins; institutional investors wanted to preserve portfolio secrecy despite higher execution costs, while corporate debt issuers were persuaded by sell-side stakeholders that more transparency would have negative repercussions for primary issuances through decreased liquidity in the secondary markets.

Thus, the majority of stakeholders unified in opposition to the new rules for transparency, which resulted in a 22.7-fold and 61-fold drop in the number of in-scope bonds and vanilla swaps, respectively. Put bluntly, the current calibrations are meaningless. The industry managed to influence the regulator through two main channels. For the bonds' calibrations, the regulatees primarily utilised their reputational leverage in regard to concerns for development of the Capital Markets Union. On the derivatives front, the most potent argument from the industry was flawed cumulative data used for calibrations despite the fact that regulatees themselves submitted the underlying raw data to the regulator.

errors/ Similarly, UBS was fined £27.6 million for MiFID reporting failures in March 2019 although the fine is for failed reporting prior to implementation of MiFID II: the FCA said in a statement that, between November 2007 and May 2017, UBS made 135.8 million errors when reporting its transactions over the course of the nine-and-a-half-year period. https://www.thetradenews.com/ubs-fined-27-6-million-mifid-reporting-failures/

[142] It is worth acknowledging that data issues are not endemic to ESMA: the CFTC staff reviewed data reported to SDRs from 1 April 2014 to 31 March 2015, which identified that 14% of all the interest rate swap and credit default swap trades were reported without valid LEIs for one or more counterparties, the authors of the study said. That was a total of 260,000 transactions, accounting for $30 trillion in notional volume (Barros 2016).

7.2 Trading in the dark – weaker rules

> It is perhaps not surprising to market participants, but it might be surprising to regulators, how big players, both investment banks and exchanges, circumvent regulation by adapting systematic internaliser status, and by pushing for periodic auctions.
>
> (interview, market observer)

Regulating dark trading is another major regulators' endeavour aimed at strengthening transparency, as well as increasing efficiency and competition in evolving financial markets. Compared to the transparency rules for bonds and fixed income instruments, where unified opposition from a majority of stakeholders is more intuitive from the rational economic perspective, the following case study is rather puzzling as it might give the appearance of competition, primarily between exchanges and other trading venues (i.e. large investment banks or brokers).

However, as nuanced empirical analyses show, stakeholders remained unified and even created new official alliances in their attempts to preserve the trading practices of operating in the dark. In addition to influencing the regulator through strategic provision of market information (i.e. data sets on dark pool activities) and official consultation submissions, the reputational leverage of new alliances has been an important factor for rule change weakening.

Another important difference to the fixed income transparency case study is the degree and timing of the rule change. While the fixed income transparency rules were watered down through the official rule making process and the industry compliance has been satisfactory, the dark trading rule weakening spans the rule production and implementation / compliance phases. As per Figure 7.3, the dark trading rule has been watered down at two stages of the regulatory process.

First, from the initial specification to the final promulgation, the regulator allowed for the intentional regulatory loopholes, such as treatment of systematic internalisers (SIs). Despite clear warnings about possible regulatory arbitrage even during the official production phase, the regulator issued only non-binding clarification[143], implicitly allowing regulatees not to comply with spirit of the law. Second, during the

[143] *Questions and Answers: On MiFID II and MiFIR transparency topics*, issued by ESMA in November 2017 (available at: https://www.esma.europa.eu/press-news/esma-news/esma-updates-its-mifid-ii-qas-transparency).

implementation phase, the industry capitalised on such loopholes. For example, there are 207 firms currently registered as SIs (ESMA 2019),[144] compared to only 14 prior to the MiFID II implementation date, including investment banks, brokerage firms, the largest asset management firms and algorithmic trading firms[145].

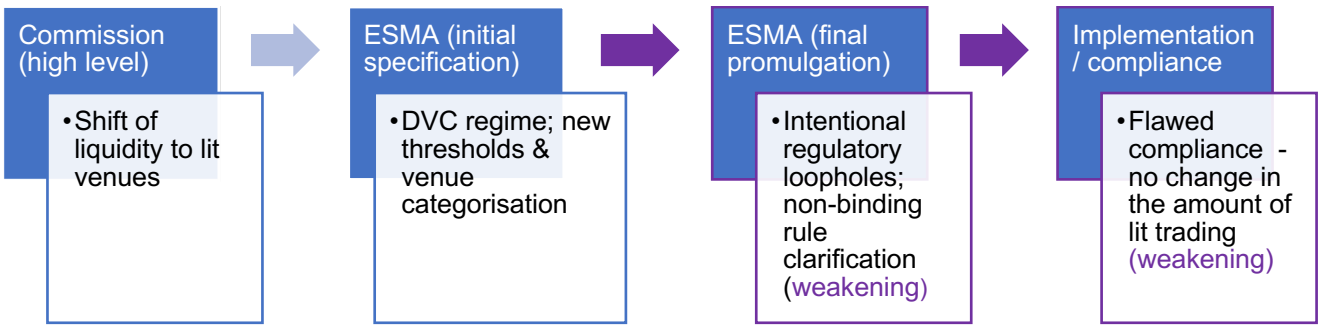

Figure 7.3: The degree of change in the level of stringency across time - the case study of dark trading

There are two key empirical insights that illustrate the unified opposition against the regulatory attempt to move trading out of the dark.

First, in order to understand regulatory preferences of regulatees, it is essential to understand the extent of intertwined interests between the sell-side, buy-side and exchanges conducted through the ownership structure of dark pools and new business alliances such as Plato Partnership. The formation of new alliances was a clear signalling of the unified industry view to the regulator, which served as a strong reputational lever.

The ownership structure and intertwined interests will be analysed through three steps: first, the shareholder structure of dark pools that confirms a high level of interconnected interests between large buy-side, sell-side and exchanges; second, the trajectory of consolidation and new partnerships between all three financial subgroups; and third, the ownership structure of the major non-bank dark pool operators.

Second, almost six months after the implementation of the new rules, the extent of lit trading has remained the same, while a whole variety of regulation-led innovations emerged and witnessed a sharp increase in trading volumes: a shift from OTC trading

[144] ESMA register: https://registers.esma.europa.eu/publication/searchRegister?core=esma_registers_upreg#
[145] Details of the regulatory weakening discussed in section 7.2.3 Regulatory innovation/forbearance to stay in the dark

to SIs, and a dramatic increase in volumes of periodic auctions and special-order types. In the words of ITG quantitative researchers in their official publication, 'the more things change, the more they stay the same' (Carlens and Higgins 2017).

Before I proceed with the core material – detailed analyses of regulatees' channels of influence and the extent of regulatory weakening – (section 7.2.3), it is important to gain some foundational understanding of the main concepts (section 7.2.1) and stakeholders in the European equity markets (section 7.2.2). The caveat is warranted. The following analyses do not attempt to contribute to an assessment of possible market inefficiencies, which have become extremely convoluted due to the emergence of algorithmic trading. Although potentially predatory algorithmic trading practices might warrant some level of dark trading to protect large institutional investors, the regulators' objective was clear – introduce more transparency and shift trading to lit platforms. Thus, the following sections provide empirical evidence on the extent to which the regulators achieved their goal.

7.2.1 Lit versus dark trading

Briefly, dark pools are trading venues without pre-trade transparency, which were initially created to enable investors to execute (i.e. trade in) large blocks of financial assets, primarily stocks, without adversely affecting price action due to a possible market risk. Put simply, traders use venues called dark pools to buy and sell stocks without revealing beforehand the size of their orders or the price at which they are willing to trade. Furthermore, dark pools permit multiple stakeholders to trade directly with each other outside of the central stock exchange.

Interestingly, there is no explicit definition of dark pools in the MiFID regulation. However, ESMA's predecessor – the Committee of European Securities Regulators – acknowledged the widely accepted understanding of dark pools as trading facilities where there is no pre-trade transparency, i.e. where orders are not publicly displayed based on pre-trade transparency waivers provided by MiFID.

There is some disagreement on the scope of dark trading and dark pools, so I will adopt the most conventional, broad-reaching definitions. Dark trading refers to all trades executed outside the lit venues, so it encompasses OTC trading and dark pools, inter alia. Dark pools are private venues for multilateral trading without any pre-trade transparency, and they are operated by traditional financial services stakeholders:

exchanges, investment banks, brokers and trading networks (Gomber and Gvozdevskiy 2017).

There are three sets of motivations for trading in dark pools: first, reduction of market impact of large orders; second, execution at the mid reference point, which entails lower transaction costs[146]; and third, a reduction in information leakage. A prospective market impact of large orders is a function of liquidity premium and adverse price movement. The latter occurs when an order aggressively executes multiple limit orders on the opposite side of the order book (i.e. one buy order is matched off with multiple sell orders), which directly results in a worse execution price (Armour et al. 2016).

The liquidity premium is related to bid-offer transaction costs, which are generally avoided in dark pools by executing at a reference price (i.e. a midpoint of the market for a specific security). Finally, investors generally do not want to inform the market of their trading activities, particularly if they have to execute a large size of a specific security over a certain period of time (i.e. a couple of days). Put simply, dark pools can be useful for large institutional investors who are attempting to reduce their transaction costs and preserve information about their activities (Vaghela and Brush 2018).

Given some clear advantages for institutional investors, what are the regulatory concerns with dark pools? The increasing volumes of trading in dark pools have changed the market structure, which may have implications for financial stability and efficiency. Dark pools have an adverse impact on four principal channels: liquidity fragmentation, price formation, volatility and market capacity to absorb a shock.

The concept of venue fragmentation has sparked heated academic and practitioner debate. The earlier regulatory initiatives were aimed at increasing competition in the market and curbing the monopolistic power of national exchanges as the only providers of liquidity. MiFID and the US Regulation-National Market System have been some of the strongest regulatory changes that enabled the entry of new players. Furthermore, some fragmentation among lit exchanges was found to have an overall positive effect on liquidity across venues (Degryse, Van Achter and Wuyts 2009). From the social welfare perspective, high liquidity is associated with low

[146] O'Hara and Ye (2011) find that fragmentation in trading between exchanges reduces transaction costs and increases execution speed for US stocks.

trading costs, which allows investors to easily optimise their portfolio allocations and enhance gains from trading activities.

Mattli (2019) provides a compelling counterargument about the drawbacks of fragmentation of liquidity providers. Modern fragmented markets tend to undermine competition as fragmentation produces many 'shallow' pools of liquidity that enable powerful financial stakeholders to more easily extract private rents on the back of ordinary investors. The challenge is particularly acute in the equity dark pools which have become vehicles of market abuse. By adding a layer of darkness to the invisibility of ultrafast trading, these pools have created a practically foolproof environment for opportunistic trading.

In line with Mattli's thinking, there is a growing concern about possible negative effects of dark pools on price efficiency. For example, the literature examining the impact of dark trading venues suggests that, as these venues cream-skim (i.e. cherry pick) uninformed order flow away from lit trading venues, excessive dark trading may become harmful (Hatheway, Kwan and Zheng 2017). As prices in dark pools are not determined by internal demand and supply but are based on external reference points from lit trading, they do not contribute to pre-trade price formation. By removing order flows from lit venues, dark pools reduce the information contained in lit order books where prices are formed.

Thus, price information from dark pools is reflected in the market only once the trades are executed. More importantly, diminished price efficiency affects social welfare through its impact on investment and capital allocation decisions in the real economy (Gomber and Gvozdevskiy 2017). In addition, by reducing price formation efficiency, the markets tend to become more volatile. In times of market distress (such as flash crashes) fragmented liquidity and volatility can have mutual feedback effects (Cespa and Foucault 2014) resulting in a significantly diminished market capacity to absorb shocks.

In light of the concerns for market stability and efficiency, MiFID II is conceived to shift significant parts of dark turnover to regulated lit markets by strengthening the transparency framework. There are three most relevant aspects of the new regulation in relation to dark trading: first, the scope of waivers; second, a new trading venue classification; and third, and most important, the introduction of double volume caps (DVC). Similar to MiFID I, all four types of pre-trade transparency waivers for equity trading apply: reference price (RP), negotiated transactions (NT), LIS and order

management facilities (OMF). An important extension of MiFID I is in the scope of products covered: MiFIR requires the application of pre-trade transparency requirements also for depositary receipts, exchange traded futures, certificates and similar financial instruments.

The new market regulatory framework also introduces an additional category of trading venues: OTFs for non-equity instruments to be traded on a multilateral platform. OTFs are broadly defined to capture new types of organised execution and are subject to similar regulatory requirements as MTFs. Furthermore, by means of a trading obligation, the new directive ensures that investment firms performing internal matching will be authorised as MTFs or SIs.

The main regulatory novelty is the introduction of the so-called DVC regime imposed on transactions that are executed under the pre-trade transparency waivers of MiFID I for NT and RP trades. The regime introduces two thresholds, valid on a per-security basis, that limit turnover under these pre-trade transparency waivers on individual venue and Union levels by 4 and 8 per cent, respectively. If they breach the limit, the respective venue or all corresponding venues will be suspended from trading in that instrument under the two waivers for six months. In addition, MiFIR restricts the value of transactions executed under the RP and the NT waivers on an instrument-by-instrument basis, while transactions under the LIS and OMF waivers remain unaffected by the DVC mechanism.

7.2.2 European equity landscape

European lit trading is fairly dispersed across multiple venues, with the strong dominance of pan-European exchanges in combination with the national ones. As per Table 7.6, the three largest exchanges in terms of market share are: The Chicago Board Options Exchange (CBOE) with European dedicated CXE platform (16.54 per cent), followed by the LSE (12.27 per cent) and XETRA (11.54 per cent), which is a trading venue operated by Frankfurter Wertpapierbörse (Frankfurt Exchange – a part of the Deutsche Borse).

When it comes to dark pools, the more substantial trading started in 2009 on platforms managed by Chi-X, Turquoise and Bats (acquired by CBOE in 2015). Many new dark pools entered the market between 2009 and 2011, however there was a significant market consolidation that resulted in a relatively sustainable oligopolistic market structure. There is a natural limit to the number of dark pools that can be

competitive, due to positive spillovers through direct network effects: a dark pool requires sufficient liquidity (volumes of orders) to ensure a good probability of execution to attract clients (Petrescu and Wedow 2017). There are thus incentives for the consolidation of liquidity to ensure sufficient execution opportunities.

Lit venues	**Market share by turnover (%)**
CBOE – CXE	16.54
LSE	12.27
XETRA	11.54
Euronext PAR	9.55
SIX SWISS	7.09
Borsa Italia	6.48
Aquis	5.04
Euronext AMS	4.57
CBOE – BXE	4.33
Turquoise	4.2
NASDAQ Stockholm	3.52
MOEX Main	2.6
Spain – MCE	2.36
Istanbul SE	2.11
NASDAQ Copenhagen	1.48
Tradegate	1.28
Oslo	1.11
NASDAQ Helsinki	0.93
Euronext BRU	0.82

Table 7.6: Breakdown of market share by turnover[147] for lit venues, where the largest proportion of European equity trades is executed. Although there are 55 trading venues that recorded at least one trade during the period (last two years from June 2017 - June 2019), the cut-off point for the inclusion in this figure was 0.50 per cent of the total market share in the total turnover. Data as of June 2019. Source: Reuters

Some of the most prominent examples of consolidation include: first, in 2011, BATS Global Markets acquired Chi-X Europe; second, in 2012, Nomura closed the Nomura NX dark pool in order to operate alongside BlockMatch, which is the dark pool

[147] Market share is usually measured in terms of volume and turnover. Volume is an absolute sum of all stocks traded in a given period (doesn't account for direction of a trade - absolute value). Turnover is an absolute sum of all stocks multiplied by a respective (traded) price in a given period (doesn't account for a direction of a trade - absolute value). The product of the traded price and volume of each trade captured is the Turnover of each trade and the sum of all the individual Turnovers for the day constitute the final Turnover.

operated by its subsidiary Instinet; third, in 2016, the LSE (Turquoise) formed an alliance with Plato Partnership,[148] officially a non-profit consortium founded by 20 major fund managers and investment banks.

When it comes to the ownership structure, a significant proportion of dark pools are owned by investment banks and asset management firms. BATS shareholders include financial institutions JP Morgan, Deutsche Bank, Credit Suisse, Getco and Morgan Stanley. Furthermore, before being taken over by BATS, Chi-X Europe was owned by a consortium of financial institutions. Another dark pool – Turquoise – was also set up by a consortium of banks made up of BNP Paribas, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, Merrill Lynch, Morgan Stanley, Société Générale and UBS. In December 2009, the LSE Group agreed to acquire a 60 per cent stake in trading platform Turquoise, which consequently formed an alliance with Plato Partnership, also owned by investment banks and asset management firms.

The alliance between Plato Partnership and LSE is the best example of intertwined interests between all financial stakeholders. The Plato consortium was created by 20 of the largest fund managers and banks, among other BlackRock, JP Morgan and Goldman Sachs.[149] In July 2015, Plato Partnership initiated a cooperation with LSE's Turquoise as the preferred dark pool technology provider. However, in September 2016 they announced a much closer partnership, which is best reflected in the Turquoise rebranding: Turquoise Block Discovery and Turquoise Uncross were renamed as Turquoise Plato Block Discovery and Turquoise Plato Uncross.

The formation of a new industry alliance was a clear signalling of the unified industry view to the regulator, which served as a strong reputational lever.

> This collaborative initiative will aim to improve European equity markets in the interests of end investors based on a not-for-profit ethos. […] the formation of Turquoise Plato lays the foundations for Plato to drive forward future industry initiatives.
>
> (Mike Bellaro, co-chair of Plato, reported by McDowell 2016)

[148] https://www.thetradenews.com/turquoise-plato-formed-under-new-agreement/

[149] The full list of consortium participants: Axa Investment Managers, Baillie Gifford, BlackRock, Deutsche Asset Management, Fidelity International, Franklin Templeton Investments, Norges Bank, Union Investments, Barclays, Bank of America Merrill Lynch, Citi, Deutsche Bank, Goldman Sachs, J.P. Morgan, Morgan Stanley, UBS, Jefferies, Société Générale, Liontrust, RBC Capital, Instinet (Nomura subsidiary) and Redburn

It comes as no surprise that Turquoise Plato holds more than a third of the market share in European dark pool equities trading. As per Table 7.7, dark pools in Europe are most frequently operated by entities that already have a strong client base for equities trading, putting them in a better position to compete for market share. These include operators of other MTFs, banks or brokers. Dark pools operated by exchanges account for over a third of the total market share in European equities trading (38.81 per cent).

Dark pool venue	Market share by volume (%)	Market share by turnover (%)	Operator	Operator type
Turquoise Plato	28.55	26.08	LSE and Plato Partnership	Exchange and banks
CXE	27.15	27.27	CBOE	Exchange
UBS MTF	17.01	18.97	UBS	Bank
POSIT	11.66	8.94	ITG	Broker
BXE	10.52	9.82	CBOE	Exchange
Blockmatch	2.68	2.35	Instinet	Broker
SWISS@MID	1.08	5.17	SIX Swiss Exchange	Exchange
SIGMA-X	0.71	0.71	Goldman Sachs	Bank
NORDIC@MID	0.06	0.66	NASDAQ OMX	Exchange
Other	0.58	0.03		

Table 7.7: Breakdown of market share by volume and by turnover for all venues classified as dark pools, with information on operators (ownership structure) and operator categories. Data as of June 2019.

The single largest operator is Turquoise Plato (28.55 per cent and 26.08 per cent of market share volume and turnover, respectively), which is also the only hybrid operator between an exchange and banks. Accounting for Turquoise Plato, banks' market share has been constant over time (17.72 per cent at the time of writing), however brokers have lost the most with just below 12 per cent at the time of writing, down from over 25 per cent in their best years.

Brokers and banks with large trading arms operate dark pools as a way of internalising their own trades and those of their clients. Their own trading activities can help provide a minimum level of liquidity in the pool (Fox, Glosten and Rauterberg 2015). The benefit to banks and brokers of operating dark pools is that they no longer

pay exchange fees or pay the spread when trading; this allows them to offer customers lower costs of trading, attract more volumes and earn more from commissions (Eng, Frank and Lyn 2013).

The last step in understanding the convoluted ownership structure is to examine the shareholders of the operators. The three largest, non-bank operators are LSE, CBOE and ITG, who are all listed on at least one stock exchange. As per Table 7.9, based on publicly recorded holdings, investment advisers account for the largest proportion of their shareholders: from 69.12 per cent for LSE to 81.49 per cent for CBOE. There were no changes (variation of up to 5 per cent) in the ownership structure in the 12 months prior to time of writing, which indicates that investment advisers did not anticipate a more significant regulatory burden that would jeopardise their business model in light of MiFID II rules.

Although the LSE, CBOE, ITG and Nasdaq are all publicly listed companies with a diverse portfolio of business services, it is at least indicative that some of their biggest shareholders are asset management firms such as BlackRock and Vanguard. Given the size of these asset management firms, it is conventional to deploy cash in various assets, but it is difficult to dispute their vested interest in strong business results of the equities in which they invest.

	LSE	CBOE	ITG	NASDAQ
Investment advisers	69.12	81.49	84.82	73.01
Sovereign wealth funds	12.93	0.93	9.86	0.00
Hedge fund managers	8.60	10.20	0.00	5.96
Banks	3.99	1.77	0.02	8.30
Insurance companies	0.31	1.15	3.60	4.47
Government	0.99	1.15	0.00	0.00
Other	4.06	3.31	1.70	8.26

Table 7.8: Ownership structure of the main non-bank operators
Note: There is no publicly available data for total shares outstanding
Source: Bloomberg terminal (OWN function), 1 June 2019

For example, BlackRock is among the top five investors in all four operators, holding 14.28 per cent in ITG, 6.87 per cent in CBOE and 6.59 per cent in LSE.[150] In

[150] The largest shareholders in LSE with at least 2% are: Qatar Investment Authority (10.22%), Capital Group (8.13%), BlackRock (6.59%), Artisan Partners (5.20%), and Vanguard (3.64%). The largest shareholders in CBOE with at least 2% are: T Rowe (13.12%), Vanguard (10.51%), BlackRock (6.87%), and FMR LLC (4.30%). The top shareholders in ITG with the same 2% threshold are: BlackRock

addition, even non-listed exchanges such as SIX Swiss Exchange are in the ownership of either asset management firms or banks. More specifically, the SIX Group (Swiss Infrastructure and Exchange) is owned by around 130 national and international banks in Switzerland that are also the main users of its services.

In sum, the three insights into the ownership structure clearly demonstrate a high level of interconnected interests. The large investment banks, exchanges and asset management firms share ownership of the dark pools, while there is a significant trajectory of consolidation and new partnerships such as Plato. Finally, the largest non-bank operators of dark pools at the company level (rather than at the pool level) are also dependent on asset management firms as their largest shareholders.

Given such interconnected interests, it comes as no surprise that buy-side and sell-side association groups partnered in their attempts to persuade the regulators about the prospective benefits of staying in the dark. The importance of reputational leverage of the unified industry was illustrated by a buy-side industry association in an interview:

> Banks often try to work with the buy side to promote common interests, as asset managers are not perceived that negatively among regulators and politicians. For example, we partnered on DVC, periodic auctions and SI issues. To the extent that we need to execute large sizes in dark, we are happy to work with the sell side and exchanges in order to convince regulators about our agenda.
>
> (interview, buy-side industry association representative)

It is worth adding a caveat at this stage. Although interconnected interests hardly constitute smoking-gun evidence per se, they can be very informative when it comes to understanding outcomes, particularly regulatory forbearance and arbitrage that has marked dark trading practices in the period following the implementation of MiFID II.

(14.28%), Norges Bank (1.98%), Putnam Investments (0.72%), Selway James (0.32%). Finally, the largest shareholders in Nasdaq are: Morgan Stanley (4.64%), GSAM (2.74%), Bank of America (2.63%), and UBS (2.12%). All data obtained from Bloomberg (function OWN), as of 1 June 2019.

7.2.3 Regulatory innovation/forbearance to stay in the dark

> Innovation is helpful if targeted at large orders, while protecting investors from the market impact. The concern arises if such execution possibilities are used for smaller trades […] There is abuse of the SI concept in current legislation – there seems to be a lot of smaller trades which would be executed at no worse price on lit platforms so there is no reason for them to execute on SIs.
>
> (interview, industry association representative)

The following section analyses the extent of regulatory weakening by evaluating both rule production and compliance phases, respectively. There are three sets of market developments that directly jeopardise the idea of improved transparency: first, the emergence of SIs; second, an increased amount of trading through period auctions; and third, artificial development of LIS transactions that are out of scope due to LIS waivers.

The emergence of SIs is a by-product of an intentional regulatory loophole during the production phase, while periodic auctions and LIS transactions can be better understood as the industry attempts of regulatory innovation (i.e. defeating spirit of the regulation while de jure complying). Although MiFID II was rolled out only in January 2018, the effects of flawed compliance are rather indicative. As per figures 7.2 and 7.3, the share of trading on lit exchanges (the main regulator's objective) has barely risen since the introduction of the new regulatory regime[151].

[151] The similar assessment of the regulatory omission has been prevalent in the specialised press. For example, Reid (2018) reports for Reuters from an interview with a representative of a stock exchange: 'You can argue that around 30 percent of cash equity trading in Europe is bilateral against bank balance sheets — they are dark, they are selective, they are not multilateral. If regulators are trying to take pride in that cash equity trading is increasing on lit order books and that would be a MiFID 2 consequence, that's funny to the point of being absurd.'

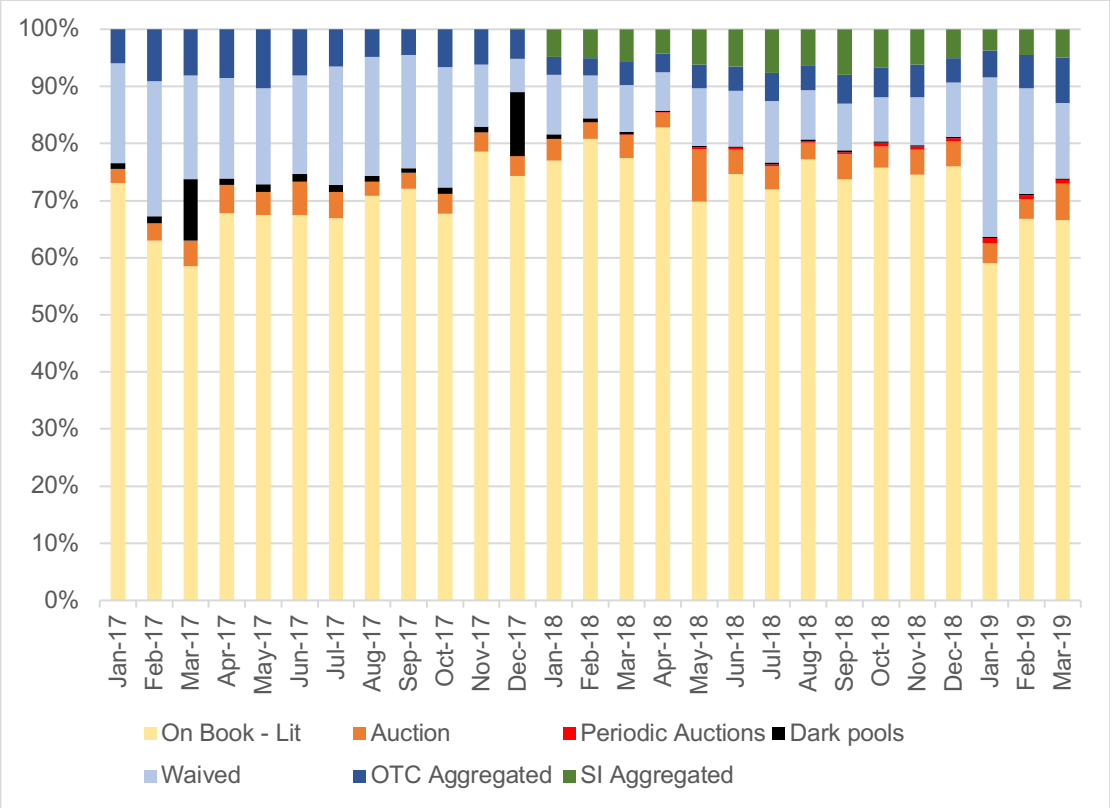

Figure 7.4: Equities trading volumes (EUR) across Europe, categorised into seven groups
Source: Reuters – Market Share Reporter[152].

[152] Although there is very granular data on trading volumes in stock markets, the classification of venues and flows is not harmonised across different data providers. According to Rosenblatt Securities data (agency-only institutional brokerage, research and investment banking boutique), in the first six months since the implementation of MiFID II, the amount traded on lit exchanges increased by just 0.57%: 50.85% of European equity trading was executed in lit, while the average in 2017 was 50.28% (Reid 2018). A higher increase in lit trading is captured by Fidessa (software company for trading and investment management systems, analytics and market data) and Reuters (news and financial data providers), as well as official APA for MiFID II. Thus, from 1 January 2018 to 1 August 2018 in comparison to the seven-month period prior to that (1 June 2017 to 1 January 2018) Fidessa captures a 2.23% increase in lit trading, while Reuters data suggests a 5.05% increase in lit trading. As Fidessa data is not used for graphs, it is worth adding the split provided through their Fragmentation calculator: for 1 January 2018–1 August 2018: 41.03% lit, 36.91% off book, 13.02% SI, 6.75% auction, 2.29% dark. For the period 1 June 2017–1 January 2018, the split was: 38.80% lit, 51.33% off book, 0.63% SI, 5.81% auction and 3.42% dark. When it comes to trading turnover, Reuters actually records a decrease in lit trading: from 40.83% before the MiFID implementation to an average of 32.38% in the seven months prior to writing.

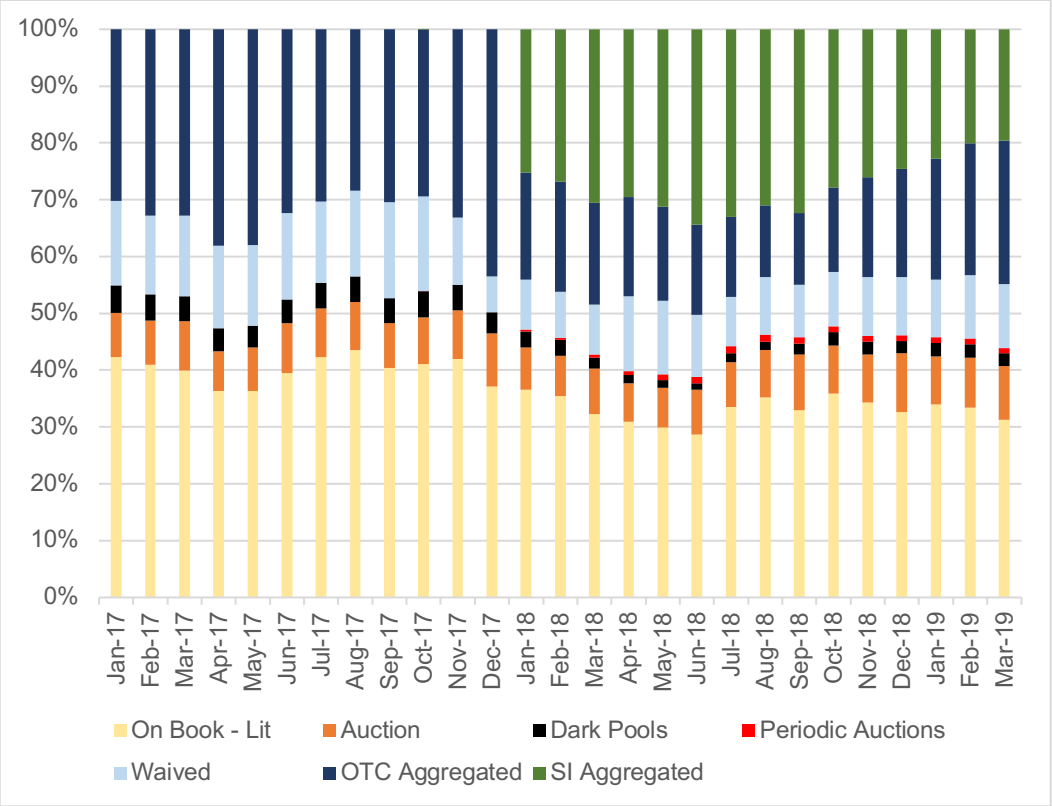

Figure 7.5: Equities trading turnover (EUR) across Europe, categorised into seven groups
Source: Reuters – Market Share Reporter[153].

The failure to increase the amount of lit trading can be attributed to three reasons: SIs, periodic auctions and LIS waivers; all of which require more detailed analyses.

An SI is a firm that deals using its own account (as a principal) on an organised, frequent and systematic basis by executing client orders outside of a regulated market (i.e. an exchange). More specifically, SIs constitute an intermediate category between pure OTC and trading venues in terms of transparency: they are subject to the requirement of ongoing publication of prices offered on liquid equities for a standard minimum size of €10,000, which is comparable to the average transaction size. Thus, SIs do not have to comply with pre-trade transparency, and they are permitted to carry out unlimited dark trading as long as they put their own capital at risk (i.e. an equivalent

[153] Original Reuters data is categorised into 16 classes, which were reclassified in order to highlight the main trends. Thus, on-book lit, auctions, periodic auctions and dark pools remained as standalone categories, while the waived category is the aggregate of on-book LIS, on exchange immediate, on exchange non-immediate, on exchange NTW immediate, on exchange NTW non-immediate, and on exchange deferred. The category OTC encompasses OTC immediate, OTC non-immediate and OTC LIS deferred, while SI aggregates SI immediate, SI non-immediate and SI LIS deferred. Finally, data is obtained directly from exchanges, while SI and OTC flows come from Reuters Real-Time Feed based on Market Model Typology (MMT) Flags reported mainly by APA venue feeds via Euronext, DBA, CBOE and TRADEecho. The methodology of MMT is available at the following link (https://my.thomsonreuters.com/apex/pages?name=European+FIX+MMT+Trade+Flag).

to principal trading discussed in the derivatives section). The regime was conceived to allow firms to execute transactions with selected clients in private, which is important for large block trades or other situations in which the client does not want to reveal trading intent.

The use of an SI has several advantages for market participants, including:

- lower execution costs than platforms, whether explicit costs (SIs do not charge trading fees) or implicit costs (no price impact for the executed trade)
- the possibility of offering price improvements not subject to the harmonised tick size regime[154]
- a trade with a known and duly selected counterparty in order to avoid being traded off by high-frequency traders known to be very active on the platforms
- in response to the demand of clients who can, where appropriate, offload post-trade transparency requirements on the SI.

The emergence of SI is very interesting in light of the fact that MiFID II does not allow for broker-crossing networks (not pre-trade transparent) to operate anymore (Alexander 2018). However, SIs can de facto recreate the broker-crossing networks and engage in riskless order matching in dark. Theoretically, an SI could be designed with an automated quoting system (based on outside quotes), which directly feeds into an execution engine that automatically selects the most desirable execution outcome for the client order.

The industry (Rosov 2017, 2018) and specialised media (Murphy 2017a; Stafford and Murphy 2017) raised some concerns about possible regulatory circumventions. Even the ESMA regulators themselves recognised the possible loophole:

> […] certain investment firms, that currently operate broker-crossing networks, might be seeking to circumvent the MiFID II requirements by setting up networks of interconnected SIs and

[154] The tick size regime of Article 49 of MiFID II was introduced in order to harmonise price increments on European trading venues, which in turn should prevent tick sizes being used as a tool for competition between venues.

> other liquidity providers. Such arrangements would allow SIs to cross third party buying and selling interests via matched principal trading, or other types of back-to-back transactions.
>
> (Maijoor 2017)

However, although the regulators became aware of possible issues with SIs prior to the rule implementation, they opted only for the non-binding rule clarification rather than a more conventional approach. In November 2017, ESMA issued the Answers and Question document[155] that addressed the question of when SI activities would cross over into functionally operating as a trading venue. By allowing some matched principal trading (i.e. a firm takes balance sheet risk only briefly before finding a matching offset trade) on 'occasional basis', the regulator implicitly allowed the industry to capitalise on the loophole. As reported by Contiguglia (2017b), the industry understanding of the non-binding clarification has been rather straightforward:

> Sending letters around saying that doesn't comply with the spirit of the rules doesn't make sense, as this is now a rules-based regulation, not a principles-based regulation. If the rule doesn't exclude it, people will do it.
>
> (a quote from an industry representative, reported by Contiguglia 2017b)

This is precisely what happened once the new SI rules were implemented. At the time of writing, there are 207 firms registered as SIs (ESMA 2019),[156] compared to only 14 prior to the MiFID II implementation date, including investment banks, brokerage firms, the largest asset management firms and algorithmic trading firms. The wide variety of regulatees who supported and consequently adopted the SI status corroborates the importance of collective attempts to influence the regulation. As it stems from an interview with an industry observer:

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[155] *Questions and Answers: On MiFID II and MiFIR transparency topics*, issued by ESMA in November 2017 (available at: https://www.esma.europa.eu/press-news/esma-news/esma-updates-its-mifid-ii-qas-transparency). Note that ESMA Q&A are continuously updated so the latest version currently available online at the following link: https://www.esma.europa.eu/sites/default/files/library/esma70-872942901-35_qas_transparency_issues.pdf

[156] ESMA register: https://registers.esma.europa.eu/publication/searchRegister?core=esma_registers_upreg#

> […] the regulator and even Brussels politicians were heavily pressed by almost everyone from the industry making sure the SI definition remains sufficiently vague.

According to the AMF estimates, 30-40 per cent of total market share in stocks trading has moved to SIs (Autorité des marchés financiers 2018) and remained in dark despite the regulators' goal of fostering lit trading. The latest estimates from Tabb Forum suggest that SI daily notional increased to €7.5 billion in January 2019 from 'virtually non-existent' amounts prior to MiFID II (Caves 2019).[157]

In comparison to the exponential increase of Sis, which was an intentional regulatory loophole, the industry has engaged in additional efforts to innovate, which were not pre-empted by the regulators. One of the most salient examples is a rapid growth of activity on periodic auctions since January 2018, and further acceleration after the application of the DVCs on 12 March 2018.[158]

As per figures 7.4 and 7.5, there has been a rapid growth of activity on periodic auctions since January 2018, and a further acceleration after the application of the DVCs on 12 March 2018.

[157] It is worth adding the upward trend in average SI volumes: SI daily notional increased to €7.5 billion in January 2019, representing 13% of overall activity, compared with €7.3 billon in December 2018, which represented 11% of overall activity. The growth is primarily driven by SI activity below the LIS thresholds, which in turn is being mainly driven by the growth of SIs run by ELPs (electronic liquidity providers), while bank SI activity – assumed mainly to be SI activity above the LIS thresholds – has shown no consistent trend since MiFID II's introduction. https://tabbforum.com/opinions/block-venues-sis-big-liquidity-winners-as-mifid-ii-begins-year-2/

[158] By the time of writing, there were still no empirical studies that, with statistically significant results, corroborated the anecdotal evidence. There are however three less plausible, but still possible, additional explanations: first, period auctions overcome the issue of speed and latency since tiny time differences matter less in periodic auctions than in CLOBs (Budish et al. 2014); and second, the ability to trade at mid-point through peg orders (FCA 2018). Importantly, both of these potential benefits could have materialised through period auctions even before MiFID II implementation, which makes them less compelling but theoretically possible. In addition, French regulators raised concerns about this new market development: https://www.ft.com/content/ce66f68a-48a8-11e8-8ae9-4b5ddcca99b3

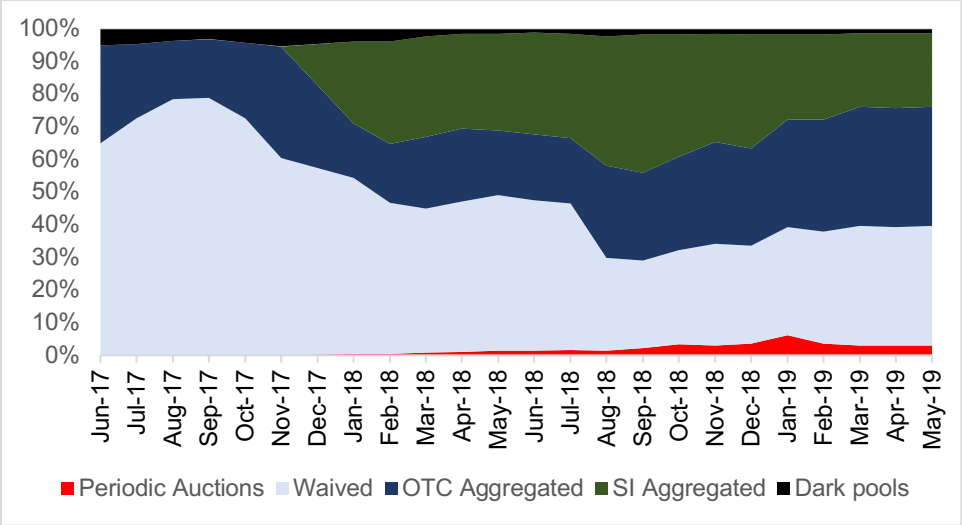

Figure 7.6: Equities trading volume (EUR) across Europe, in five subcategories
Note: Not subject to pre-trade transparency, either due to waivers or the nature of venues

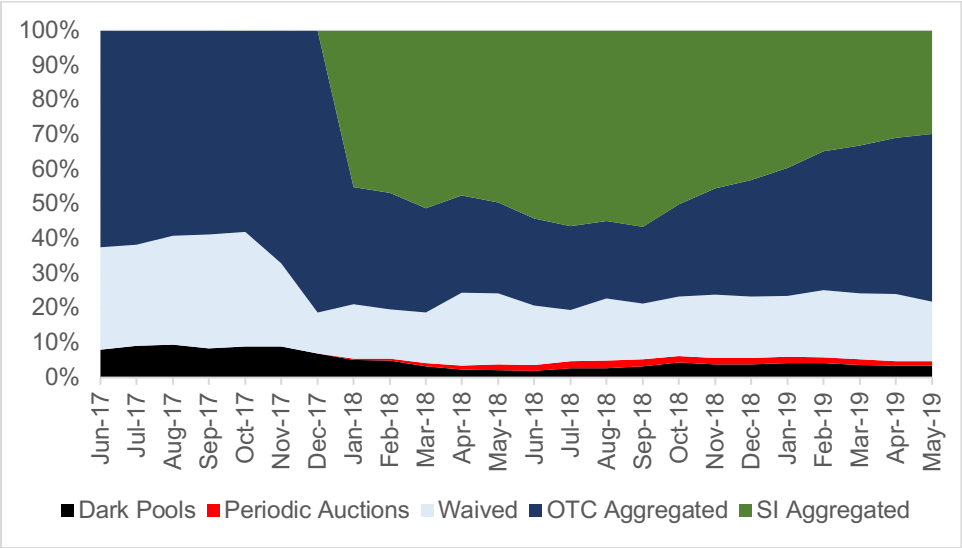

Figure 7.7: Equities trading turnover (EUR) across Europe, in five subcategories
Note: Not subject to pre-trade transparency, either due to waivers or the nature of venues

The most important characteristic of periodic auctions is MiFID II compliant status without any pre-trade transparency. The key difference between periodic auctions and central limit order books (CLOBs), which is the most common format for share trading, is that CLOBs are continuous. If an investor sends a buy order to a CLOB and there is a matching sell order resting on the order book, the trade will be executed instantly in accordance with the time at which the order is received. In a periodic auction, the investor has to wait until the end of the call period. However, the wait time is extremely short – maximum 100 milliseconds, although sufficiently long

not to qualify as *continuous* trading, which would require compliance with pre-trade transparency rules.

Considering the non-continuous nature of periodic auctions, pre-trade information published by these systems is much poorer than the data disseminated by the transparent books during the usual fixing phases: as long as two orders are unlikely to encounter each other, no information is published. Moreover, the impossibility of participants knowing the end of the call phase discourages attempts to guess the status of the book. Thus, the price discovery mechanism is hardly possible (other than through post-trade transparency). Finally, given a peculiar functioning mechanism of periodic auctions, users can bypass the DVCs if they try to negotiate pre-arranged orders in the spread. In this respect, the price/member/time priority granted by certain platforms further facilitates this type of pre-arranged order.

In light of the increasing popularity of periodic actions, Aquis Exchange has announced plans to join the group of current providers: CBOE, Goldman Sachs (SIGMA-X), LSE (Turquoise), Nasdaq (Nordic AOD), Investment Technology Group (POSIT Auction) and UBS (see Table 7.9).

Periodic auction venue	Market share volume (%)	Market share turnover (%)
CBOE – BXE	87.24	75.22
SIGMA-X	4.90	8.93
Turquoise	4.21	4.14
Nordic AOD	2.12	3.78
POSIT Auction	1.48	4.01
Other	0.05	3.92

Table 7.9: Breakdown of market share (by volume and turnover) for venues in the growing segment of dark trading – periodic auctions – which are exempt from MiFID II pre-transparency rules. Data as of June 2019.

The third innovative way to stay in the dark is through waivers, which were previously adopted in MiFID I, but the market has found new methods of reaching the regulatory thresholds. The DVC measures do not apply to LIS orders, which may continue to be traded on dark platforms, including for securities affected by the suspension of the pre-trade transparency exemption. The threshold to qualify for the LIS waiver varies according to how much the stock has traded: for the least traded stocks, a block of just €15,000 counts as sufficiently large, while for the most liquid stocks (volume of more than €100 million daily), the threshold is €650,000.

Interestingly, the average dark trade size has almost doubled since the implementation of MiFID II, having risen in May 2018 to €23,190 from €12,488 in January of the same year (Read 2018), which supports the anecdotal evidence that some stakeholders are waiting to aggregate enough small orders to maintain their ability to trade on dark platforms once the LIS size is reached. While the market share of LIS transactions has been steadily increasing since 2016, the entry into force of the DVC has resulted in an acceleration of this trend[159].

According to Tabb Forum analyses, an average daily notional in trades exceeding the LIS thresholds stood at €1.12 billion in January 2019, compared with €1.05 billion in December 2018 and €658 million in January 2018 – highlighting the market's overall growth. Block volumes have stabilised at around 35 per cent of dark volumes and 3 per cent of overall order book volumes in comparison to 16 per cent and 1.5 per cent, respectively, in 2017 (Cave 2019). As emphasised in AFME's publications, the behaviour of postponing the execution of a client order in order to reach an LIS size that bypasses the DVC could directly harm the execution quality of client orders and violate the legal best execution obligation (2018).

It is important to recognise that second and third innovative ways of avoiding lit are primarily related to the trading activities on exchanges. As per Table 7.10, there are three subcategories of various products or services that predominantly exchanges offer to their clients with the clear intent of staying in dark: the previously analysed periodic auctions, as well as orders under LIS waivers and special-order types.

The orders under LIS waivers must be LIS to be posted to the book so they can automatically become exempt under the LIS waiver. Four major exchanges – CBOE, LSE, Euronext and Nasdaq – offer this service. Although order books under LIS waivers fully comply with the rules, they show a clear intent to encourage trading that benefits from waivers and stays in the dark. Finally, special-order types are intentionally designed not to fall under MiFID II rules. Deutsche Borse's volume discovery orders[160] have attracted the most client interest as they are very similar to iceberg orders[161] but never become visible in the book and are executed at midpoint.

[159] The DVC rules only apply to trades below the LIS threshold. Block trades, i.e. trades equal to or greater than the LIS threshold, are exempt from the restrictions (i.e. not considered in the DVC computations and not subject to the ban).
[160] A discovery order is special order type developed by Deutsche Borse. See Table 7.10.
[161] An iceberg order is usually a larger order that is broken up into smaller orders to conceal the real size of the order. See Glossary for more details.

To summarise, the case study on dark trading is particularly revealing as it might leave an impression of competition between exchanges and sell-side providers, but upon more careful examination the extent of intertwined interests becomes much clearer. More specifically, the three levels of ownership analyses clearly indicate that all three subgroups of stakeholders have been very keen on preserving dark in equities trading. The large investment banks, exchanges and asset management firms share ownership of the dark pools, while there is a significant trajectory of consolidation and new partnerships such as Plato. The new alliances utilised their reputational leverage to influence the regulator by signalling the extent of homogeneous preferences.

Similarly, the unified support for the more lenient treatment of SIs has led to intentionally poor drafting and regulatory loopholes. The extent of industry pressure for poor drafting is best reflected in the number of new SIs: from 14 prior to MiFID to 185 registered firms following the introduction of legislation and 207 at the time of writing[162], and the new SIs come from a whole variety of financial service providers. In addition to the intentional loopholes for SIs, there are at least two more market developments that weakened the regulatory endeavour to shed light into equities trading: the emergence of periodic auctions and an increase in the number of orders under LIS waiver.

In addition to reputational leverage, it is worth mentioning a whole plethora of data issues whereby regulatees strategically provided information to the regulator. The best reflection of the industry attitude towards data provision is the two-month delay in the implementation of DVCs (from January 2018 to March 2018) due to the fact that only 75 per cent of venues submitted legally required information before the deadline. The data issues have persisted as stakeholders have adopted different classification processes for individual trades[163]. That said, given the scope of trading activities and regulatory complexities, some data difficulties are expected. In comparison to the fixed income transparency thresholds, the strategic provision of trading data has been less detrimental for regulatory weakening.

[162] https://registers.esma.europa.eu/publication/searchRegister?core=esma_registers_upreg#

[163] Some of the examples are reporting standards of SI activities or different classification procedures by stock exchanges. Further, ESMA has also called out some firms for a high number of incomplete data submissions. In October 2018, the first ESMA data completeness indicators for double volume caps from ESMA reveal Goldman Sachs, Liquidnet and Bloomberg had highest amount of incomplete data submissions. https://www.thetradenews.com/goldman-sachs-liquidnet-bloomberg-called-first-mifid-ii-data-indicators-esma/

DVC exemption rationale	Financial service	Service provider	Key characteristics and mechanics
Periodic auction (The indicative price and size of each auction are published, so the mechanism is considered pre-trade transparent and thus the caps do not apply)	CBOE Periodic Auctions[164]	CBOE	A lit order book operating in parallel to the continuous order book, holding very short regular auctions with prices collared by the European Bid and Offer Price. The frequency of the auctions is between 5 and 100 ms, depending on the liquidity of the stock. Allocation is on a price-size-time basis.
	Turquoise Lit Auctions[165]	LSE	A lit order book operating in parallel to the continuous order book, holding very short, random auctions (between 50 and 100 ms).
	Nasdaq Auctions on Demand[166]	Nasdaq	A lit order book operating in parallel to the continuous order book, holding very short regular auctions with prices collared by the EBBO. The auction call period can last anywhere between 25 and 100 ms. Orders can be pegged to Primary Best Bid and Offer Price mid and are protected by an EBBO price collar.
	Sigma-X Auction Book[167]	Goldman Sachs	A lit order book, although with some differences in comparison to other services: auctions are triggered when a potential match is detected and will last for up to 125 ms. The uncrossing price is set at the beginning of an auction and is held fixed. Priority is based on price/broker(optional)/ size/time for orders that trigger auctions, and time starts only once the call period begins.
	POSIT Auction[168]	ITG	A lit order book operating in parallel to the continuous order book, holding very short, random auctions (up to 50 ms).
LIS waiver (Orders must be LIS to be posted to the book, and so can become exempt under the LIS waiver)[169]	CBOE LIS [170]	CBOE	Participants submit open interest to the CBOE LIS system to identify potential matches. When a match is identified, both parties choose a designated broker for clearing, and the trade takes place on exchange.
	LIS on Stock Exchange Electronic Trading	LSE	Block orders can be sent to the LSE's lit order book but will remain concealed from other participants provided they meet the LIS thresholds. The orders can have a limit applied or be pegged to the midpoint of the best bid and offer. In a sense, this offering could be viewed as a dark order book

[164] https://cdn.batstrading.com/resources/participant_resources/BATSEuro_PeriodicAuctions.pdf
[165] https://www.lseg.com/sites/default/files/content/documents/Turquoise%20Lit%20Auction%20-%20Summary%20slide%20September%202017.pdf
[166] https://business.nasdaq.com/auction-on-demand
[167] http://gset.gs.com/Sigmaxmtf/overview
[168] http://investor.itg.com/node/23121/pdf
[169] Other trading venues can also benefit from LIS waivers, but the aforementioned four accept only orders above the LIS threshold.
[170] https://markets.cboe.com/europe/equities/trading/lis/

	Service SETS order book[171]		sitting within the main LSE lit market order book, therefore interacting with both dark and lit contra liquidity. Participants can specify a minimum execution size.
	Nasdaq Nordic LIS Block[172]	Nasdaq	Hidden limit orders can be submitted to the Nasdaq lit order book if they meet the LIS thresholds. Hidden orders rank below displayed orders in execution priority at given price levels. Minimum Acceptable Quantity values and various peg types are supported. Hidden orders pegged to the mid-price give instant exposure to all crossing orders. If the volume of an original LIS order is reduced due to a partial execution, the hidden order ('stub') remains non-displayed even when the residual is smaller than LIS.
	Euronext Block MTF[173]	Euronext	Euronext Block MTF will accept only LIS orders, on either a firm or conditional basis. Optional functionality will allow IOIs to be displayed to selected counterparties, with the sender having control over who receives IOIs.
Special-order type	Deutsche Borse volume discovery orders[174]	Deutsche Borse	A volume discovery order can be best understood as an enhanced iceberg order type that allows execution of large orders within the Xetra book. However, the volume discovery order allows the hidden part of an iceberg order to be executed (matched) against other volume discovery orders at the midpoint of the bid–ask spread in the order book through a second limit. An optional minimum executable quantity ensures that only large orders will qualify for matching. Consequently, midpoint executions from volume discovery orders benefit from exemption under the LIS waiver, while executions at the bid or offer due to normal iceberg behaviour continue to take place under the order management facility waiver.

Table 7.10: Overview of the intentionally designed financial services that are always out of scope of MiFID II dark pool regulation.

[171] https://www.lseg.com/sites/default/files/content/documents/LSEG_CM_SETS_HIDDEN_ORDERS_BROCHURE_CMYK_LR.pdf
[172] https://business.nasdaq.com/large-in-scale
[173] https://www.euronext.com/en/blockmtf
[174] http://www.deutsche-boerse-cash-market.com/blob/2697668/fa92673adfeead43ab3e11e269a50a53/data/Factsheet_Volume-Discovery-Order_en.pdf

7.3 Conclusion

This chapter focused on two case studies that demonstrate the extent to which unified opposition from regulatees can drive regulatory watering down. The industry was the most unified in rejecting the regulator's transparency initiative for non-equity instruments. At the time of writing, only 0.3 per cent of European-issued bonds are actually subject to real-time trade-reporting requirements as the remaining 99.7 per cent are deemed illiquid.

In comparison to the initial calibration in 2014, the current percentage of liquid bonds presents a 22.7-fold decrease in the number of the in-scope bonds (from 3,857 in 2014 to 220 in 2019. Furthermore, the final liquidity assessment for swaps surprised even the industry representatives, who lobbied very hard to preserve the status quo of high profit margins (from 475 'liquid' swaps in 2014 to 51 in 2019).

Both buy-side and sell-side firms, as well as their respective industry associations, collaborated to 'inform and educate' the regulators about the possible drawbacks of introducing transparency into the fixed income markets. The most impactful channel of influence for reducing the number of liquid bonds has been the reputational leverage in regard to the CMU. A particularly strong lever for pushing the industry agenda for derivatives was the lack of reliable data. Ultimately, regulators had to rely to a large extent on strategically provided information from industry representatives.

The second case study – equities trading in dark – is particularly important as it might leave an impression of competition between exchanges and sell-side providers, but more careful examination clearly reveals the extent of intertwined interests. More specifically, the three levels of ownership analyses clearly indicated that all three subgroups of stakeholders have been very keen on preserving dark in equities trading. The large investment banks, exchanges and asset management firms share ownership of the dark pools, while there is a significant trajectory of consolidation and new partnerships such as Plato, which have been a strong signal of unified industry to the regulator.

The reputational leverage has been particularly important for achieving an intentional regulatory loophole for SIs, while the industry also developed additional ways to stay in darks through an increase in periodic auctions and orders under LIS waivers and special-order types.

Chapter 8 – MiFID II (Part III)

Case study comparisons and alternative explanations

Summary

The previous two chapters provided nuanced empirical evidence of three case studies, while this chapter will advance the analyses by engaging more directly with the IPE literature through two key endeavours: first, by comparing and contrasting regulatory outcomes (Rule change stringency) in three case studies: research unbundling, non-equity transparency thresholds and dark trading; and second, by providing IPE of finance alternative explanations, which will indirectly reinforce the explanatory power of the competition-centred theoretical account.

As per Figure 8.1, the first part of Chapter 8 will compare three case studies by drawing key parallels across five categories: actors and interests, aggregate actor preferences, smoking-gun evidence, the outcome / dependent variable, and channels of influence. Furthermore, I will reinforce the key findings regarding the growing heterogeneity of stakeholders in global financial governance and the importance of observing the entire regulatory process (agenda-setting, production and compliance phases, respectively).

Similar to Chapter 5 (quantitative analyses), the second part of Chapter 8 will discuss five alternative explanations: interest group plurality, market power, complex governance, 'quiet' politics and ideational changes. Finally, the last part will conclude.

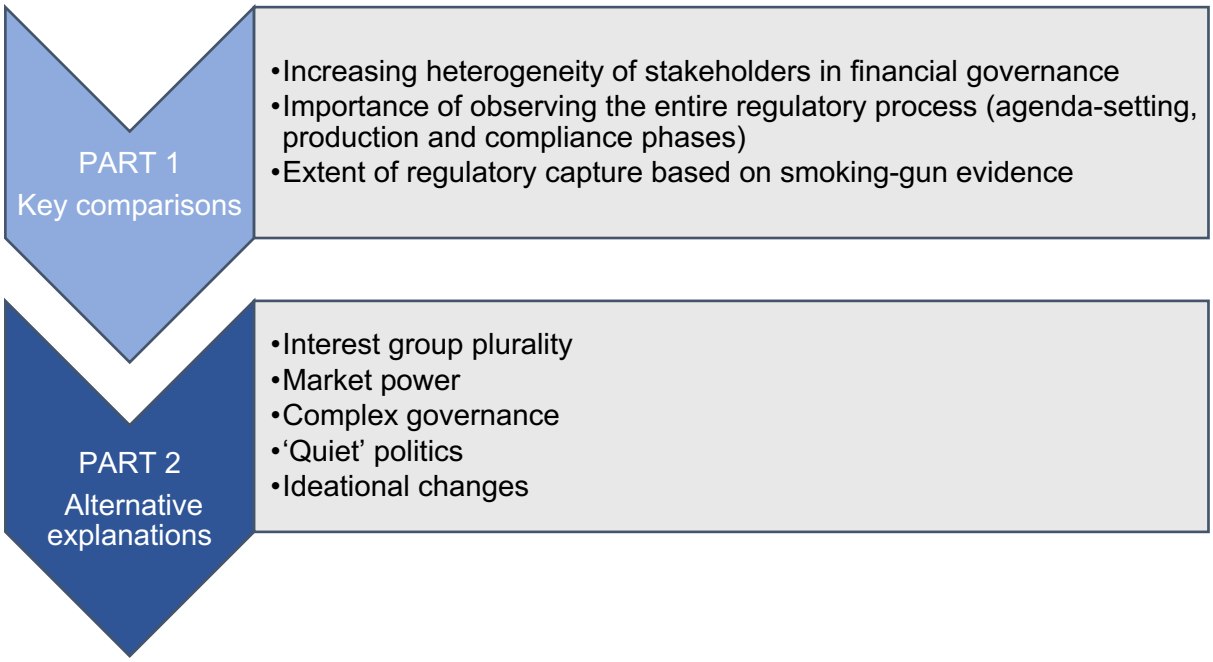

Figure 8.1: Key parts of Chapter 8

8.1 MiFID II in a nutshell – competition in the markets

As previously discussed in chapters 6 and 7, the case selection procedure resulted in three MiFID II regulatory initiatives, which are very similar across a variety of control variables, but their outcome (the dependent variable of Rule change stringency) and the main explanatory variable (Competition based on heterogeneity of regulatory preferences) are different. Nuanced analyses of the underlying intuition, causal mechanisms and smoking-gun evidence of three cases validated the main theoretical proposition: the key driving force of regulatory changes is competition in the markets.

However, the previous analyses focused on individual case studies, while this section will enhance analyses by comparing the case studies across five categories: actors and interests, aggregate actor preferences, smoking-gun evidence (i.e. preference attainment), outcome / dependent variable (i.e. the extent of rule strengthening or weakening), and lobbying method (i.e. channels of influence). These five conceptual categories are derived from the three-stage competition-centred theoretical account developed in Chapter 2 that focuses on actors and interests (First block), interactions through institutions (Second block), and micro-foundations of lobbying (Third block).

Thus, as per Table 8.1, the first conceptual category *actors and interests* fully resembles the first theoretical building block, which focuses on various stakeholders who mobilise in rulemaking processes and their regulatory preferences.[175] The second conceptual category *aggregate actor preferences* analyses the extent of competition among regulatees,[176] while the third conceptual category *smoking-gun evidence* is primarily focused on empirical outcomes as a by-product of the interactions among regulatees and regulators.[177]

The *smoking gun evidence* can also be understood as preference attainment: the extent to which the change in regulatory stringency matches the demands of regulatees. The *outcome / dependent variable* stands for the extent of regulatory weakening or strengthening. The third theoretical building block – Micro-foundations of lobbying – is captured through *lobbying method* or *channels of influence*: most notably strategic provision of information and reputational leverage.[178]

[175] For more details, see section 2.2.1.
[176] Analogous to the first-level interactions among regulatees. See section 2.2.2.1.
[177] Analogous to the second-level interactions among regulatees and regulators. See section 2.2.2.2.
[178] For more details, see section 2.2.3.

Analogous segment of the theoretical framework	**Conceptual category**	Case 1: Research unbundling	Case 2: Fixed income and derivatives transparency	Case 3: Dark trading
Actors and interests (First block)	**Actors and interests**	• Asset managers • Investment banks • Niche research providers • Electronic trade platforms • Data providers	• Broker dealers (large investment banks) • Brokers • Asset managers • Corporate debt issuers • Non-financial corporates • Credit rating agencies • Data providers	• Exchanges • Broker dealers (large investment banks) • Alternative trading venues • Asset managers • Clearing houses • High frequency trading firms
Interactions through institutions (Second block)	**Aggregate actor preferences**	Heterogeneous	Homogeneous	Homogeneous, despite appearance of competition (heterogeneous)
	Smoking-gun evidence (preference attainment)	1) Large asset management firms capitalising on the economy of scale through the research payment model (P&L)[179] 2) Emergence of new competitors in research and execution 3) Re-emergence of frictions on the sell-side	1) No (very minor) changes in reporting requirements due to watered-down calibrations 2) Contradictory assessment of the market liquidity[180]	1) Ownership structure of exchanges and pools (intertwined interests)[181] 2) New partnerships across the industry 3) No change in dark volume/turnover trading[182] 4) New innovative solutions to stay in dark (periodic auctions; trades below the waiver thresholds; increase of SIs)[183]

[179] For more details, see Table 6.2.
[180] For more details, see Tables 7.3, 7.4 and 7.5.
[181] For more details, see Tables 7.7 and 7.8.
[182] For more details, see Figures 7.4 and 7.5.
[183] For more details, see Figures 7.6 and 7.7, and Tables 7.9 and 7.10.

	Outcome / dependent variable[184]	**Stronger rule** 1) Explicit and exhaustive list of inducement prohibitions 2) Pricing and transparency requirements introduced *3) PnL model emerged as the market standard (compliance phase)*	**Weaker rule** 1) Drop in the number of liquid bonds (3,857 in 2014 vs. 220 in 2019) 2) Drop in the number of liquid derivatives (475 in 2014 vs. 51 in 2019)	**Weaker rule** 1) Intentional regulatory loophole on systematic internalisers (non-binding clarification) *2) Flawed compliance on the back of the loophole (compliance phase)*
Micro-foundations of lobbying (Third block)	**Lobbying method (channels of influence)**	Strategic information provision Reputational leverage (*limited impact given the cacophony of voices*)	Strategic information provision (i.e. market data on trading volumes and critique of ESMA datasets, *particularly important for derivatives*) Reputational leverage (i.e. the Capital Markets Union, *particularly important for bonds*)	Reputational leverage (i.e. new cross-industry alliances, *more important*) Strategic information provision (i.e. market trading data)

Table 8.1: Snapshot of the empirical case studies and key conceptual categories derived from the theoretical framework.

[184] For more details on outcome / dependent variable (i.e. the degree of change in the level of stringency designed by ESMA across time, see Figures 6.2 (research unbundling), 7.2 (transparency thresholds) and 7.3 (dark trading).

8.1.1 More actors with heterogeneous preferences

As Table 8.1 shows, there is a wide variety of different actors who mobilised in order to influence MiFID II rules: traditional sell-side actors such as investment banks, broker dealers and research providers; multiple buy-side actors categorised as asset management firms, ranging from pension funds to alternative investment managers (i.e. hedge funds and private equity funds); and other financial stakeholders such as exchanges, alternative trading venues, clearing houses and credit rating agencies. To a lesser extent, there are some non-financial stakeholders such as non-financial corporates and other businesses, while the involvement of non-business stakeholders has been minimal.

Simple counting of different actors in all three cases strongly supports the most recent shift in the IPE literature that emphasises growing heterogeneity in the markets (Helleiner 2014; Pagliari and Young 2016). In other words, it is misleading to treat all financial actors as a homogeneous group of stakeholders, which can fall under the umbrella of Big Finance. Such findings are consistent with the social network analyses and regression results presented in Chapter 5.

More interestingly, case studies allowed for more granular analyses of the interactions among regulatees and aggregation of their preferences. The perennial importance of the bargaining dynamics in the markets is best encapsulated in this statement from an interview with an industry association representative:

> In order to really influence regulators, we need to partner: the more stakeholders you can get involved, particularly investor protection groups, the more impact you can have on regulators.
>
> (interview, buy-side industry association representative)

Regulatees managed to achieve the highest level of unity in relation to non-equity transparency thresholds. Both buy-side and sell-side firms, as well as their respective industry associations, collaborated to ‘inform and educate’ the regulators about the possible drawbacks of introducing transparency into the fixed income markets.

On the other hand, research unbundling sparked fierce competition among industry stakeholders. First, there was regulatory competition between research

providers: the larger banks saw the prohibition regime as an opportunity to benefit from economies of scale at the expense of smaller providers, particularly brokers. However, even within the broker community, there was a strong push from star analysts to support new legislation as they expect MiFID II to award the best-performing researchers and restore prestige to the research sector. Interestingly, there has been a significant trend in setting up new, independent research firms, and expanding service offerings from other financial services firms that were not previously involved in the research business.

Second, the large asset management firms perceived research unbundling as an additional opportunity to solidify their market position and jeopardise the relative position of their smaller peers, who are disproportionately affected by the inducement prohibition regime.

Thus, non-equity transparency thresholds and research unbundling can be best understood as handbook examples of homogeneous and heterogeneous preferences, respectively. The third case study – equities trading in dark – is particularly important as it might leave an impression of competition between exchanges and sell-side providers, but on more careful examination the extent of intertwined interests (i.e. homogeneous) becomes much clearer. Although actors and their preferences seem clear, what gives confidence that preferences are translated into outcomes? Further, is there any smoking-gun evidence to support causal claims?

8.1.2. Smoking-gun evidence (preference attainment) and final regulatory change outcomes

The transparency thresholds are the most explicit example of regulatory watering down: the regulator reduced the number of liquid bonds from 3,857 in 2014 to 220 in 2019, while the number of liquid derivatives dropped from 475 in 2014 to 51 in 2019. All these calibration changes occurred during the production phase of the rulemaking process, which in turn resulted in preserving the status quo for the industry. More specifically, the industry managed to attain their preference for no changes in reporting requirements due to watered-down calibrations. In other words, although the new legislation has been promulgated, the rules are so weak that practically there has been no change.

On the other hand, research unbundling sparked fierce competition among industry stakeholders, which resulted in more stringent rules. On top of reinforcing the initial regulatory proposal, the regulator also provided more comprehensive list of prohibitions (such as on bespoke research) and detailed requirements on pricing mechanisms in order to eliminate predatory pricing attempts. There are two sets of smoking-gun evidence that demonstrate the regulatees' preference attainment in light of more stringent rules.

First, large asset management firms have capitalised on economies of scale through the research payment model based on P&L, which puts smaller and equity-focused managers at a disadvantage. It is interesting to observe that the industry itself pushed for costlier compliance through the P&L payment model (i.e. asset management firms pay for research themselves) although the regulator allowed for alternative models, whereby all costs would be passed on to the final user (i.e. investor or customer) with an appropriate disclosure.

Second, new market competitors emerged in the domains of execution and particularly research as the decades-old model of informally 'awarding' best research providers through execution of trades has been significantly altered given the new inducement prohibition rules.

In the dark trading case study, the regulatory weakening is primarily achieved through intentional regulatory loopholes, while repercussions are fully observable only when the compliance phase is taken into account. The major loophole is intentionally achieved during the rule production phase by allowing for the lenient treatment of SIs due to poor drafting. The extent of industry pressure for a watered-down treatment of SIs is best reflected in the number of new SIs that have emerged since the introduction of legislation: from 14 prior to MiFID to 207 at the time of writing.

Additional smoking-gun evidence of regulatory weakening can be observed during the compliance phase. More specifically, there are two most important developments that jeopardise the regulators' attempt to remove equities trading from the dark: first, there has not been any significant increase in the volume of lit trading; and second, there are three subcategories of various products or services that predominantly exchanges offer to their clients with the clear intent of staying in darks: periodic auctions, orders under LIS waivers and special-order types.

In contrast to the fixed income transparency thresholds, the extent of regulatory changes and smoking-gun evidence for the other two cases - research unbundling

and dark trading - span both the rule production and compliances phases of the rulemaking process. This in turn highlights the importance of capturing the entire regulatory process rather than just focusing on the rule production phase.[185]

8.1.3 Channels of influence: information provision and reputational leverage

The final step in understanding the causal mechanisms is to look into the channels of influence. The regulatees attempted to influence the regulator through strategic provision of information and through reputational leverage although their effectiveness has not been consistent across all cases.

In the research unbundling case, the cacophony of industry voices is precisely what prevented regulatees from achieving regulatory concessions. As one industry observer points out: 'I have not seen the industry so divided on a specific regulatory issue for a long time'.

On the other hand, both strategic provision of information and reputational leverage have been very effective for watering down the transparency thresholds. On the derivatives front, the most potent argument from the industry was flawed cumulative data used for calibrations despite the fact that regulatees themselves submitted underlying information to the regulator. Ultimately, regulators had to rely to a large extent on information and analyses presented by industry associations. Through open consultations regulators were literally swamped with negative comments from the industry so it was much more difficult to resist such a strong opposition.

For the bonds' calibrations, the regulatees primarily utilised their reputational leverage in regard to concerns for development of the Capital Markets Union. It is interesting to draw the parallel with the research unbundling case. Some regulatees claimed that research unbundling would negatively affect the small and medium enterprises (SMEs), which are integral part of the CMU project. However, the CMU argument has not been effective given the contradictory industry estimates about possible negative effects on SME financing in light of new rules. This is another example how heterogeneous regulatory preferences result in cacophony of squawking which can offset conflicting voices, while unified opposition is much stronger.

[185] Given that some regulatory watering down occurs at the compliance phase, it is likely that the quantitative study (Chapter 5) could not capture the full extent of regulatory weakening.

In the dark trading case, very often the data from the industry has been delayed and erroneous, either intentionally misleading or operationally sloppy. Some firms have already been fined for intentionally erroneous reporting. However, the reputational leverage has proved to be the most effective channel of influence, particularly for achieving an intentional regulatory loophole for SIs. The new alliances across the industry utilised their reputational leverage to influence the regulator by signalling the extent of homogeneous preferences.

8.1.4 Further implications for the IPE of finance literature

What are the broader implications of these findings for the IPE of finance literature?

Similar to the insights from Chapter 5, empirical evidence on MiFID II complements the ongoing empirical debates on the changing public–private relationship in global political economy (Helleiner 2014). The findings from case studies are indicative of the continued influence of market makers as rule shapers. As the empirics from non-equity transparency thresholds and dark trading clearly show, it is difficult for regulators to promulgate stronger rules if they are faced with a unified opposition from all stakeholders, particularly the industry representatives. These empirical findings resonate strongly with similar EU case studies on weakening of the financial transaction taxes (Kastner 2018) and post-crisis capital requirements (Keller 2018).

In contrast to the quantitative analyses presented in Chapter 5, the empirical outcomes observed in dark trading and particularly fixed income transparency threshold can provide relatively stronger support for causal claims on regulatory watering down and potential regulatory capture. The case studies meet the threshold of the smoking-gun evidence (Carpenter and Moss 2014), which makes them more suitable for establishing causal inference of regulatory capture. In both cases, stakeholders' preferences for regulatory weakening are very clear, while final outcomes can be traced back to very specific stakeholder activities and intermediate outcomes (smoking-gun evidence) which ultimately led to overall regulatory weakening.

However, instances of regulatory watering down and prospective capture should not be exaggerated. The industry's success in influencing regulatory outcomes during MiFID II was often paired with exceptionally costly reforms, such as research

unbundling and a whole variety of additional reporting obligations. Such findings strongly resonate with Young's empirical observations on Basel II (2012), whereby influence of the industry was mixed across different issue areas. More broadly, MiFID II empirical findings reinforce the importance of studying both instances of when the industry actors win and lose their regulatory battles (Young 2012; Pagliari 2015).

8.2 Alternative explanations

Although the case studies provide compelling evidence to support the main theoretical proposition about competition as the key driver of regulatory change stringency, it is worth reflecting on alternative explanations. As per Table 8.2, there are five alternative explanations:[186]

First, the two interrelated pluralist alternative explanations revolve around number of mobilised interest groups (Gray and Lowery 1996; Rasmussen, Carroll, and Lowery 2014) and stakeholder market power (Bouwen 2002; Peltzman 1976). Second, two contextual accounts focus on technical complexity (Porter 2014) and salience (Culpepper 2011; Culpepper and Reinke 2014; Woll 2014). The third theoretical tradition, constructivism, revolves around ideational change as the key driver of regulatory stringency (Baker 2010, 2012; Moschella and Tsingou 2013).

Alternative explanation	**Main driver of regulatory stringency**	**Applicability to Case study analyses**
Interest group plurality	Number of regulatees	*Limited* (large number of stakeholders mobilised, with engagement from all SIFIs across various regulatory issues)
Market power	Size and power of regulatees	
Complex governance	Technical complexity	Requires further testing
'Quiet' politics	Salience and public opinion	Requires further testing
Ideational change	Ideas	*Limited* (the reform was initiated after the GFC and all rules were implemented concurrently)

Table 8.2: Summary of key alternative explanations for three case studies

[186] For more details, refer to section 3.2.2.

Starting from the least plausible alternative explanation – ideational change – it is important to recognise that the constructivist approach offers little explanatory power as all three reforms have materialised in the aftermath of the GFC with the same implementation date in 2018. If the ideational change was the key driver of regulatory change stringency, then all rules from the same regulatory overhaul would likely result in the same or similar outcome.

The ideational school of thought (Tarullo 2008; Baker 2010, 2012; McKeen-Edwards and Porter 2013) postulates the change in regulatory mindset per se as a necessary and sufficient condition for stronger rules. However, as three case studies demonstrate, even if there is a constant regulatory supply of more stringent regulation (due to the regulators' ideational change), the final shape of rules is still determined in the markets, particularly when the industry unifies in opposition.

The pluralist explanations – interest group plurality and market power – also hold limited explanatory power. The interest group plurality school of thought theorised the number of mobilised firms as central to explaining influence over regulatory reforms (Gray and Lowery 1996; Rasmussen, Carroll and Lowery 2014; Chalmers 2015). This explanation seems to hold limited explanatory power as there were roughly consistent numbers of stakeholders across all three cases with a broad involvement from the sell- and buy-side representatives.

A largely compatible pluralist view emphasises the high concentration of financial interest groups (i.e. a small number of powerful stakeholders) and their ability to offer technical expertise and to provide informational goods to policymakers who adjust their legislative proposals accordingly (Peltzman 1976; Bouwen 2002). In the context of MiFID II and case studies, G-SIBs expressed their positions across all three sets of rules (either directly or through industry associations), so their market power hardly holds sufficient explanatory power for explaining variance in outcomes. This is not to say that market power does not matter; however, visibility and easier access to regulators does not necessarily translate into their desired regulatory outcomes.

The contextual explanations – technical complexity and salience – require more careful attention. Not only that these two concepts are relatively more challenging to measure, but they could also shed additional light on how competitive bargains emerged and developed in the markets. As per the case selection section, all three cases have a relatively similar Salience score measured as the average attention given to the specific issue in the LexisNexis database that covers major financial

media outlets (*Financial Times* and *New York Times*) and specialised financial regulation publications (*The Banker*, *American Banker* and *International Banker*). More substantially, all three reforms have profound implications for a large variety of different stakeholders with particularly pronounced financial effects.

That said, none of these rules gained popular coverage from daily tabloids or non-specialised media, as was the case, for example, with the regulation on European caps on bankers' compensation. In other words, there was limited interest from the general public, which could potentially change the political salience of the specific reforms. Thus, Culpepper's (2011) proposition that business interest groups often fail to materialise their influence over rulemaking processes on issues of high political salience while achieving success in low salience issue areas does not seem to hold sufficient explanatory power in this context. Despite relatively similar levels of salience, research unbundling resulted in the globally most stringent set of rules, while the transparency and dark trading requirements were watered down. If anything, dark trading did receive some public attention (and outrage) with Michael Lewis' bestseller *Flash Boys*, but the final regulatory verdict has not been changed.

Similar to Salience, I also controlled for the level of Complexity, which was operationalised through Linguistic Inquiry and Word Count (LIWC2015). Although all three cases scored similarly,[187] there might be some variation in technical complexity, particularly when it comes to nuances of dark trading rules (such as double volume cap) or transparency calibrations for derivatives. It is important to acknowledge that complexity in obtaining and estimating market data on derivatives trading did contribute to watering down of transparency thresholds. One could potentially argue that derivatives were more vulnerable to strategic provision of market data compared to bonds. However, it is important to observe the extent of complexity from a much broader perspective.

If one is to benchmark any of the three sets of rules, they are significantly more complex and require specialist expertise compared to a hypothetical regulatory proposal outside the financial issue area. This is best reflected in the fact that a large majority of consultation submissions come from financial institutions, legal firms and industry associations with very limited general public involvement. In other words, if

[187] For more details, refer to Table 6.1.

complexity was the major driver of regulatory change stringency, all three case studies should have resulted in the same outcome.

8.3 Conclusion

The final part of the analyses of MiFID II complemented the previous two chapters by reiterating the key empirical insights while embedding them in the IPE of finance literature. The first part of this chapter compared and contrasted three case studies: research unbundling, non-equity transparency thresholds and dark trading. Most importantly, the comparisons provided empirical support for the theoretical proposition that the competition in the markets is the key driver of regulatory stringency.

Furthermore, the comparisons provided additional support for increasing heterogeneity among financial stakeholders, which is consistent with the quantitative findings, particularly social network analyses. However, in contrast to Chapter 5, this chapter has overcome some of the limitations of quantitative analyses by capturing the entire regulatory process (agenda-setting, production and compliance phases, respectively), which was particularly relevant for research unbundling and dark trading smoking-gun evidence. The comparison of case studies also provided more robust evidence for causal claims on the extent of regulatory capture in financial rulemaking, particularly in the context of non-equity transparency thresholds.

The second part of this chapter discussed five alternative explanations. The pluralist (plurality of interest groups and market power) and constructivist (ideational change) alternative explanations hold limited explanatory power due to the timing of MiFID II regulatory reforms in the aftermath of the GFC and a relatively similar number of mobilised stakeholders. However, the contextual explanations – salience and technical complexity – warranted further examination despite the similar quantitative scores from the case selection process. The further analyses demonstrated that both salience and technical complexity might have contributed to outcomes, but their individual explanatory power is not sufficient to explain the variation observed in the cases.

Chapter 9 – Concluding remarks

Summary

What explains regulatory stringency in financial markets? More specifically, under what conditions do regulators promulgate stronger, more burdensome rules for the industry, and when do their efforts get watered down, resulting in weaker regulation? In order to answer these questions, I developed the competition-centred theoretical account, which can be distilled into one central claim.

The level of competition, conceptualised as heterogeneity of regulatees' regulatory preferences, holds the most explanatory power for understanding the extent of rule stringency – either rule weakening or rule strengthening. If regulatees compete due to heterogeneous preferences (i.e. disagree on a specific rule proposed by the regulator), then regulators hold more bargaining power to promulgate stronger, more burdensome regulation. Alternatively, when regulatees hold homogeneous preferences, their power of veto over the regulator is increased and rules are consequently weakened.

The competition-centred theoretical account was tested through two empirical endeavours: a large N study and case studies. In order to evaluate the prospective contributions of the thesis, Chapter 9 will answer three key questions (see Figure 9.1).

The first question – *What?* – focuses on empirical contributions. The large N study developed a new data set, which spans 13 years of rulemaking (2004–2016) with 200 rules and 7,873 individual submissions to ESMA. The case studies provided the first IPE empirical assessment of MiFID II by looking into three regulatory initiatives: research unbundling, non-equity transparency thresholds and dark trading.

The second question of Chapter 9 – *So what?* – achieves three goals: (a) it highlights the theoretical contribution of the competition-centred account, which builds on six streams of literature (international political economy of finance, organisational reputation, business conflict, interest groups, capture theory or economics of regulations, and strategic provision of information); (b) it focuses on alternative explanations derived from the IPE literature. Put differently, despite the persuasiveness of the empirical analyses presented in chapters 5, 6, 7 and 8, are there any more compelling drivers behind regulatory changes observed in the large N study and case studies?

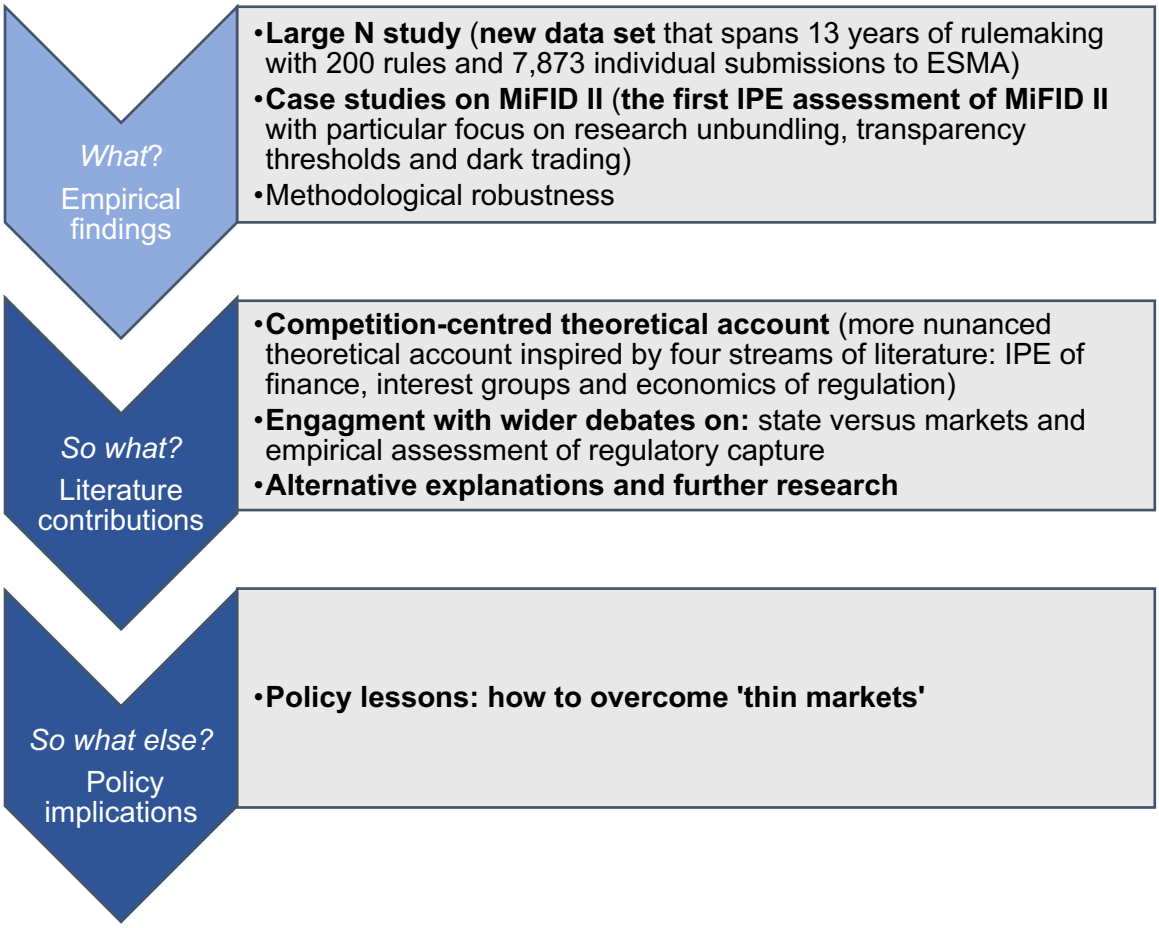

Figure 9.1: Three key questions of Chapter 9

By engaging with five alternative explanations (interest group plurality, market power, complex governance, 'quiet' politics and ideational change) I will reinforce the explanatory power of the competition-centred theoretical account while providing suggestions for further research; (c) it highlights broader theoretical contributions for wider literature debates on private versus public relationships in global governance and the extent of regulatory capture in financial regulation and beyond.

The third question of Chapter 9 – *So what else?* – goes beyond the academic literature and attempts to offer some policy insights. The policy section is particularly concerned with the extent to which increasing heterogeneity of stakeholders and prospective competitive bargains among them can overcome the thin market conditions.

9.1 *What?* Empirical findings

Despite fierce public and academic debate, the broader social science literature, and particularly the IPE scholarship, has suffered from insufficient deductive knowledge of

the financial industry influence over global rulemaking processes. This thesis has attempted to fill in the gap through two major empirical endeavours: first, the large N study and, second, the case studies on MiFID II. Although these two endeavours are complementary, it is worth summarising key quantitative and qualitative findings separately before discussing the extent of complementarities of mixed methods.

As per Chapter 5, the large N study developed a new data set that spans 13 years of rulemaking (2004–2016) with 200 rules and 7,873 individual submissions to ESMA. The previous literature utilised consultation procedures as a source of quantitative data, while some qualitative work emphasised the importance of competition as a key driver of regulatory outcomes (Pagliari 2018; James and Quaglia 2019).

However, this thesis endeavours to make an empirical contribution by developing the new data set, which in turn offers the chance to test the competition-centred theoretical account deductively. Furthermore, by analysing 13 years of financial rulemaking, this thesis is particularly responsive to Pagliari's (2015) recommendation for future research to pay closer attention to cases when the industry failed to achieve its interests. A much larger variation in outcomes, captured through large N analyses, has allowed for a higher level of generalisability.

In that respect, the ordinal logit analysis from Chapter 5 revealed two main insights. First, there is a robust and statistically significant effect of COMPETITION and FINANCE COMPETITION with RULE CHANGE STRINGENCY. Second, the level of competitive dynamics among financial stakeholders holds the most explanatory power, which suggests that regulators' decisions – both rule weakening and strengthening – are most influenced by the industry itself. In addition to the main regression results, the quantitative section also mapped all stakeholders through the network analyses and descriptive statistics.

When it comes to case studies presented in chapters 6, 7 and 8, this is the first political economy assessment of MiFID II, the largest European overhaul of the securities market regulation since the GFC. By looking into research unbundling, dark trading and transparency thresholds, the thesis contributes to the interdisciplinary pool of empirical knowledge on regulatory effects and unintended consequences, while identifying key constellations of interest and possible distributional repercussions.

Research unbundling and non-equity transparency thresholds present handbook examples of heterogeneous and homogeneous preferences, respectively.

The former has led to rule strengthening, while the latter resulted in rule weakening. More specifically, the new research unbundling legislation requires all investors to pay directly for sell-side research, which has overturned the decades-long practice of providing research services for free as a way of incentivising trading business. Despite steep economic costs of compliance, the research unbundling initiative resulted in competition due to heterogeneous regulatory preferences in the markets. Most notably, the pre-existing divisions between large European and American banks re-emerged, while larger asset management firms wanted to capitalise on the new regulation in an effort to wipe out some of their smaller competitors who would not be able to absorb steep new costs.

The evidence for watering down of the non-equity transparency thresholds is pretty clear. At the time of writing, only 0.3 per cent of European-issued bonds are actually subject to real-time trade-reporting requirements as the remaining 99.7 per cent are deemed illiquid. The current percentage of liquid bonds presents a 22.7-fold decrease in the number of in-scope bonds that must comply with the transparency rules since the initial calibration in 2014. Similarly, the scope of all liquid OTC interest rate swaps has reduced 10-fold since the initial calibration in 2014. The final liquidity assessment for swaps surprised even the industry representatives.

The third case study – equities trading in dark – is particularly important as it gives the impression of competition between exchanges and sell-side providers, but more careful examination revealed the extent of intertwined interests (i.e. homogeneous preferences). The regulatory weakening is primarily achieved through intentional regulatory loopholes, while repercussions are fully observable only when the compliance phase is taken into account. The major regulatory loophole is intentionally achieved during the rule production phase by allowing for the lenient treatment of systematic internalisers (SIs)[188]. The extent of industry pressure for a watered-down treatment of SIs is best reflected in the number of new SI firms that have emerged since the introduction of legislation: from 14 prior to MiFID to 207 at the time of writing.

[188] An SI is an investment firm that deals using its own account (as a principal) on an organised, frequent and systematic basis by executing client orders outside of a regulated market (i.e. an exchange). SIs constitute an intermediate category between pure OTC and trading venues. Thus, SIs do not have to comply with pre-trade transparency, and they are permitted to carry out unlimited dark trading as long as they put their own capital at risk (i.e. an equivalent to principal trading discussed in the derivatives section). For more detailed analyses see Chapter 7.

Additional evidence of regulatory weakening can be observed during the compliance phase. More specifically, there are two most important developments that jeopardise the regulators' attempt to remove equities trading from the dark: first, there has not been any significant increase in the volume of lit trading; and second, new products or services emerged with the clear intent of staying in darks: periodic auctions, orders under large-in-size (LIS) waivers and special-order types.

In addition to two main empirical contributions – the new data set and the first IPE empirical analyses of MiFID II – this thesis offers some methodological innovation in combining macro and micro perspectives on financial rulemaking. On the macro level, the large N data set provided the opportunity to empirically test the competition-centred theoretical account on the sample that spans 13 years. At the intersection of macro and micro levels, I used social network analyses to visualise heterogeneity of specific individual stakeholders who mobilised during the consultation procedures. On the micro level, I analysed three very specific case studies.

Finally, it is worth acknowledging the extent of methodological robustness that underpins the empirical findings. By combining qualitative and quantitative approaches, the thesis benefited from triangulation of findings, increased measurement validity and reliability, as well as increased completeness in understanding the subject matter.

9.2 *So what?* Literature contributions

9.2.1 Competition-centred theoretical account

The thesis is deeply embedded in the IPE literature with the interdisciplinary intellectual underpinning derived from the IPE of finance subfield (Mattli and Woods 2009; Helleiner 2010; Helleiner and Pagliari 2011; Pagliari and Young 2016; Mattli 2018; Newman and Posner 2018) in combination with the wider literature on non-state actors and politics of regulation (Cutler, Haufler and Porter 1999; Hall and Biersteker 2002; Büthe 2010; Büthe and Mattli 2011).

More specifically, the literature has advanced in terms of recognising increasing plurality of stakeholders in global financial governance (Helleiner 2014; Kastner 2014; Pagliari and Young 2016; Young and Pagliari 2017) as well as analysing competing and coalition-building interests among them (Paudyn 2013; Howarth and Quaglia 2015; Quaglia 2017). However, there is limited coverage in the literature of the

conditions under which competing or heterogeneous interests emerge, how regulated firms interact among themselves and with regulators and, finally, what the possible effects of regulatees' bargaining are with regard to regulatory stringency.

In order to develop a comprehensive theoretical account with clear causal mechanisms, the thesis built on additional four streams of literature. First, the key insights for the second building blocks (two-level game of interactions between the regulator and regulatees) are derived through the business conflict literature (Levy and Kolk 2002; Clapp 2005; Finger 2004; Falkner 2008; Falkner 2009; Roemer-Mahler 2013) in combination with the scholarship on interest group competition (Hula 1999; Mahoney 2008; Baumgartner et al. 2009; Holyoke 2011). Second, the micro foundations of lobbying (i.e. channels of influence) built on the organisational reputation theory (Carpenter 2010; Maor 2011, 2014; Carpenter and Krause 2012; Busuioc and Rimkutė 2019) in combination with strategic provision of information (Hall and Deardorff 2006).

Beyond the theoretical account per se, the thesis can complement the ongoing empirical discussions on the changing public–private relationship in global political economy (Helleiner 2014), which strongly resonates with the main debate in IPE: states versus markets. Although the thesis does not offer a definitive answer on the extent to which the state is reasserting its power, the findings are more indicative of the continued influence of market makers as rule shapers. More specifically, the large N analysis clearly shows that it is difficult for regulators to promulgate stronger rules if they are faced with unified opposition from all stakeholders, particularly industry representatives. Similar findings stem from case studies on non-equity transparency thresholds and dark trading.

Although the primary focus of the thesis is the impact of competition on regulatory stringency, the empirical findings suggest that the power of private stakeholders has not diminished. Moreover, the thesis provides sufficient evidence to oppose the view that suggests that the role of financial stakeholders will cede to some extent, while the state's centrality within the globalised structure of financial governance will grow (Germain 2016). As demonstrated through the large N study and case studies, even if there is strong regulatory supply, the final shape of rules is still highly dependent on market dynamics.

In addition to the main body of literature – IPE of finance – the thesis has engaged with the economics of regulation or even the broader interdisciplinary

literature on regulatory capture, which might see some benefits from comparative empirical analysis of MiFID II. While the large N findings from the thesis do not provide direct evidence for regulatory capture due to a lack of causal relationship, the empirical outcomes observed in dark trading and particularly non-equity transparency threshold can provide relatively stronger support for causal claims on regulatory watering down and potential regulatory capture. Both case studies meet the threshold of the smoking-gun evidence. In both cases, stakeholders' preferences for regulatory weakening are very clear, while final outcomes can be traced back to the very specific stakeholder activities and intermediate outcomes (smoking-gun evidence) which led, ultimately, to overall regulatory weakening.

However, it is important to acknowledge that the industry's success in influencing regulatory outcomes during MiFID II was often paired with exceptionally costly reforms, such as research unbundling and a whole variety of additional reporting obligations. Such findings strongly resonate with Young's empirical observations on Basel II (2012), whereby influence of the industry was mixed across different issue areas. More broadly, MiFID II empirical findings reinforce the importance of studying both instances of when the industry actors win and lose their regulatory battles (Young 2012; Pagliari 2015).

9.2.2 Alternative IPE explanations and further research

Despite the persuasiveness of the competition-centred theoretical account supported by empirical analyses, are there any alternative explanations that might have been at play?

As discussed in chapters 3, 5 and 8, there are five alternative explanations: first, the number of mobilised interest groups (Gray and Lowery 1996; Rasmussen, Carroll, and Lowery 2014); second, stakeholder market power (Peltzman 1976; Bouwen 2002); technical complexity (Porter 2014); salience (Culpepper 2011; Culpepper and Reinke 2014; Woll 2014); and ideational change as the key driver of regulatory stringency (Baker 2010, 2012; Moschella and Tsingou 2013).

Given such a wide range of prospective drivers of regulatory stringency, what gives competition the highest level of explanatory power? The thesis tackled this question in three ways: first, through a large number of control variables in the large N study, second, through careful case selection of the case studies and, third, by

acknowledging the extent to which one of the alternative explanations might reinforce the effects of competition.

Both the large N study and the case studies accounted for alternative explanations through multiple control variables. The econometric models in the large N study included five alternative explanations through variables MOBILISATION, SIFI, SALIENCE, COMPLEXITY and CRISIS, as well as three additional controls PRE-EXISTING RULE, WORD COUNT and TIMEFRAME. Similarly, the preliminary case studies selection procedure accounted for two most relevant alternative explanations: complexity and salience. The remaining three alternative explanations (ideational change, mobilisation and market power) had more limited explanatory power in the specific context of MiFID II. Ideational change is less applicable as all MiFID II reforms were initiated after the GFC, while the pluralist explanations were also limited given that a large number of stakeholders mobilised across all rule proposals, with engagement from all SIFIs across various regulatory issues.

Although both the large N study and the case studies accounted for alternative explanations and demonstrated relatively higher levels of explanatory power of competition, it would be naïve to assume that other drivers in no way contribute to the overall outcomes. For example, as discussed in Chapter 5, in reduced econometric models with fewer controls, SIFI (the proxy for market power) is statistically significant in two of the reduced iterations, while in another three models SIFI closely approaches the traditional threshold for statistical significance.

Thus, further work could benefit from more granular analyses of relative market power among mobilised stakeholders. While the thesis eliminated the idea that one specific set of stakeholders holds more power over time across many issue areas, perhaps there are smaller constellations of actors with more power. For example, there might be specific dyads or triads of stakeholders whose regulatory preferences carry more weight in regulatory bargaining.

Further research should also widen the geographical scope of analyses in two directions: first, by focusing on other developed economies, primarily the United States as the main interlocutor to the European Union (Posner 2009); and second, and equally important, by capturing dynamics in emerging economies such as China and smaller developing countries, which are often rule takers (Jones and Zeitz 2017; Jones and Knaack 2019).

Alongside geographical scope, the literature could also benefit from widening the scope in terms of substantive issues. While the thesis primarily focused on securities markets, it would be important to verify if the same dynamics apply to banking (Singer 2007; Quaglia 2008; Lall 2012; Chalmers 2017) or insurance regulation, or even other regulatory areas such as environment or food protection.

Through widening the scope of geographies and issue areas of interests, it would be possible to gain a better understanding of the extent to which contextual factors of technical complexity and salience contribute to regulatory stringency. It is particularly challenging to quantify the extent of technical complexity in financial regulation. It is very challenging to differentiate nuances given the entire legal corpus of financial regulation is very sophisticated. Thus, a comparison across issue areas could prove illuminating.

Similarly, the effect of salience might be contingent on an issue area. In the context of financial regulation, salience might be more pronounced in areas such as banking regulation rather than more opaque securities markets. Furthermore, the time horizon is particularly important – the salience issue cycle diminishes with time (i.e. MiFID II was promulgated 10 years after the GFC) so any effects of salience might be more applicable in observing immediate policy responses.

9.3 *So what else?* Policy implications

The thesis also endeavours to engage in a dialogue with policymakers and practitioners. In addition to the granular analyses of MiFID II, which potentially could assist regulators in identifying some of the flaws of the system, the thesis attempts to reiterate the importance of competition (i.e. heterogeneity of regulatees' regulatory preferences) and how regulators can actually benefit from it.

Highly technical legal matters, such as financial regulation, pose one of the largest challenges for policymakers in their attempts to devise a sustainable economic system. The challenge is even more arduous as different institutional choices inevitably shape distributional repercussions. Thus, in order to understand the challenge of achieving common beneficial outcomes, it is necessary to analyse the key drivers that underpin the process of institutional regulatory design and the extent to which these drivers predetermine regulatory outcomes.

In a nutshell, the thesis tells a story of how dynamics in the market itself actually influence the extent of regulatory change. Despite exponentially increasing levels of complexity in financial regulation; the number of new actors in financial governance and the heterogeneity of their preferences present a new opportunity for policymakers and regulators. In order to gain a better understanding of this potential, it is worth briefly reflecting on the notion of 'thin markets' (Ramanna, 2015a), which was initially introduced in Chapter 5.

According to Ramanna (2015a, 2015b), there are two key underlying features of thin markets: first, low salience of rules and, second, regulators' dependence on stakeholders who have vested interests in the final shape of regulation (an information asymmetry between stakeholders and regulators allows stakeholders to shape regulation according to their own interests). These two characteristics tend to translate into the rather unsatisfactory reality that private interest groups remain largely unopposed in devising the rules of the game in self-serving ways.

First, regulators (who are assumed to work in the public interest, although there is a scope for capture) need to rely on industry representatives' expertise as their knowledge is tacit or implicit rather than codified or explicit. The information asymmetry is more pronounced in sectors more closely linked to financial innovation, such as esoteric finance. Consequently, it is easier for industry representatives to shape regulations according to their own interests.

Second, influence over regulation by special-interest groups is a threat in many areas of public governance, but a relatively higher awareness among the public of this possibility induces intermediaries such as politicians or the media to act as safeguards for the public interest. In line with the broad academic consensus, poor financial regulation was one of the main culprits of the GFC.

However, the third driver – significantly increased heterogeneity of regulatory preferences – provides a counterbalance to the unsatisfactory reality of mostly unopposed rules. In aftermath of the GFC, regulators and policymakers are presented with unique circumstances when major financial stakeholders more often compete among themselves for different regulatory outcomes rather than acting as a unified set of stakeholders. This in turn increases the scope for policymakers and regulators to capitalise on competition due to preference heterogeneity by imposing more stringent rules with a view to long-term economic stability through a more sustainable financial architecture.

Given an ever-increasing heterogeneity of stakeholders in the financial rulemaking arena, it is essential that regulators and policymakers devote significantly more time to understanding all stakeholders and their business models as a pre-requirement for achieving well-functioning capital markets. This would mean that regulatory/supervisory frameworks have to evolve in tandem with financial markets.

Regulatory/supervisory authorities have to increase their presence in the non-bank financial/non-financial sector, where diversity and complexity have grown considerably. Instead of relying on regulatory/supervisory frameworks based on entities and a segmented view, it is essential to promote changes in these frameworks in order to focus them on specific activities, while acknowledging systemic implications. This would allow that the riskier activities are avoided (regardless of which entity performed it) and to address the build-up of imbalances with systemic proportions.

In the case of the European Union, and considering the forthcoming implementation of the Capital Markets Union, this could be achieved in the following three ways: first, by increasing the harmonisation of regulation within EU Member States; second, by granting more enforcement powers for supranational authorities (i.e. ESMA, European Insurance and Occupational Pensions Authority, European Systemic Risk Board), especially in measures to curb financial stability risks coming from the non-bank financial/non-financial sector with systemic consequences; and third, by enhancing coordination between supranational authorities and national regulatory/supervisory institutions. These improvements could pave the way for more resilient financial stability frameworks in the European Union and beyond.

Glossary of economic and financial terms

Active management: the traditional investment approach whereby investment fund managers actively create and manage a portfolio of assets in order to monetise any market mispricing. Active managers can have different investment mandates based on specific asset allocation or geographical remit. See also Passive management.

Algorithmic trading: a type of trading based on the use of computer algorithms (algos) to automatically submit, cancel and manage orders. See also Order.

Arbitrage: a risk-free strategy of simultaneously transacting in multiple financial securities to make a profit from the difference in prices.

Asset: an item that is owned by an individual or a legal entity. The most liquid asset is cash. See also Asset allocation and Asset–liability management.

Asset-backed security: a financial security whose income payments and value are derived from and collateralised by a specified pool of underlying assets, such as mortgages or car loans. See also Securitisation.

Asset allocation: the proportion of investments in a fund or portfolio held in different asset classes such as equities, fixed income and cash. See also Asset and Asset–liability management.

Asset–liability management: the process of closing out exposure to fluctuations in interest rates by matching the timing of cashflows associated with assets and liabilities.

Auction: a market where public bids and offers are matched off against each other.

Balance sheet: one of three main financial statements, which presents a company's current financial position by disclosing assets, liabilities and equity claims at a particular point in time (i.e. year-end). See also Income statement and Cashflow statement.

Bank for International Settlements (BIS): an international financial institution owned by central banks that fosters international monetary and financial cooperation and serves as a bank for central banks.

Basis point: a measure which is often used for expressing small percentage values. Each basis point is equal to 0.01 per cent. For example, 10 basis points equals 0.10 per cent.

Basel Committee on Banking Supervision (BCBS): a committee of banking supervisory authorities that was established by the central bank governors of the

Group of Ten countries in 1974. It provides a forum for regular cooperation on banking supervisory matters.

Basel II: the set of international banking regulations developed by the BIS in 2004 to promote stability in the international financial system. Basel II was embedded in three pillars: minimum capital requirements, regulatory supervision and market discipline.

Basel III: the significantly expanded version of Basel II, which introduces the common definition of capital, higher capital requirements, specific buffers for G-SIBs, as well as liquidity and leverage ratios.

Bear market: the market conditions of falling prices against a background of pessimistic investors. The antonym is bull market.

Best execution: the obligation of intermediaries (such as broker dealers) to achieve the best possible result when executing customer orders, which implies asking multiple counterparties for their respective prices and dealing on the best price.

Black swan: a random and unexpected event or occurrence that deviates beyond what is normally expected from historical data; hence, it is extremely difficult to predict or quantify such events or occurrences despite their often disastrous effects.

Bid (selling) price: the price an investor gets when selling any financial assets. Conversely, the broker dealer (market maker) buys at the bid. See also Offer (buying) price and Bid-offer spread.

Bid-profit spread: the difference between immediate best ask price and the immediate best bid price of an asset. It is basically the difference between the lowest price a seller is willing to accept and the highest price the buyer is willing to pay for an asset. For non-commission businesses (such as over-the-counter (OTC) market making), the bid-offer spread is profit that a market maker makes due to providing liquidity (assuming no market moves before both transactions occur).

Black-Scholes: the model used to calculate the theoretical price of options using five key determinants of an option's price: stock price, strike price, volatility, expiration time and risk-free rate.

Block trading: a type of trading in large blocks of financial instruments.

Bond: a financial instrument with a low to medium level of risk, whereby an investor lends money to the government or companies for a fixed rate of interest. Traded on the secondary market as well.

Broker: an individual or company that places trades on behalf of a trader. They can do so in a number of different asset classes, the best known being stockbroking. The

broker charges a fee or commission for executing orders submitted by an investor. See also Market maker.

Bull market: the market conditions of increasing prices against a background of optimistic investors. The antonym is bear market.

Buy side: Market participants or firms that trade in securities or financial instruments for their own or clients' accounts. Some of the most common buy-side participants are institutional investors (i.e. mutual funds, asset management firms), insurance companies and proprietary traders. See also Sell side.

Cap: a financial contract giving the buyer the right but not the obligation to borrow a pre-set amount of money at a pre-set interest rate with a pre-set maturity date.

Capital requirement: the mandatory minimum amount of capital that a financial institution has to hold in order to comply with relevant regulations. The capital requirement is usually expressed as the capital adequacy ratio of equity that must be held as a percentage of risk-weighted assets. See also Risk-weighted asset.

Cashflow statement: one of three main financial statements, which provides information on how changes in balance sheet accounts and income affect cash and cash equivalents. See also Balance sheet statement and Income statement.

Categories of Financial Instruments Approach (COFIA): a method of liquidity calibration based on segmenting asset groups into more granular classes that shape largely homogeneous liquidity characteristics. See also Instrument-by-Instrument Approach (IBIA).

Central limit order book (CLOB): an exchange-style execution method common in the equity domain that matches all bids and offers according to price and time priority. It allows all users to trade with each other directly instead of through an intermediary/dealer, while benefiting from publicly available price information.

Circuit breaker: a trading curb that occurs when an individual financial instrument or, to a lesser extent, the entire market stops trading for a period of time due to a substantial drop in price.

Clearing: the post-trading process of transferring ownership of securities, which is managed by central clearing houses such as LCH and ICE.

Closing price: the last level at which it was traded on any given day. This price is often determined by an auction. See also Opening price.

Colocation: a data centre facility in the exchange premises where the exchange's servers are on the same network. It is used to rent space to trading firms to locate their

servers and other computing hardware. The colocation facility provides the power, bandwidth, IP address and cooling systems.

Commodities: raw materials that can be divided into five main categories: agriculturals (e.g. wheat and potatoes), softs (e.g. coffee and cocoa), precious metals (e.g. gold and silver), non-ferrous metals (e.g. copper and lead) and energies (e.g. oil and gas). The investors usually express their investment view on commodities through derivatives, mostly non-deliverables.

Commodity Futures Trading Commission (CFTC): an independent US agency with exclusive jurisdiction over futures trading in all commodities. The CFTC's mission is to foster open, transparent, competitive and financially sound markets. See also Securities and Exchange Commission (SEC).

Convexity: a measure of the non-linear relationship of fixed income instrument prices to changes in interest rates. Mathematically, convexity is the second derivative of the price of the fixed income instrument with respect to interest rates (duration is the first derivative).

Corporate bond: a financial instrument whereby an investor lends money to a specific company for a fixed rate of interest. Corporate bonds usually have a higher risk profile than government bonds. See also Bond and Government bond.

Coupon: the annual interest paid on the face value of a bond.

Credit default swap (CDS): a derivative in which the lender of a loan is given a guarantee against the non-payment of the loan. The seller of the CDS provides insurance to the lender in the sense that, if the borrower defaults, the CDS buyer will be repaid by the CDS seller. The buyer of a CDS pays a premium on a monthly basis for insuring against a debt default.

Credit rating: formal evaluation of an entity's loan repayment history and current ability to repay financial liabilities. The credit rating is awarded by credit rating agencies such as Standard & Poor's and Moody's. The highest credit rating is AAA (creditworthiness akin to the US government). In addition, all bonds with credit ratings of AAA, AA, A or BBB are considered investment grade, while low-rated bonds with ratings of BB or below are often called high-yield or junk bonds.

Cross-currency swap: a derivative which involves the exchange of principal and interest of the swap in one currency for a similar amount in another currency. See also Interest swap.

Crossing network: an electronic system for matching bids and offers.

Dark pool: a private venue for multilateral trading without any pre-trade transparency (no display of price quotations) and operated by traditional financial services stakeholders: exchanges, investment banks, brokers and trading networks. Dark pools allow institutional investors to reduce information leakage and price impact, particularly when executing large sizes. See also Dark trading.

Dark trading: all trades executed outside the lit venues, such that dark trading encompasses over-the-counter trading and dark pools, inter alia. See also Dark pool and Over-the-counter (OTC).

Default risk: the possibility that the issuer of a bond will be unable to make payments on the due date.

Depth: the number of financial instruments available at a specific bid or offer.

Derivative: a financial contract whose value is dependent upon the value of an underlying asset. The most common derivatives such as options, futures and forwards are traded on the exchanges, while there are also over-the-counter (OTC) derivatives. Derivatives are often used by traders as a device to speculate on the future price movements of an asset, whether that be up or down, without having to buy the asset itself. See also Exchange, Forward, Future, Interest rate derivative, Option, OTC derivative and Swaption.

Dodd-Frank: The Dodd-Frank Wall Street Reform and Consumer Protection Act (usually referred to as Dodd-Frank) is a US federal law enacted in July 2010 as the largest regulatory overhaul following the GFC.

Double volume cap (DVC): a mechanism which limits the amount of trading in dark pools by introducing a cap on the use of two transparency waivers: the negotiated trade waiver (NTW) and the reference price waiver (RPW).

Duration: a measure of the sensitivity of the price of a fixed income instrument to changes in interest rates. The financial literature distinguishes between Macaulay duration (the weighted average time until cashflows are received, which is measured in years) and modified duration (the price sensitivity, which is measured as the percentage change in price for a unit change in yield). See also DV01 and Fixed income.

DV01 (dollar duration): the dollar variation in a fixed income instrument's value per unit change in the yield. DV01 approximation is mostly used by practitioners for back-of-the-envelope calculations. See also Duration and Fixed income.

Endogenous risk: the sort of risk which is created by and within the financial system per se rather than as a result of an event outside of the system.

Equity (or equities, share or stock): represents a share of the ownership of a company. Shares can provide regular payments, known as dividends, while the share price changes as the value of the company changes. Based on historical performance, equity returns tend to outperform other asset classes, although the level of volatility is higher.

Exchange: an open, organised marketplace where various financial assets are publicly available at prices that reflect supply and demand.

Execution cost: any costs related to opening and closing a trading position (i.e. buying or selling a bond). For the commission-based transactions, clients need to pay a fixed amount, while for bid-offer-based transactions, clients pay the difference between the buying and selling price shown by the market maker. See also Bid-offer spread.

Exotic derivative: any derivative contract that is not a plain vanilla contract. Examples include a barrier option or swaption.

European Securities and Markets Authority (ESMA): the EU-level regulatory agency whose objectives are to: improve the functioning of the internal market, including in particular a sound, effective and consistent level of regulation and supervision; ensure the integrity, transparency, efficiency and orderly functioning of financial markets; strengthen international supervisory coordination; prevent regulatory arbitrage and promote equal conditions of competition; ensure that the taking of investment and other risks is appropriately regulated and supervised; and enhance customer protection.

Financial Conduct Authority (FCA): an independent body that regulates the financial services industry in the United Kingdom. The FCA has been given a wide range of rulemaking, investigatory and enforcement powers in order to meet its four statutory objectives: market confidence (maintaining confidence in the UK financial system), financial stability (contributing to the protection and enhancement of stability of the UK financial system), consumer protection (securing the appropriate degree of protection for consumers) and the reduction of financial crime (reducing the extent to which it is possible for a regulated business to be used for a purpose connected with financial crime).

Financial instrument: a monetary contract between two parties, which can be traded and settled. The contract represents an asset to one party (the buyer) and a financial liability to the other party (the seller).

Forward (or forward contract): an agreement between two parties to buy or sell an asset at a fixed future date for a price determined at the time of dealing. Forward contracts are generally arranged to have zero mark-to-market value at inception.

Forward rate agreement (FRA): a financial derivative with the cash-settled obligation on interest rates for a pre-set period on a pre-set interest rate index with a forward start date. For example, a 3×6 FRA on USD London Interbank Offered Rate (LIBOR) is a contract between two parties obliging one to pay the other the difference between the FRA rate and the actual LIBOR rate observed for that period (in the specific example: a three-month contract three months into the future).

Fund manager: a professional who is employed by a company to manage money.

Future: an exchange-traded obligation to buy or sell a financial instrument or to make a payment on one of the exchange's fixed delivery dates.

Global systemically important bank (G-SIB): a bank listed on the Financial Stability Board list (in consultation with the BCBS and national authorities) as systemically important for financial stability. See also G-SIFI.

Global systemically important insurer (G-SII): an insurer listed on the Financial Stability Board list (in consultation with the International Association of Insurance Supervisors (IAIS) and national authorities) as systemically important for financial stability. See also G-SIFI.

Global systemically important financial institution (G-SIFI): a combined list of G-SIBs and G-SIFIs.

Hedging: a strategy employed to reduce or mitigate risk. Hedging involves making an offsetting transaction in one market in order to protect against possible losses in another. Currency hedging is a specific example of hedging where the market participant tries to protect an existing or anticipated position from an unwanted move in exchange rates.

High-frequency trading (HFT): a special category of algorithmic trading characterised by a holding period for securities ranging from microseconds to a few minutes. See also Algorithmic trading.

Iceberg order: usually a larger order that is broken up into smaller orders to conceal the real size of the order. When a large order enters the market, it may affect the

supply and demand in the market. To reduce such an effect, a small quantity is disclosed to the public against an undisclosed large order. When one's disclosed portion is filled, the next portion is sent to the market, while the process continues until the entire order is filled. See also Order.

Idiosyncratic risk: a sort of risk that is endemic to an individual asset or a market participant. See also Systemic risk.

Income statement: one of three main financial statements, which provides information about a company's profitability over a stated period of time. See also Balance sheet and Cashflow statement.

Inflation swap: a swap linked to the inflation index, such as consumer price index (CPI). Inflation swaps are used for transferring inflation risk or speculating on inflationary trajectory.

Institutional investor: investing entities that manage substantial amounts of money on behalf of other investors (i.e. pension funds or asset management firms).

Instrument-by-Instrument Approach (IBIA): a method of liquidity calibration based on assessing every single financial instrument per se. See also Categories of Financial Instruments Approach (COFIA).

Interest rate: the amount of money an investor can earn on an investment or the amount a borrower is charged for borrowing money. It is usually expressed as a percentage of the total amount invested or borrowed. See also Basis point and Fixed income.

Interest rate swap: a derivative where the exchange of cashflows is based upon different interest rate indices denominated in the same currency on a pre-set notional amount with a pre-determined schedule of payments and calculations. Usually, one counterparty receives fixed flows in exchange for making floating payments.

Internalisation: the practice in which a broker dealer fills the client order through direct trading rather than directing the order to an exchange or other trading venue.

International Organisation of Securities Commissions (IOSCO): the representative forum for regulators of securities and futures markets. IOSCO's mission is to develop, implement and promote adherence to internationally recognised standards for securities regulation. Its key outputs include the Objectives and Principles of Securities Regulation, a set of 30 principles outlining IOSCO's position regarding what constitutes high-quality securities regulation. IOSCO membership

comprises regulatory agencies that are responsible for securities and futures regulation in more than 160 jurisdictions, and it is fully financed by membership fees.

International Securities Identification Number (ISIN): a code that uniquely identifies a specific security issue.

International Association of Insurance Supervisors (IAIS): a voluntary membership-driven standard-setting organisation of insurance supervisors and regulators. The IAIS's mission is to promote effective and globally consistent supervision of the insurance industry in order to develop and maintain fair, safe and stable insurance markets for the benefit and protection of policyholders and to contribute to global financial stability.

Lamfalussy process: specific regulatory process in the European Union for financial services, which was first introduced in 2001. The process requires four-step rulemaking: at Level 1 the European Parliament and Council adopt the basic laws proposed by the Commission; at Level 2 the Commission updates technical details; at Level 3, committees of national supervisors issue implementation guidelines; and finally at Level 4, the Commission ensures the correct enforcement of EU rules by national governments.

Large-in-scale (LIS) order: an ESMA liquidity waiver for orders that are large in scale compared with normal market size. See also Size specific to the instrument (SSTI).

Latency: the time necessary to receive information on market events such as quote update or order flow. Algorithmic trading is grounded in the idea of low latency measured in milliseconds.

LIBOR (London Interbank Offered Rate): the interest rate that London banks charge when lending money to one another over a short period of time. LIBOR is often used as a benchmark when setting other short-term interest rates.

Leverage: the use of various financial instruments or borrowed capital to increase the potential return on investment.

Liquidity: the characteristic of a specific financial instrument or the market overall, which describes how quickly an asset can be traded within a market and turned into cash (the most liquid asset).

Liquidity premium: a premium demanded by investors when any given security cannot be easily converted into cash for its fair market value.

Lit market: an exchange or off-exchange trading platform, which publicly discloses bids and offers.

Long: buying a security. An investor takes a 'long' position with the expectation to sell a security at a higher price in order to realise a profit in the future. See also Short.

Macroprudentialism: the approach to financial regulation that aims to mitigate risks to the financial system as a whole rather than focusing on idiosyncratic risks of specific financial institutions. See also Idiosyncratic and Systemic risk.

Margin: a credit-enhancement provision to master agreements and individual transactions in which one counterparty agrees to post a deposit of cash or other liquid financial instruments with the entity selling it a financial instrument and that places some obligation on the entity posting the margin.

Markets: the place where trading of financial instruments and securities occurs.

Market efficiency hypothesis (EMH): states that at any given time and in a liquid market, security prices fully reflect all available information. Although EMH is usually mentioned in its strong form, the financial literature differentiates between three forms based on various degrees of information availability: weak, semi-strong and strong.

Market fragmentation: a divergence in regulatory frameworks, which could impede the development and diffusion of efficient innovations in financial services and limit the effectiveness of efforts to promote financial stability.

Market maker: a participant in the financial markets that guarantees to make simultaneously a bid and an offer for financial instruments. Market makers are also known as liquidity providers.

Markets in Financial Instruments Directive II (MiFID II): the largest regulatory overhauls in securities markets instituted by the European Union with the aim of restoring confidence in the industry after the GFC exposed weaknesses in the system.

Maturity: in the context of fixed income instruments, maturity stands for the lifetime of the instrument itself.

Money market investment: cash and near cash instruments such as bank deposits, certificates of deposit, fixed interest securities with maturity of less than one year. See also Maturity.

Multi-currency swap: a derivative denominated in two currencies. There are two subcategories of multi-currency swaps: fixed-float and float-float.

Multilateral trading facility (MTF): offers traders and investment firms an alternative to traditional exchanges. MTFs facilitate trading in a wider variety of markets than most exchanges, including assets that may not have an official market.

Nominal value: the face value of an asset, for example a share issue or swap notional.

Notional: the total amount of a security's underlying asset at its spot price, most often used in the context of derivatives.

Notional amount outstanding: the measure of the total notional amount of derivatives traded; however, this is not a risk measure due to different maturities and currencies of derivatives. See also Dollar duration (DV01).

Offer (buying) price: the price an investor pays when buying any financial assets. Conversely, the broker dealer (market maker) sells at the offer. See also Bid (selling) price and Bid-offer spread.

One-cancels-the-other order (OCO): a type of order which sets two orders of the same quantity for the same contract at different price levels. These orders are automatically linked together, meaning if one of the orders gets executed, the other order automatically gets cancelled. See also Order.

Option: a legal agreement that gives the holder the right (but not the obligation) to buy or sell the underlying asset at an expiration date, at a price determined at the time of dealing. The two most basic options are ‘call’ (the right to buy) and ‘put’ (the right to sell).

Open interest: a total number of contracts outstanding (yet to be settled) for an underlying asset.

Order: an instruction by an investor to a broker or a brokerage firm or directly at the trading venue to buy or sell a security. See also Order book.

Order book: an electronic list of buy or sell orders of securities organised by per price levels and time priorities. This means that a party having a higher price on the buy side or lower price on the sell side will get priority over others to execute the trade in price-level priorities. If the prices quoted are the same, whoever places the order first is given priority.

Order matching: the process of matching bids and offers on the exchange, usually done on the basis of price–time priority. More specifically, when a new order is placed in the exchange, the best buy order (highest price) is matched with the best sell order (lowest price). Price-level matching will get more priority to execute the trade. If the prices quoted are the same and both the orders are the same type (buy/sell), then whoever placed the order first is given priority when the orders are filled.

Over-the-counter (OTC): the method of buying or selling financial instruments between two counterparties and that does not involve an exchange is said to be an over-the-counter transaction.

Passive management: the investment approach that tracks/mirrors a financial index, which is achieved by either investing in the exact constituents of an index or by taking a representative sample of the specific index. See Active management.

Periodic auction: a type of non-continuous auction, which is subject to more lenient transparency requirements compared to a central limit order book (CLOB) as periodic auctions have a wait time (maximum 100 milliseconds) before it is possible to trade.

Portfolio: a collection of financial instruments such as stocks, bonds, cash equivalents and funds held by an individual, investment company or financial institution.

Profit and loss model (P&L): a form of payment for research, whereby an asset management firm pays directly from its own resources. The ultimate cost of research is paid by the asset management firm. See also Research payment account (RPA) model.

Repurchase agreement (repo): a contract in which a seller or borrower of an asset agrees to buy it back at a specified point of time, usually the next business day, at a pre-determined price. Most often, repo agreements are based on non-specific government assets as collateral, so they are called ‘general collateral’ repos. See also Reverse repurchase agreement.

Research payment account model (RPA): a form of payment for research, whereby an asset management firm transfers research costs to the initial investor through opening a special account just for research payments. The ultimate cost of research is paid by the investor. See also Research payment account (RPA) model.

Reverse repurchase agreement (reverse repo): a contract in which a buyer or lender of an asset agrees to sell it back at a specified point of time, usually the next business day, at a pre-determined price. See also Repurchase agreement.

Return: a measure of performance, which consists of the increase in value and any income received over a given period, expressed as a percentage. See also Risk and Risk return.

Risk: the balance of potential loss and gain as perceived by the investor. See also Return and Risk premium.

Risk premium: the extra return that an investor requires in order to hold a risky asset instead of the risk-less one (or close-to-zero risk). See also Return and Risk.

Risk-free rate: a theoretical rate of return on an investment with no risk over a given period of time. In practice, a risk-free rate does not exist because even the safest investments carry some amount of risk.

Risk-weighted asset: the financial institution's assets or off-balance-sheet exposures weighted according to risk (i.e. riskier assets require higher capital reserves).

Secondary market: the market where investors trade with the existing securities, which were previously issued by governments or corporates.

Securitisation: the process of transforming an illiquid asset into a tradable security. See Asset-backed security.

Security: a standardised, marketable and tradable financial instrument (i.e. bond or stock).

Securities and Exchange Commission (SEC): an independent US agency with the mission to protect investors, maintain fair, orderly and efficient markets, and facilitate capital formation. See also CFTC.

Sell side: Market participants who facilitate trading activities, but their primary mandate is not money management. Some of the most common sell-side participants are brokers, broker dealers, investments banks and research providers. See also Buy side.

Shadow banking: collection of non-bank financial intermediaries that provide services similar to the traditional commercial banks, but outside conventional banking regulations. Although there is more than one definition, there seems to be general agreement that some of the most important parts of shadow banking are complex legal entities such as hedge funds, structured investment vehicles (SIV), special purpose entity conduits (SPE), money market funds, repurchase agreement (repo) markets and other non-bank financial institutions.

Single currency swap: a derivative denominated in one currency. There are four subcategories of single currency swaps: fixed-float, float-float, overnight index swap (OIS) and inflation swap. See also Multi-currency swap.

Size specific to the instrument (SSTI): an ESMA liquidity waiver for instances of actionable indications of interest in request-for-quote and voice trading systems that are above a size specific to the financial instrument, which would expose liquidity providers to undue risk. See also Large-in-scale (LIS) order.

Short: selling a security. An investor takes a short position with the expectation to buy a security at a lower price in order to realise a profit in the future. See also Long and Short selling.

Short selling: the act of selling an asset without possessing it in anticipation of a drop in the asset's price, which would allow a consequent purchase at a lower price.

Spot rate: the price that is quoted for an immediate settlement on a financial instrument.

Special order types: orders with very specific properties regarding execution and transparency.

Speculation: an investment approach in which the investor aims to trade an asset with a view of making a quick profit based primarily on short-term events or market sentiment rather than fundamental analysis. Speculators are understood to contribute to market efficiency by absorbing excessive risk and providing liquidity. See also Arbitrage.

Stop limit order: an order type that combines the features of both stop and limit orders. Once the stop price is reached, a stop limit order becomes a limit order that will be executed at a specified price. See also Order and Stop loss order.

Stop loss order: an order type that is triggered when the asset price reaches a specified price known as the stop price.

Swap: an agreement (derivative) to exchange one financial contract for another on the specified future date as specified in the contract. There are four categories of swaps: interest rate swaps, commodity swaps, cross-currency and credit default swaps (CDS).

Swaption: a derivative whereby parties enter the option transaction with the swap as an underlying asset.

Swap data repository (SDR): publicly available entities created by the Dodd-Frank to provide a central facility for swap data reporting and record-keeping.

Stock market crash: a sudden decline in the prices of a significant number of stocks of the stock exchange.

Subprime market: the market created to cater for borrowers who have questionable or limited credit history, primarily for mortgage, auto or student loan lending purposes. The subprime lenders are compensated through higher interest in comparison to prime lending activities.

Systematic internaliser: a firm that deals using its own account on an organised, frequent and systematic basis by executing client orders outside of a regulated market (i.e. an exchange).

Systemic risk: the risk of a cascading failure in the financial sector, caused by interlinkages within the financial system, resulting in a severe economic downturn. See also Endogenous risk and Idiosyncratic risk.

Take profit order: an order type that automatically closes an open order when the price reaches a specified threshold.

Tenor: the lifetime of a financial instrument. See also Duration and Maturity (not the same terms).

Tick: a measure of minimum upward or downward movement in the price of a security.

Trader: a market participant that takes on principal risk. See also Broker and Market maker.

Value at risk (VAR): measure of market risk. VAR is the measure of maximum loss that can occur with a certain confidence interval over a given period of time.

Vanilla swap: The most basic, standardised derivative such as interest rate swap with on-the-run maturity (i.e. 10-year USD interest rate swap). See also Exotic derivate, Derivative and Swap.

Volatility: a measure of how much an investment's price is likely to fluctuate during a set period of time.

Volume: the number financial securities traded during a specific period. See also Depth.

Yield: a measure of the return on an investment compared to the price paid for it, which is expressed as an annual percentage. There are several types of yields, including: nominal yield, current yield and yield to maturity (for fixed income instruments) and dividend yield and earnings yield (for equity markets). In addition, yield can also refer to growth or income, while net yield refers to the yield after charges and other deductions have been made. See also Yield curve.

Yield curve: the relationship between short-term and long-term yields for a given type of asset, usually fixed income instruments. See also Yield.

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