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Transnational networks and domestic agencies : making sense of globalizing administrative patterns

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Transnational Networks and Domestic Agencies:

Machiel van der Heijden

Making Sense
of Globalizing
Administrative
Patterns

Transnational Networks and Domestic Agencies:

Making Sense of Globalizing Administrative Patterns

PhD Candidate

Machiel van der Heijden

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Transnational Networks and Domestic Agencies:

Making Sense of Globalizing Administrative Patterns

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Chapter 1

Introduction

1.1 INTRODUCTION

In recent decades, the external environments of many domestic (regulatory) agencies have changed considerably. In particular, due to the internationalization of markets and growing interdependence of policy issues, many forms of transnational collaboration have emerged, enmeshing domestic agencies in a wide variety of (formal and informal) transnational policy settings (Koppell 2010; Stone & Ladi 2015). For instance, some national Food Safety Authorities list up to ten different international platforms in which they simultaneously participate¹ (Yesilkagit 2016), while national financial regulators are confronted with an “alphabet-soup” of transnational policy-making institutions at both regional and global levels² (Ahdieh 2016).

The rules, regulations, guidelines, and standards that flow from these international arenas have important implications for domestic agencies and the jurisdictions they regulate. Standards on capital requirements and guidelines on the regulatory treatment of sovereign debt negotiated in Basel, provide the input for the rules and regulations proposed by the EU Commission (“Stringent Capital Rules”, 2011). The technical details concerning guidelines on net neutrality discussed within BEREC (“Telecom Companies EU”, 2016), or the way in which restrictions on chemical use in the context of the REACH agreement are enforced (“REACH Chemicals Law”, 2007), potentially confront domestic market parties with significant adjustment costs to adhere to these transnational rules and requirements.

For domestic actors, transnational collaboration within (regulatory) networks has thus become increasingly important (Newman & Zaring 2013; Bach et al. 2016). Through these networks, national agencies and ministries interact with foreign counterparts, helping them acquire information about ongoing and future developments regarding complex regulatory issues, and providing the necessary channels of influence to ensure that transnational standards and guidelines on these issues do not deviate too far from the regulations that they currently have in place. At the same time, the complexity of these networked environments likely has implications for the way in which agencies deal with and behave in regulatory networks (Alter & Meunier 2009). In particular, given that the staff, resources, and attentional capaci-

1 E.g., the European Food Safety Authority (EFSA), World Organization for Animal Health (OIE), The Product Safety Forum of Europe (PROSAFE), The Food Law Enforcement Practitioners Forum (FLEP), and the Codex Alimentarius Commission (CAC).

2 E.g., Basel Committee on Banking Supervision (BCBS), the Financial Action Task Force (FATF), the International Association of Insurance Supervisors (IAIS), the International Organization of Securities Commissions (IOSCO), and the International Organization of Pensions Supervisors (SIOPS).

ties of agencies are inevitably restricted (Simon 1985; Jones & Baumgartner 2005), considerable uncertainty may exist about which venues to prioritize, with whom to collaborate more closely, or which standards to adopt and to what extent.

In addition, the transnational networks in which domestic actors frequently participate, have come to share the same “regulatory space” as established national structures (see Busuioc 2016; Yesilkagit 2016). This means that domestic agencies and ministries have to reconcile the horizontal systems of transnational networks that are increasingly prevalent for their day-to-day operations, with the already existing vertical systems of domestic bureaucracies from which they traditionally operate (see Kettl 2006; Durant 2010; Groeneveld 2016). Given that domestic agencies remain “anchored to national governments” (Egeberg & Trondal, 2011: 870), important questions emerge about how transnational networks subsequently have an effect on agency decision-making and to what extent. Moreover, the organizational changes required to effectively operate in complex transnational environments may not be compatible with those needed to remain accountable in a national context (see McGuire & Agranoff 2010).

In light of these considerations, this thesis has two main arguments. Firstly, that the structure of relationships that exists within transnational networks should be explicitly conceptualized as to better understand *how* these networks influence the behaviour and decision-making of domestic actors and that network-analytical tools can be used to capture, analyse, and model this influence (see Maoz 2012; Snijders et al. 2010). Secondly, that through institutional design at the network-level and organizational design at the organizational-level, domestic actors can better cope with the increasingly complex transnational environments in which they have come to operate (see Thompson 1967), but that these design choices potentially challenge their accountability within a national context. Through these arguments, this thesis contributes to the standing literature that has studied globalizing administrative patterns (see Newman & Zaring 2013; Stone & Ladi 2015; Mastenbroek & Martinsen 2018) in several ways.

Firstly, although scholars have extensively looked at the effects that transnational networks may have on domestic bureaucratic structures (Levi-Faur 2011; Bach et al. 2016), these networks are often conceptualized *metaphorically*, i.e., as a way to describe a particular form of collaboration or organization characterized by horizontal relationships and informal interaction (see Isett et al. 2011). Because of this, the network properties that are assumed to produce their effects often remain unspecified (Christopoulos 2008) and it is unclear how these effects may vary across network

participants, i.e. domestic agencies. In response, this thesis explicitly conceptualizes networks as *structures of relationships* (Kilduff & Brass 2010), taking into account the different sets of network relationships that domestic agencies maintain. This seemingly provides a better basis for both theorizing and operationalizing the effects that transnational networks are likely to have and can help explain variation in actor outcomes, such as decisions to adopt soft law standards (see Bach & Newman 2010; Maggetti & Gilardi 2011) or the formation of cross-border agreements and partnerships (see Efrat & Newman 2018).

Secondly, when considering the increasing involvement of domestic agencies in transnational policy-making structures, the standing literature does not seriously address the *internal* problems of management and coordination that transnational environments potentially create for these agencies. These issues are easily glossed over given that studies typically assume domestic agencies to be unitary actors, overtly focusing on principal-agent relationships between domestic agencies and external political forces in light of internationalization (see Eberlein & Newman 2008; Bach & Ruffing 2013). However, in practice, the transnational network relationships of an agency are maintained by multiple officials operating at different levels of the organizational hierarchy. An *intra-organizational* perspective then provides insight into how these officials operate and deal with complex transnational environments (Alter & Meunier 2009), how the uncertainty this complexity creates can be managed or mitigated, what role organizational structure and design can play in this regard, and how agencies deal with the ambiguity and goal conflict arising from the horizontal systems of transnational networks that are layered upon the domestic bureaucratic structures from which they traditionally operate (see Kettl 2006; Groeneveld 2016).

Overall, this thesis thus focuses on how domestic agencies are influenced by and deal with the highly complex transnational environments in which they have come to operate. On the one hand, it analyzes the structure of relationships that exists within transnational (regulatory) networks and assesses how these networks then affect agency decision-making. On the other hand, it explicitly zooms in on what happens *inside* domestic agencies as they have become increasingly involved in a wide variety of transnational policy settings, focussing both on the officials that represent them in these settings, as well as the way in which the activities of these officials are internally structured and coordinated. These two analytical foci result in the following research question: “*How are domestic agencies influenced by transnational networks and how do these agencies internally structure and coordinate transnational network activities?*”.

Below, a further justification of this main research question is given, based on a brief review of the standing public administration literature on transnational networks and their proposed effects. The shortcomings identified in this review then serve as a starting point for the main theoretical arguments of this thesis. After further specifying the research aims and questions, a separate section of this introduction chapter justifies and describes the research context of this study, as well as the overall research design. Lastly, an overall outline of the thesis is provided.

1.2 STANDING LITERATURE AND RESEARCH GAPS

Globalizing Administrative Patterns and Transnational Networks

In a globalizing world of increased complexity and interdependence, domestic issues have growing international salience (Farrell & Newman 2016). The constituent parts of government – i.e. legislatures, executives, agencies, and courts – are then increasingly forced to act and interact with their counterparts abroad, sharing information, ideas, resources, and policy solutions (Raustiala, 2002: 4). In that sense, the emergence and prevalence of global problems have forced national policymakers and regulators into transnational policy arenas (Dehousse 1997; Slaughter 2004; Stone & Ladi 2015). Within these arenas, they maintain a wide variety of horizontal and relatively informal network relationships with foreign counterparts that find themselves in a similar situation (Slaughter & Zaring 2006).

In response to the development of these new forms of cross-border interactions, scholars from various disciplines have employed the *network* concept to make sense of it all (Raustiala 2002; Slaughter 2004; Maggetti 2007; Coen & Thatcher 2008; Eberlein & Newman 2008; Newman & Zaring 2013). Within an international context, these networks are understood as “a pattern of regular and purposive relations among like government units working across the borders that divide countries from one another and that demarcate the ‘domestic’ from the ‘international’ sphere” (Slaughter, 2004: 14). In particular, scholars have begun to empirically examine the institutional aspects or structural characteristics of transnational networks, focusing for instance on their *modes of governance* (Saz-Carranza et al. 2016) or institutionalized policy-making structures (Maggetti & Gilardi 2011). From this perspective, transnational networks are thus primarily understood as a coordinative instrument to facilitate cooperation between agencies from different jurisdictions, fulfilling this role in the absence of coercive enforcement tools at the transnational level (Newman & Zaring 2013).

Regarding the potential *effects* of transnational networks on domestic policy and regulation, several lines of scholarship have also emerged (Bach & Newman, 2010: 510). Most prominently, scholars have assessed the effects of these networks on processes of regulatory harmonization and enforcement cooperation (Raustiala 2002; Newman 2008). Within this literature, the process of harmonization is described as a decentralized, incremental process of interaction and emulation in which networks play an important role (Slaughter 2004). Through socialization and peer influences, networks are assumed to promote norms that contribute to the effective implementation of international standards (Maggetti & Gilardi 2011). Moreover, some have argued that powerful actors can use transnational networks to promote policy export and shape foreign legislative agendas (Bach & Newman 2010). In that sense, concentrated regulatory power fosters convergence, as weaker and newer jurisdictions ascribe to the norms and standards set by more powerful counterparts (Drezner 2008).

However, the way in which these network processes affect the behaviour and decision-making of specific domestic agencies is less clear. Much of the literature focuses on outcomes at the transnational level, such as linking the emergence of transnational networks to overall regulatory harmonization (Bach & Newman 2010), or only focusing on the institutional or structural make-up of these networks (Maggetti & Gilardi 2011, 2014). But such conceptualizations break down when theorizing about the *specific* effects that transnational networks have on policy or regulatory decisions of domestic agencies. In particular, they provide too little information about *how* domestic agencies are connected to transnational networks and the ways in which the influences of such networks might occur. In that sense, the literature generally has difficulty to provide specific predictions about the effects of transnational networks on the decision-making and behaviour of domestic agencies.

This thesis argues that this shortcoming is primarily due to a metaphorical usage of the network-term, which provides a weak conceptualization of the network properties that are assumed to produce their effects (see Christopoulos 2008). In other words, the standing literature conceptualizes networks as forms of collaboration characterized by informal interactions and horizontal relationships, *without* explicitly specifying what this pattern of interactions or relationships may look like (see Isett et al. 2011). Although Slaughter (2004: 14), for instance, defines networks as a “patterns of regular and purposive relations”, these patterns and the different forms they may take are rarely conceptualized, let alone measured. Descriptively, the phrase ‘transnational networks’ then still captures “a strikingly wide array” of transnational collaboration forms (Raustiala, 2002: 5). Moreover, this lack of speci-

fication hampers the literature's ability to answer specific theoretical questions on how these networks affect (variation in) outcomes at the agency-level, such as decisions to adopt "soft law" standards (see Kerwer 2005).

This latter problem primarily arises because the specific patterns of relations that exist within the network are likely to dictate or channel the way in which network influences occur. To formulate theoretical predictions on *how* transnational networks affect domestic agencies, we thus need some idea of what the structure of relations within these networks look like. After all, domestic agencies can be involved in transnational networks in a lot of different ways. Rather than "the network" having an effect on agency behaviour and decision-making, this effect is likely to occur *via* the other actors within the network with whom they are (strongly) connected. Not considering this nuance likely leads to "too much loose analogizing" and a potential over-attribution regarding the effects that networks are likely to have (see Beinhocker 2006; Isett et al. 2011). Although a metaphorical usage of networks has been useful in characterizing the new forms of organization and collaboration through which transnational regulation nowadays occurs (see Mastenbroek & Martinsen 2018), it is also vulnerable to "concept stretching" (see Sartori 1970) and is partly to blame for the "magic" properties often ascribed to networks in explaining policy outcomes (see Pollitt & Hupe 2011).

Similarly, regarding the way in which transnational networks form and develop, a metaphorical conceptualization is equally insufficient to coherently explain emerging patterns. Currently, scholars have primarily looked at the proliferation of transnational collaboration *in general*, pointing to a variety of explanatory factors at the domestic level, such as degrees of regulatory independence or market size (Bach and Newman 2014; Wilks 2007), or functional pressures at the policy or transnational levels, such as coordination problems (Coen and Thatcher 2008), issue complexity (Whytock 2005), or high degrees of interdependence (Van Boetzelaer & Princen 2012). However, such a functionalist perspective toward general forms of transnational collaboration, disregards theoretically interesting questions about what specific partners domestic agencies choose for close collaboration and information exchange *within* these networks. In other words, domestic agencies not only decide whether to join "a network", but also make selective choices about specific agencies within whom to collaborate *within* these networks. The way in which these choices are made, determines the shape or structure that transnational networks take, and is crucial to consider in theorizing about how globalizing administrative patterns evolve over time (see Stone & Ladi 2015).

Transnational Networks and Domestic Bureaucratic Structures

A second line of scholarship that has developed, focuses on the way in which internationalization affects the formal-structural conditions within countries, primarily in terms of the position of national regulators vis-à-vis other domestic actors (Eberlein & Newman 2008; Danielsen & Yesilkagit 2014). For example, building on the work of EU-integration scholars, several empirical studies have demonstrated how - through a redistribution of resources - international involvement can create a “differential empowerment of actors” at the domestic level (Börzel & Risse 2003: 58). For regulatory agencies, this type of analysis typically focusses on how transnational networks potentially have an “autonomizing” effect on these agencies in terms of their relation to parent ministries (see Yesilkagit 2011; Maggetti 2012).

Although these are evidently important questions, note that the analytical focus of many of these studies disproportionally favours inter-organizational categories, such as the degree of (de-)centralization between different levels of government or the amount of (bureaucratic) autonomy from political principals. In that sense, scholars assessing the effects of transnational networks on domestic bureaucratic structures are primarily preoccupied with the external forces “controlling” the bureaucracy, rather than studying what goes on *inside* bureaucracy itself (cf. Meier & Krause 2003; Ruffing 2017). As a result, quite a lot is known about the “politics of structural design” in the context of transnationalization, i.e. how politicians use structure, rules, procedures, and incentives to control and influence domestic agencies, and the bargaining that occurs between political institutions to determine the fate and design of administrative agencies (see Saz-Carranza et al. 2016; Bach et al. 2016). However, relatively little is known about what happens *inside* these domestic agencies as they adjust to changing (transnational) environments or what they experience as they prepare to work with and within the transnational networks that have become increasingly relevant for their day-to-day operations.

This neglect primarily has to do with the way in which administrative or bureaucratic structures are currently defined. Many empirical studies looking at the implications of transnational forms of collaboration on domestic bureaucratic structures focus on the institutional level, taking the central government bureaucracy as their main unit of analysis (see Christensen & Laegreid 2008). This also means that the structures they study typically refer to a more macro-level *institutional* structure, i.e., the overall constellation of ministries and agencies and their relations to each other (Trondal & Peters 2013; Bach & Ruffing 2013). Although such a general conceptualization is useful for comparative analysis between countries and the description of macro-level developments, it obscures the organizational and behavioural complexi-

ties of the subunits and officials actually engaged with the transnational activities of the domestic agency or ministry. This analytical focus then potentially hampers our understanding of administrative behaviour within networks themselves, as well as what the concrete implications are for domestic agencies increasingly forced to operate in complex transnational environments.

Particularly important to consider in this regard, is that an increasing number of individual officials have come to represent agencies and ministries in complex and uncertain transnational environments (see Alter & Raustiala 2018). This development is potentially problematic because, for one, these officials are boundedly rational, i.e. they have limited attentional capacities to cope with the complex governance settings in which they increasingly operate. This means that their actions and decisions are likely characterized by some degree of (behavioural) uncertainty (see Jones et al. 2006). Moreover, a second consideration is that the collective behaviours of these different officials will have to be *internally* managed and coordinated, as to effectively represent the domestic agency in transnational networked settings and adequately process external information originating in these environments. Given that heterogeneous transnational environments likely involve agency officials operating from within different units, at different managerial levels, with different sets of expertise and (strategic) interests, extensive coordination on behalf of the agency and its management is required. In addition, the transnational network activities of the agency will have to be reconciled with the need to remain accountable within a national context (see Groeneveld 2016; Yesilkagit 2016). How the tensions that emerge from these considerations manifest themselves in practice, can only be studied through analytical concepts that have an explicit intra-organizational dimension. However, this analytical focus is currently lacking in the standing literature that studies the involvement of domestic agencies in transnational network activities.

Network Management and Public Management

The latter considerations about the internal management and coordination of transnational network behaviour potentially call up a number of questions related to the field of public management, and this thesis will partly draw on this field to provide some answers. However, note that the answers from public management to the issues and challenges resulting from the increasingly complex transnational environments in which domestic agencies operate are far from straightforward.

Firstly, while the studies discussed in the previous sections provide problematic conceptualizations of network behaviour by assuming agencies to be unitary ac-

tors and disregarding the roles of individual managers and officials therein, many public management studies tip the scale to the other side. In other words, network behaviour is typically conceptualized with reference to the behaviour a single public manager, boundary-spanner, or policy entrepreneur operating as a representative of the entire agency. Although this provides insight into strategic behaviour and is justified in the context of looking at management functions, the network activities of an organization, and particularly the ones studied in this thesis, consist of the coordinated (or uncoordinated) activities of a wide variety of individual officials operating from different levels of the organizational hierarchy (see Walker et al. 2007). Disregarding these considerations likely results in a distorted image of “network behaviour” and obscures potentially interesting variation at both the individual and organizational levels of analysis.

Secondly, empirical studies of networks in public management primarily focus on (sub-) national organizations and structures, mostly in the context of service delivery (Koppell, 2010; O’Leary & Vaj, 2012; O’Toole, 2015). Not only is the nature of interdependence for (regulatory) collaboration at the transnational level different than for collaboration in local service delivery settings (see Thompson 1967), *transnational* collaboration is potentially characterized by higher degrees of unfamiliarity and lower levels of trust between network participants (Ansell & Torfing 2015; Hamilton & Lubell 2018). In that sense, public management research seems unable to account for the influences of globalization, understood as the importance of connectedness, interdependency, and collaborative governance beyond the boundaries of the nation state (see Moynihan et al., 2011: 1146; Roberts 2020). This also means that, from a public management perspective, there is little theoretical understanding of (the implications of) globalizing administrative patterns and the managerial behaviours and strategies that have developed at the transnational level (see Scharpf 1997; O’Toole 2014).

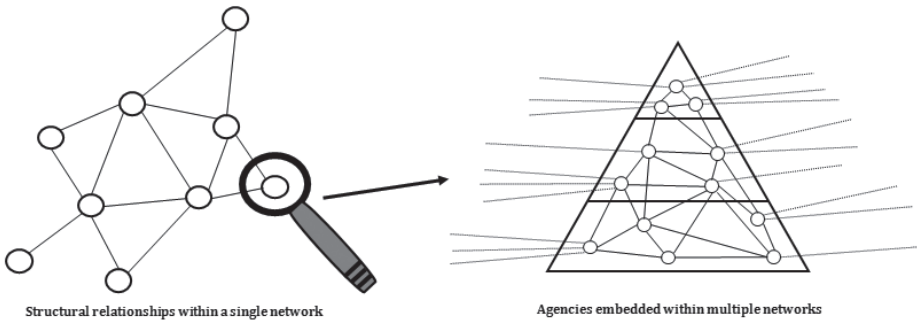
1.3 THEORETICAL FRAMING AND RESEARCH QUESTIONS

Given the above-described omissions, this thesis shifts its analytical focus to two particular aspects of the relationship between transnational networks and domestic agencies. First, it explicitly conceptualizes the *structures* of relationships that exist within transnational networks and theorizes on the effects these structures may have on agency behaviour and decision-making. Second, it proposes a redirection of scholarly attention away from questions of top-down political control over bureaucracy, toward administrative decision-making and behaviour *inside bureaucracy*

(cf. Meier & Krause 2003). While the former focus requires a network-analytical perspective to globalizing administrative patterns as they continue to develop, the latter requires an intra-organizational perspective toward the domestic agencies operating in this globalizing context and the officials that represent them therein. For clarity, these two analytical foci are depicted in Figure 1.1.

The network-analytical perspective (left-hand side, Figure 1.1) represents a modelled account of inter-organizational network relationships maintained at the agency-level, within a single network. The intra-organizational perspective (right-hand side, Figure 1.1) zooms in on domestic agencies and considers the multiple networked settings with which these agencies engage, where they are typically represented by multiple individual officials that establish and maintain a wide variety of network contacts on their behalf. This also means that while the former perspective focuses more on the stable (structural) relationships that exist between agencies (e.g. formalized agreements or partnerships) within the confines of a clearly defined network, the latter perspective focuses more on the informal communication networks that agency officials maintain with foreign counterparts, and the information acquired from them. Through these analytical foci, sub-questions can be formulated about the network-structural effects on agency behaviour and decision-making (network-analytical perspective), and the way in which transnational network activities of domestic officials are internally structured and coordinated (intra-organizational perspective). This is done in the sections below.

FIGURE 1.1 *Network-Structural and Intra-Organizational Perspective*



A Network-Analytical Approach to Globalizing Administrative Patterns

In terms of better understanding and specifying the effects that transnational networks are likely to have, an alternative to treating networks as metaphors is by contextualizing network properties with reference to formal social network analysis

(SNA) (see Christopoulos 2008; Scott & Ulibarri 2019). This means that networks are explicitly defined as sets of relations that form particular patterns or regularities, i.e. a *network structure*. Theoretical mechanisms such as socialization or diffusion can then be linked to these network structures, allowing for more precise predictions on the effects that networks are likely to have on actor outcomes and behaviour (see Wellman 1983; Borgatti et al. 2014). As argued below, this type of *network theorizing* also has leverage for understanding globalizing administrative patterns and their effects on domestic actors and outcomes.

To clarify, from a network-analytical perspective, networks are referred to as a set of present or absent relations between a group of actors (Wasserman & Faust 1994). These actors can be individuals, agencies, states, or even countries. Moreover, the relations between these actors can also vary, ranging from informal contacts such as phone-calls or e-mail communication at the interpersonal level, to formalized agreements and contracts at the organizational or country level. A core assumption is that the (overall) structure of these relationships provide opportunities and constraints to actor behaviour (see Wellman 1983; Brass et al. 2004).

Regarding the opportunities, network relationships provide access to sought-after information and resources. Given that actors vary in terms of the network relationships they have, this also creates differential access to and possession of such information and resources. Because of this, networks are characterized by dependency relationships, making some actors more powerful than others (Pfeffer & Salancik 2003; Granovetter 1985; Burt 1987). Regarding the constraints, networks give rise to institutionalized norms and according expectations about appropriate behaviour (see Oliver 1991; Powell et al. 2005). By mapping out the existing structure of relationships between actors, one can assess the differential exposure of actors to the opportunities and constraints channelled through network relationships, and theorize about the effects that these opportunities and constraints are likely to have on actor behaviour and decision-making.

The core questions underlying a network-analytical approach are thus whether and how networked patterns of (social) interaction matter for individual actors and communities (Kilduff & Brass, 2010: 329-332). Such an approach can also help deepen the current understanding of transnational networks and their probable effects on domestic actors and agencies. Theoretically, it provides a more concrete conceptualization of transnational networks by further specifying the “sets of direct interactions among sub-units of different government” written about by Keohane and Nye (1974: 82), or the “patterns of regular and purposive relations” noted by Slaughter

(2004: 14). Moreover, analytically it allows one to move beyond general categories of “network membership” (see Bach & Newman 2010), by providing analysis of the way in which network activity, contacts, and structural embeddedness vary between domestic agencies and what the according effects of this variation are.

A network-analytical approach can thus contribute to one of the core questions regarding the effects transnational networks on domestic actors, i.e. whether and in what way transnational collaboration leads to regulatory harmonization and the adoption of soft law standards (see Kerwer 2005; Stone 2008; Maggetti & Gilardi 2014). Assuming networks to be channels that facilitate the flow of relational resources, such as information, experience, or support (see Lin 2001), they can be argued to play an important role in explaining standard adoption patterns on the basis of diffusion mechanisms of (social) learning and emulation (Holzinger & Knill 2005; Gilardi 2012). For instance, when domestic agencies seek information on the potential implications of adoption, they typically draw on the experiences of their *direct* network partners, whose actions and opinions are most salient and influential. Or, being connected with many agencies that have adopted a standard potentially creates pressures for agencies to conform to the norm of adoption set by network partners within a direct reference group.

To summarize, by mapping out network relationships, a network-analytical perspective allows one to grasp the different sets of relationships that agencies maintain and assess the way in which they are embedded by (local) network structures. By also taking into account the adoption behaviour of their network partners, specific hypotheses about network influence and exposure effects can be tested (see Valente 2005). Moreover, the hypothesized patterns can be linked to frequently noted theoretical intuitions about network processes, such as socialization or learning (see Raustiala 2002; Slaughter 2004; Martens 2008), subjecting them to more rigorous empirical analysis. To do so, the first empirical chapter of this thesis thus analyses how decisions to adopt regulatory standards are potentially guided by structural network effects. This leads to the first sub-question of this thesis:

- **Sub-Question 1:** “What is the relationship between the network relationships that an agency maintains, and the rate by which it adopts transnational standards?” [chapter 2]

Similarly, in studying how transnational collaboration patterns form and develop, a *network-analytical* approach also has leverage. Currently, the emergence of transnational networks is often studied in general, e.g., by only considering the institutional

structures or governance modes of transnational collaboration that have developed (see Eilstrup-Sangiovanni 2009; Saz-Carranza et al. 2016), or by merely focussing on decisions of agencies to join “the network” in terms of membership (see Bach & Newman 2014). However, the specific patterns or structures of interaction that exist within these transnational networks remain less clear (for an exception in the context of the EU, see Thurner & Binder 2009; Maggetti & Gilardi 2011). Importantly, these network structures are built up from the choices of domestic agencies to collaborate bilaterally with foreign counterparts. However, we have relatively little theoretical guidance on what drives these choices. Because of this, globalizing administrative patterns and the way they develop potentially remain disorderly and unpredictable (see Alter & Meunier 2009; Alter & Raustiala 2018).

A network-analytical perspective is then useful to consider, as it can help to model and better understand collaborative choices of domestic agencies while accounting for the broader network of collaboration that already exists. By conceptualizing the existing network of relationships as an information repository through which organizations can reduce uncertainty about the trustworthiness of potential partners and learn about opportunities for new ties (see Gulati & Gargiulo 1999; Feiock & Scholz 2010), such a perspective allows for more precise predictions about how future ties will develop. Rather than assuming them to merely be driven by functional considerations (see Van Boetzelaer & Princen 2012; Saz-Carranza et al. 2016), network-structural properties such as triadic closure or network centrality potentially provide important cues for partner selection, particularly when such collaboration choices happen sequentially and occur outside the (multilateral) institutionalized settings of transnational collaboration (see Raub et al. 2011: 13).

The second empirical chapter thus applies a network-analytical perspective to transnational regulatory networks, primarily focusing on how the collaborative patterns within these networks form and develop over time. By specifically focusing on the *structure of relationships* that exists between national regulators, such an approach can move beyond general categories of measurement, such as network membership (see Bach & Newman 2014), and opens up the black box of what the patterns of interaction within transnational networks actually look like. Arguably, this provides a better basis for theorizing on the kinds of network effects to expect when analyzing the formation of transnational relationships between domestic agencies. In particular, these network models give our intuitions regarding these network effects and how they operate a more precise theoretical formulation (see also Kinne 2013). The second sub-question of this thesis is formulated as follows:

- **Sub-Question 2:** “What is the effect of the existing bilateral agreements an agency maintains, on the formation of new ones?” [chapter 3]

An Intra-Organizational Perspective to Domestic Agencies

The above-described network-analytical perspective can provide an important step forward in the understanding of globalizing administrative patterns as they continue to develop. In particular, it is a useful way for capturing, analysing, and modelling the complexity of these patterns and their potential effects on the behaviour and decision-making of domestic agencies (see Maoz 2012). However, it only provides insight into the effects of (the structure of) bilateral relationships at the agency-level, that exist within a single network. Although this is appropriate given that the mapping of these relationships also serves to explain decisions at the agency-level, when zooming in on a particular agency within such a network it should be noted that this agency is likely to maintain a wide variety of network relationships in a diverse array of institutional settings (see Figure 1.1). Moreover, in practice, these network relationships are established and maintained by *individual* officials, who typically represent the agency in its various external environments while operating in complex webs of cross-border interaction.

Particularly this latter consideration calls up a number of issues regarding the behaviour of domestic officials under conditions of (transnational) complexity. These officials are essentially expected to participate in transnational working groups or committees and selectively coordinate their actions with a limited number of foreign counterparts, as to exchange information, monitor and align political behaviour, and develop, communicate, and potentially implement a common plan of action. However, these transnational (policy) settings are characterized by a multiplicity of venues and a large number of potential collaborators which have to be navigated (see Hamilton & Lubell 2018). This complexity can create uncertainty about the way in which officials can select suitable collaborators, also because the networking capacities and resources of agencies are inevitably restricted. For domestic agencies, such decision-making uncertainty is potentially problematic because it may lead to suboptimal choices regarding collaborative ties and the information and influence derived from them.

An important issue for domestic agencies involved in complex transnational environments is thus to cope with the inevitable uncertainty that characterizes such environments, so that their officials can effectively represent them and select appropriate collaborative partners. On the one hand, the institutional settings through which transnational collaboration occurs may then be important to consider, as it

provides domestic officials with a more clearly defined pool of potential partners with whom they can become acquainted (see Leifeld & Schneider 2012; Fischer 2015). On the other hand, organizational- and individual-level characteristics seem equally relevant when it comes to mitigating decision-making uncertainty underlying collaborative choices. For one, domestic officials typically operate from within a given agency structure, potentially influencing their capacity to operate collaboratively (McGuire & Silvia 2010). Moreover, the officials engaged in transnational collaboration likely vary on a number of relevant individual-level characteristics, such as international experience or expertise (see Juenke 2005; Walker et al. 2007).

All in all, decision-making uncertainty underlying collaborative choices may thus not only vary across institutional settings, but also because of a number of organizational- and individual-level characteristics. To better understand in what way, the third empirical chapter looks specifically at the collaborative choices of domestic officials in transnational networks. Moreover, by explicitly considering the complex and uncertain environments in which they make these choices, one can think more clearly about how institutional and organizational solutions might ameliorate some of the bounded rationality constraints of individual decision-makers (Bendor, 2010: 163). In particular, looking at how contextual-factors at different levels of analysis mitigate decision-making uncertainty provides a necessary complement to studies that only focus on the institutional-level (see Leifeld & Schneider 2012) or gloss too easily over intra-organizational and behavioural complexities by assuming domestic agencies engaged in transnational networks to be unitary actors (see Dohler 2017). This analytical focus accordingly provides a research question in:

- **Sub-Question 3:** “What contingency factors at network, organizational, and individual levels potentially affect the decision-making uncertainty underlying partner choices in transnational collaborative settings?” [chapter 4]

Besides the consideration that it is typically *individual* officials that establish and maintain an agency’s network interactions, one should also note that it is typically *multiple* officials that do so. Questions thus emerge about how the collective behaviour of these officials is managed and coordinated internally, so they can effectively represent the domestic agency in transnational networked settings and coherently process information originating in these environments as to inform decision-making. However, current studies on domestic agencies in relation to transnational networks typically lack the appropriate analytical concepts to study how these issues manifest themselves *inside* the agency. Although processes of internationalization are argued to have an effect on domestic bureaucratic structures,

such structures are defined at the institutional level, for instance referring to the differentiation of task between ministries or delegation of tasks to subordinate agencies (see Christensen & Laegreid 2008; Trondal & Peters 2013).

To better understand the *internal* structuring and coordination of the transnational activities in which domestic agencies are involved, this thesis incorporates the concept of boundary-spanning (Aldrich & Herker 1977) and relates it to dimensions of organizational structure and design (Albers et al. 2016). Boundary-spanning activities link agencies to their environments and typically have two associated functions, namely *information-processing* and *external representation*. These functions also apply to domestic agencies engaged in transnational environments, as their officials externally represent them in a wide array of working groups, commissions, or task forces that constitute transnational policy settings, while information flowing down from these transnational policy arenas has to be processed internally as to adequately inform decision-making. Moreover, to think more clearly about how the individual behaviours of officials involved in such boundary-spanning activities are aggregated, *organizational structure and design* is important to consider. Structural design delineates who interacts and communicates with whom inside the agency, and who has ultimate decision-making authority regarding transnational network activities.

Through these concepts, the fourth empirical chapter can analyze how agencies internally deal with the increasingly complex transnational environments in which they have come to operate. However, important to note is that in coordinating boundary-spanning behaviour, organizational structure and design can both constrain or enable such collective activities (see Barney & Felin 2013). On the one hand, structural design parameters can compensate for the inevitable bounded rationality of individuals (see Landau 1969; Jones 2001), while, on the other hand, these same design choices can lead to a host of new coordination problems (see Bendor 2010). Moreover, competing environmental demands, for instance between the requirements of operating in complex transnational environments and the need to remain accountable within a national context, can put further strain on these design choices (see Groeneveld 2016). An intra-organizational perspective can provide more insight into how domestic agencies internally deal with these issues on a day-to-day basis, particularly in relation to the way in which they structure and coordinate boundary-spanning behaviour related to transnational networks. The fourth empirical chapter of this dissertation is then guided by the following research question:

- **Sub-Question 4:** “How are the transnational boundary-spanning activities of domestic agencies internally organized and how do structural design choices potentially influence the coordination of such activities?” [chapter 5]

All in all, answering these sub-questions allows this thesis to address some of the gaps identified in the literature review. While the network-analytical perspective helps to clarify in what way transnational networks have an effect on domestic agencies, the intra-organizational perspective helps analyze the way in which these agencies and its officials cope with the increasingly complex transnational environments in which they have come to operate. To specify how these analyses are set up, the methodology and research design of this thesis are discussed next.

1.4 METHODOLOGY AND RESEARCH DESIGN

Given the different analytical foci underlying the various sub-questions, this thesis also uses different methods analyzing different units of observation. To look at the effects of network relationships on agency decision-making, (statistical) network modeling is used. To look at the internal structuring and coordination of transnational network activities, qualitative interviews have been conducted. The analytical setup of both methods are elaborated on below. First, however, the specific research context of this study is described and justified.

Research Context and Justification

Transnational forms of collaboration have developed in diverse policy areas, such as energy, telecommunications, crime, privacy protection, human rights, international competition (see Picciotto 1997; Slaughter 2004). However, to answer the above-specified research questions, the analysis of this thesis focuses specifically on international financial sector regulation and the agencies and officials operating within it. The main reason for choosing this research context is that financial markets regulation provides a prototypical complex environment, in which a wide variety of actors and institutions operating within a highly dense system of rules, regulatory standards, and international agreements exists (Alter & Meunier 2009; Frieden 2016).

This choice of context is suitable for the purposes of this research because much of the theorizing of this thesis focuses on agency decision-making in the context of or in response to complexity. More specifically, for the network-analytical chapters, this complexity leads to the expectation that networked patterns of collaboration

are likely prevalent for domestic agencies, allowing the analysis to focus on what network-structural properties drive their behaviour and decision-making. For the qualitative chapters, such a research setting allows for gathering evidence on the way in which domestic agencies cope with the uncertainty resulting from complexity, making our phenomenon of interest “transparently observable” (see Eisenhardt 1989).

The complexity of the chosen research context consists of two particular aspects. Firstly, the *institutional* complexity of international finance regulation is noted, given the existence of a wide variety of transnational networks, international organizations, and standard-setting bodies that are active (Ahdieh, 2015). These include, among others, the Basel Committee on Banking Supervision, the Financial Action Task Force (FATF), the International Association of Insurance Supervisors (IAIS), and the International Organization of Securities Commissions (IOSCO). While some of these *networked organizations* are backed by an implicit or explicit mandate and stand alone as an alternative to treaty-like cooperation (e.g. IOSCO, Basel Committee), others are integrated in an *international organization*, of which we see examples in the EU and the WTO (see Eilstrup-Sangiovanni 2009). Importantly, these institutionalized settings present domestic agencies with a large number of potential venues in which they can participate, as well as diverse array of potential actors with whom they can collaborate.

Secondly, the *technical and rule* complexity of international finance is also emphasized for the analytical purposes of thesis. Scholars have extensively documented the highly dense system of rules, regulatory standards, and international agreements that exists within international finance (Frieden 2016), as well as the specialized and technical nature of issues discussed and regulated therein (Baker 2010; Porter 2014). In practice, financial regulators are confronted with quickly developing innovations and complex regulatory issues, such as what do with high frequency-trading algorithms (Coombs 2016) or the dispersion of risk weighted assets (Ferri & Pesic 2017). This makes international financial regulation a complex and dynamic environment to operate in, requiring extensive expertise and information-processing capabilities on behalf of domestic agencies and their officials.

Although such extreme research settings are potentially problematic in terms of generalizing toward a broader population³ (Seawright & Gerring 2008), they are

3 Although it *can* provide inference by being a most-likely case in which expected phenomena are *not* observed, i.e. if not here then nowhere (see Levy 2008).

analytically interesting because they activate more actors and basic mechanisms in the situations studied (Flyvbjerg 2006). In that sense, cases from such a research context provide a good basis for theory-building and primarily refer to some form of *analytic* or *theoretical* inference (Yin 2005). For the network-analytical chapters of this thesis, such forms of inference take shape by providing an important plausibility probe for network explanations in studying transnational patterns of regulatory collaboration, providing guidance to theorizing for other regulatory sectors that are increasingly developing similar networked patterns of collaboration as well (see Efrat and Newman 2018). For the qualitative chapters, the prototypical complex environments provided by the research setting, likely makes dealing with decision-making uncertainty a more prominent issue for the studied agencies, allowing us to more thoroughly analyse and theorize on according organizational responses (see Lund 2014).

Statistical Network Modeling

To answer the first two sub-questions of this thesis, (social) network analysis (SNA) is used. The tools of network analysis provide various measures of structural network properties that characterize the particular relationships that exist between a group of actors (see Wasserman & Faust 1994; Ward et al. 2011). Moreover, certain forms of SNA can also estimate the effects of these descriptive network properties on outcomes at both the actor and network level, allowing for explanatory research. For instance, statistical network models such as Exponential Random Graph Models (ERGMs) or Stochastic Actor Oriented Models (SAOMs) transform notions of *centrality*, *homophily*, *transitivity*, or *reciprocity* into algorithms and, contingent on the appropriate data, explicitly test predictions regarding processes of tie formation or network and behavioural co-evolution, as well as the kinds of social processes that drive them (Lubell et al. 2012; Lazega & Snijders 2016). Network modeling thus not only allows for more specific theorizing about the effects that network are likely to have; it also provides a concrete means of testing the hypotheses that flow out of such theorizing.

In this thesis, Stochastic Actor-Oriented Models (SAOM) are used to analyze the collected network data. A SAOM is a type of statistical network model that takes the formation of network relationships as its dependent variable and allows one to model endogenous and exogenous influences that potentially drive this process (Snijders et al. 2010). Moreover, through an extension of such models, one can analyze network and behavioural co-evolution, providing the possibility of estimating the effects of network relationships on behavioural characteristics (see Steglich et al. 2010). Importantly, such models have an explicit actor-level focus and allow for

the analysis of behaviour *over time*. They can be used for analyzing both the effects of network relationships on standard adoption (chapter 2), as well as the evolution of network relationships themselves (chapter 3).

Using these models provides an important step forward compared to the more conventional use of network analysis in political science, which has been criticized as being a primarily descriptive exercise (see Dowding 1995). Given current applications of SNA in the literature on transnational networks, this criticism seems justified (e.g. Kahler 2009; see Maoz 2012). In this setup, network analysis is primarily used to describe properties of the network as a whole (e.g. degree of density or centralization) and network data is typically cross-sectional. Moreover, whenever network analysis is used in explanatory analysis, this is typically done by coding network properties as actor characteristics and then analyzing hypothesized relationships through standard regression models. Given the assumption of independent observations that underlie these models, such regression-based analyses are incompatible with the (inter-)dependencies of observations implied by network conceptualizations (see Robins et al., 2012). SAOMs, on the other hand, explicitly account for relational interdependence and allow for the analysis of longitudinal (network) data. In this way, it provides a well-developed but underutilized alternative for studying network data in a political science/public administration context (see Snijders & Pickup 2018; Scott & Ulibarri 2019).

The specific data gathered to study transnational collaboration patterns, are based on bilateral MOUs that exist between securities regulators. These are basically information exchange agreements that specify conditions of cooperation and deal with the nature and confidentiality of exchanged information (see Slaughter 2004; Brummer 2011). On the one hand, they serve as a proxy for strong network relationships, as the negotiation and co-signing of such agreements requires intensive interaction between regulatory agencies and gives a guarantee that at least some form of (bilateral) contact or interaction exists or has existed. On the other hand, given the potentially sensitive information exchanged between agencies as a result of such agreements, their establishment is also interesting to investigate in itself, as the choice about with whom to sign such agreements is apparently not so trivial (see Efrat & Newman 2018).

For assessing the effects of these network relationships on standard adoption, note that the second chapter of this thesis focuses on the rate by which these agencies adopt IOSCO's MMOU (Chapter 2, n=104). The MMOU is a soft law standard focusing particularly on standardizing the terms and conditions of enforcement cooperation,

while also facilitating convergence of securities regulation by removing domestic secrecy or blocking laws (IOSCO, 2002). The latter makes it a case of standard adoption, albeit not a typical case given that standards regarding insider trading or financial rules require more extensive adjustments for domestic agencies and national legislatures (see Bach & Newman 2010). In that sense, the case of the MMOU perhaps provides a “most-likely” scenario for network influences. The generalization conclusion that can be drawn from such a case is that if such network influences are not found in the studied case, then they will also not be found for cases of standard adoption for which requirements are more stringent. Still, given that the analytical goal is to distinguish between different network characteristics potentially driving patterns of adoption, forms of theoretical generalization are more valuable in this regard.

In terms of generalizing from studying the evolution of bilateral MOU in the context of securities regulation (Chapter 3, $n=143$), note that similar theoretical mechanisms can be expected to play a role in the signing and formation of similar kinds of agreements that exist within other fields, such as MLATs or MOUs in other fields (see Ansell & Vogel 2006; Efrat & Newman 2018). Moreover, the uncertainty involved in signing bilateral agreements on information exchange is common in other policy areas as well (Yang & Maxwell 2011). This generates reasonable expectations about finding similar mechanisms or patterns in other similar settings (see also Elster 1989; Bengtsson & Hertting, 2013). However, the findings of this study are less about generalizing to some specified population than they are about demonstrating a causal argument about how “general social forces take shape and produce results in specific settings” (Walton, 1992: 122).

Semi-Structured Interviews

The nature of the third and fourth research questions of this thesis are exploratory and have an emphasis on theory development and elaboration (see Fisher & Aguinas 2017). This is appropriate given that relatively little is known about the phenomenon of interest and the focus on the internal coordination of transnational network behaviour provides a “freshness in perspective” when compared to existing studies (Eisenhardt, 1989: 548). Moreover, qualitative research is particularly suitable for these purposes, as it enables attention to be given to particular circumstances (Antonakis et al. 2004), while its open-ended nature is sufficiently flexible to allow for new insights or themes to emerge (see Piore 2006).

The primary mode of data collection for both these chapters is through semi-structured interviews with open-ended questions (see Aberbach & Rockman 2002;

Leech 2002). In doing these interviews, the interviewer had a descriptive interest in understanding the way in which domestic organizations internally structure and coordinate transnational network activities. In particular, questions focused on what forms of transnational collaboration the respondents engage, how they prepare for international meetings, and what the challenges are in this regard. For the separate chapters, explicit probing was carried for informal networks and partner selection (chapter 4) and internal coordination structures regarding transnational activities (chapter 5). The semi-structured nature of these interviews, allowed for more explicit comparison between respondents. Interview guides are given in Appendix A.

Overall, 20 interviews were conducted in the context of this thesis. Four of those interviews were used for purely exploratory purposes; i.e. they were unstructured and primarily served the goal of becoming acquainted with the research setting and identifying potentially interesting themes regarding transnational collaboration. Sixteen interviews were used for analysis, of which all sixteen were used for the third empirical chapter, while a selection of twelve respondents were the basis for the fourth empirical chapter (i.e. only those working for regulatory agencies). Overall, respondents that were interviewed for the two empirical chapters worked for three different organizations: the ministry of finance (n=4), the Dutch banking regulator (n=7), and the Dutch securities regulator (n=5).

In terms of selecting the respondents, they were identified through a combination of snowball and purposive sampling. First, heads of departments or managers of relevant units and departments of studied organizations were approached and interviewed. At the end of these interviews, respondents were asked to nominate officials within their organization “heavily involved in transnational network activities”. The benefits of such a sampling approach means that selected respondents were highly relevant for the research topic, giving a higher likelihood of achieving data saturation (see Burmeister & Aitken 2012). The decision to stop approaching interview respondents was driven by the consideration that the interviewed respondents covered all the most relevant transnational policy settings in which their respective organizations/units were involved.

Given that the same interview transcripts are used for two different empirical chapters, some additional considerations should be made. Important to emphasize is that the qualitative chapters are not based on some form of grounded theory methodology (Glaser & Strauss 1967), i.e., the theoretical arguments made in them are not completely guided by the qualitative material collected in the interviews. Instead, these studies partly use existing theoretical concepts that are different for

both chapters. These concepts define what is interesting about the transcripts and determine the way in which they are analyzed (Lund 2014: 228). In other words, existing theoretical concepts direct the attention of the investigator to different parts of the interview transcripts and what passages to code. It is thus not the case that the same passages by the same respondents are interpreted differently for these different chapters. Instead different theoretical concepts lead us to different passages in the same transcripts, and hence different analyses.

With regard to the “evidence-status” of our qualitative studies, Piore (2006) argues that such studies are helpful in problematizing existing theoretical assumptions and generating new lines of potential inquiry. Following this line of argument, this thesis does not hold the qualitative chapters to provide direct evidence for some general theoretical claim. Rather the qualitative data is used as a basis for building and elaborating theory, in which pre-existing conceptual ideas are used to inform the collection of data, and the analysis was primarily used to work out these concepts. In particular, in terms of theory elaboration, chapter 4 focuses on *construct splitting*, in which existing theoretical constructs are split into specific dimensions based on observed empirical realities (Fisher & Aguinas, 2017: 446; see also Halkier 2011), while chapter 5 has an approach of *contrasting*, in which theoretical constructs developed in one setting are applied to another (Fisher & Aguinas, 2017: 444). Both research strategies provide a basis for *analytical generalization*, in which, on the one hand, theoretical concepts are used to “enlarge” the significance of particular aspects of our empirical materials (Delmar, 2010: 121-122), while, on the other hand, these empirical materials are used to clarify, elaborate on, and problematize these theoretical concepts and draw more general lessons on their conceptual definitions and scope of applicability (see Halkier 2011; Lund 2014). Note that the specific procedures through which the qualitative data was analyzed are spelled out in the respective chapters themselves.

1.5 OUTLINE OF THESIS

In this introductory chapter, the general research question was presented and broken down into four sub-questions that are central to the empirical chapters of this dissertation. Chapter two addresses the question of whether the network relationships that agencies maintain, explain the variation in terms of the rate by which transnational standards are adopted. Chapter three focuses on tie-formation patterns between regulatory agencies and assesses whether these can be predicted from the existing structure of relationships that is already in place. Chapter four

shifts the analytical focus to *inside* domestic agencies and looks at *how* decision-making uncertainty regarding collaborative choices can be mitigated. Chapter five focuses on the intra-organizational coordination of external network behaviour, introducing the concept of boundary-spanning to better understand the issues involved. Chapter six concludes by answering the general research question, and by discussing the specific theoretical, methodological, and practical implications of this thesis. Also this chapter notes the limitations of the presented studies and provides several recommendations for future research. An overview of empirical chapters is provided in Table 1.1.

TABLE 1.1 Overview of the Empirical Chapters of the Dissertation

Chapter	Research Question	Method of Analysis	Research Setting	Sample Size
(2) Network Diffusion and Standard Adoption	<i>What is the relationship between the network relationships that an agency maintains, and the rate by which it adopts transnational standards?</i>	Quantitative Design: Stochastic Actor-Oriented Models	Securities Regulation; IOSCO MMOU	N = 104 (IOSCO members)
(3) Network Structure and Tie Formation	<i>What is the effect of the existing bilateral agreements an agency maintains, on the formation of new ones?</i>	Quantitative Design: Stochastic Actor-Oriented Models	Securities Regulation; bilateral MOUs	N = 144 (national securities authorities)
(4) Partner Selection and Decision-Making Uncertainty	<i>What contingency factors at network, organizational, and individual levels potentially affect the decision-making uncertainty underlying partner choices in transnational collaborative settings?</i>	Qualitative Design: semi-structured interviews	Financial Sector Regulation; Dutch Ministry and Regulatory Agencies	3 organizations, 16 respondents
(5) Boundary Spanning and Organizational Structure	<i>How are the transnational boundary-spanning activities of domestic agencies internally organized and how do structural design choices potentially influence the coordination of such activities?</i>	Qualitative Design: semi-structured interviews	Financial Sector Regulation; Dutch Securities and Banking regulators	2 organizations, 12 respondents

Chapter 2

Network Diffusion and Standard Adoption

ABSTRACT⁴

The soft law measures that transnational regulatory networks produce have become increasingly important in regulating cross-border market activity. However, domestic agencies vary considerably in terms of the rate by which these soft law measures are adopted, and the ways in which they spread across jurisdictions are not well understood. This chapter argues that existing theoretical explanations referring to socialization or power dynamics have a specific network-structural pattern associated to them, and that longitudinal network analysis can be used to test their hypothesized effects. In particular, we study the widespread adoption of the International Organization of Securities Commissions' (IOSCO) Multilateral Memorandum of Understanding (MMoU). Based on a longitudinal dataset (2002-2015) of the inter-agency relationships between securities regulators (n=109), we use Stochastic Actor-Oriented Models (SAOM) to predict the rate at which transnational standards are adopted by domestic agencies. The results indicate that standard adoption is contagious in the network of securities regulators.

4 This chapter is published as: Van der Heijden, M., & Schalk, J. (2019). Network Relationships and Standard Adoption: Diffusion Effects in Transnational Regulatory Networks in *Public Administration*.

2.1 INTRODUCTION

In recent decades, scholars have noted the emergence and importance of transnational regulatory networks in which domestic regulators directly interact with their foreign counterparts, often outside the scope of direct political supervision (Slaughter 2004; Mathieu 2016). For instance, within the Basel Committee on Banking Supervision (BCBS), regulators negotiate about standards on the minimum capital requirements for banks (Goodhart 2011). Similarly, in the International Competition Network (ICN), domestic competition authorities discuss topics of common interest and formulate collective rules and standards on competition policy (Djelic 2011).

Given the absence of formal enforcement authority at the global level, the soft law measures that these transnational networks produce have become increasingly important in regulating cross-border market activity (Maggetti 2014). However, the adoption of principles of ‘best practice’, standards, and guidelines is typically voluntary, leading some scholars to question the effectiveness of these networks to attain regulatory convergence (Verdier 2009). In any case, countries and their representing agencies vary considerably in terms of the rate by which these soft law measures are adopted, and the ways in which these measures spread across jurisdictions are not well understood (Bach et al. 2016).

Overall, two main narratives exist about the way in which transnational networks potentially foster regulatory convergence (Raustiala 2002). On the one hand, scholars note the socialization potential of transnational networks, in which peer influences and concerns about status or reputation create pressures for agencies to conform to the norm of adoption (Slaughter 2004; Freyburg 2015). On the other hand, scholars argue that power dynamics are more important: weaker and newer jurisdictions will follow the standards set by more powerful actors (Drezner 2008; Bach & Newman 2010). Although both narratives have accumulated supportive qualitative evidence, it has been hard to differentiate between them empirically. In this chapter we argue that both types of explanations have a specific network-structural pattern associated with them, and that longitudinal network analysis can be used to test the hypothesized effects of these patterns on standard adoption. By doing so, we contribute to the standing literature in several ways.

Firstly, most studies on transnational networks use the network concept metaphorically, i.e., as a way to describe a general sense of horizontal interdependence between actors (Legrand 2015; Freyburg 2015). When theorizing about network effects, this metaphorical usage potentially leads to “too much loose analogizing”

(Isett et al., 2011), in which provided explanations are hard to falsify and become too general to account for the specific patterns by which the harmonization or adoption of regulatory rules and standards occurs. A network-analytical perspective helps us move beyond these general explanations, by providing more specific explanations of the variation in terms of the rate at which regulators from different countries adopt standards over time and the degree to which network relationships make a difference.

Secondly, for scholars that have looked more broadly at processes of diffusion (Simmons & Elkins 2004; Shipan & Volden 2012), we note that these studies vary greatly in the way they conceptualize and measure diffusion mechanisms and the role that network interactions play therein (Maggetti & Gilardi 2016). The network modeling approach of this chapter provides a straightforward way to conceptualize and operationalize such network effects, by linking mechanisms to specific network empirical patterns. In this way it becomes clearer, what role these network interactions are likely to play in patterns of standard adoption, besides domestic factors, such as market size (Lenschow et al. 2005), or sectoral factors, such as general levels of policy interdependence (Van Boetzelaer & Princen 2012).

The empirical data to test our hypotheses are drawn from the, by now, widespread adoption of the International Organization of Securities Commissions' (IOSCO) Multilateral Memorandum of Understanding (MMoU). The MMoU is a "soft law" measure on enforcement cooperation, also standardizing several secrecy and blocking laws (Austin 2012). In terms of network explanations of standard adoption, the MMoU is somewhat of a most-likely case, given that adoption is perhaps not as stringent as other transnational standards in terms of adjustments and likely consequences for domestic markets (e.g. capital requirements, see Howarth & Quaglia 2013). However, as it is a case of widespread adoption, the gathered data *does* allow us to meaningfully analyse variation in such adoption and differentiate the network mechanisms playing a role therein. In that sense, the chosen case provides an important plausibility probe for network explanations of standard adoption, particularly when considering that "soft law" measures like the MMoU are becoming increasingly important in other regulatory sectors as well (see Newman & Zaring 2013; Efrat & Newman 2018).

By gathering longitudinal data on the network relationships between agencies and the time at which the MMoU was adopted, we can test whether patterns of adoption can be attributed to the network relationships agencies maintain, and in what way. To do so, a Stochastic Actor-Oriented Model (SAOM) is used, which analyzes the potential co-evolution of networks (the structure of bilateral agency relationships)

and behaviour (standard adoption) (Snijders et al. 2010). SAOM-models explicitly allow for testing hypotheses regarding selection and influence effects while accounting for some of the problematic assumptions on which more traditional analyses of adoption are based. In particular, Event-History approaches typically used in diffusion studies assume networks to be static (see Simmons & Elkins 2004), while in reality ties are formed, dissolved, and maintained over time, creating new network contexts in which decisions regarding standard adoption are made (Greenan 2015). SAOMs allow us to model these network dynamics evolving simultaneously with the diffusion of the standard. This chapter thus also presents an important methodological improvement of the current literature that studies network effects in the context of regulatory diffusion (Bach & Newman 2010).

2.2 RESEARCH CONTEXT

The International Organization of Securities Commissions

Our case is the adoption of the MMoU, a standard on enforcement cooperation formulated by IOSCO. IOSCO is a transnational network in the field of securities regulation (Bach & Newman 2010). In its current form, it serves as a core institutional venue for transnational coordination and collaboration between domestic securities regulators. IOSCO is not subjected to any international treaty and it does not have a formal status in international law. Participation is voluntary for securities regulators and the organization strives for universal membership, as opposed to more exclusive clubs such as the Basel Committee (Lall 2015). It has generally succeeded in doing so, as its ordinary and associate members comprise more than 95% of the world's stock markets (IOSCO 2018).

A long-stated goal of IOSCO has been to “facilitate cooperation to promote high standards of regulation” (IOSCO 2018). Since 2010, it has increasingly taken the role of a global standard setter for securities regulation, explicitly focusing on “developing, implementing and promoting adherence to internationally recognized and consistent standards of regulation” (ibid.). Moreover, IOSCO strives to provide “oversight and enforcement in order to protect investors, maintain fair, efficient and transparent markets, and seeks to address systemic risks” (ibid.). To achieve these goals, IOSCO's operations mainly focus on producing policy documents that identify problems in market-issue areas and providing common solutions to policy problems by identifying a common basis for legal oversight regimes, monitoring mechanisms, and enforcement regimes (Kempthorne 2013).

IOSCO generally lacks formal enforcement tools to achieve its goals, and its budget and core staff remain limited. IOSCO mainly functions as a peak organization by providing an institutional point of contact for securities agencies to arrange their cooperation and collaboration among themselves. This typically occurs through participation in specialized working groups and commissions, the annual conference during which its main policy directions are determined, and specific training programs aimed at capacity-building for regulators in emerging markets. In addition to the multilateral cooperation that occurs under the auspices of IOSCO, collaboration between regulators also occurs bilaterally, either on an informal ad hoc basis or through more formalized agreements on information exchange and enforcement cooperation.

The Multilateral Memorandum of Understanding

Despite the absence of formal authority and enforcement tools, IOSCO has made considerable achievements with regard to the harmonization of regulatory rules and standards (Bach & Newman 2010). Its MMoU helped standardize procedures of (multi-lateral) information exchange and enforcement cooperation, with 109 signatories (see Figure 2.1). The number of information requests under the agreement has also been considerable (see Figure 2.2), implying that adopting the MMoU represents more than just a signatory. Reports of non-compliance have been relatively rare (IOSCO 2007a).

FIGURE 2.1 *Number of Adopters over Time*

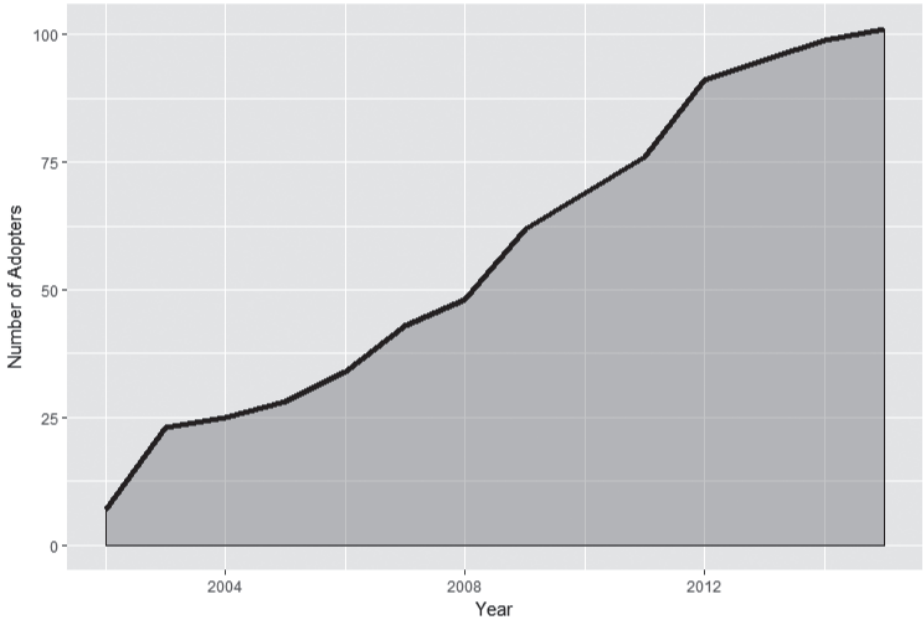
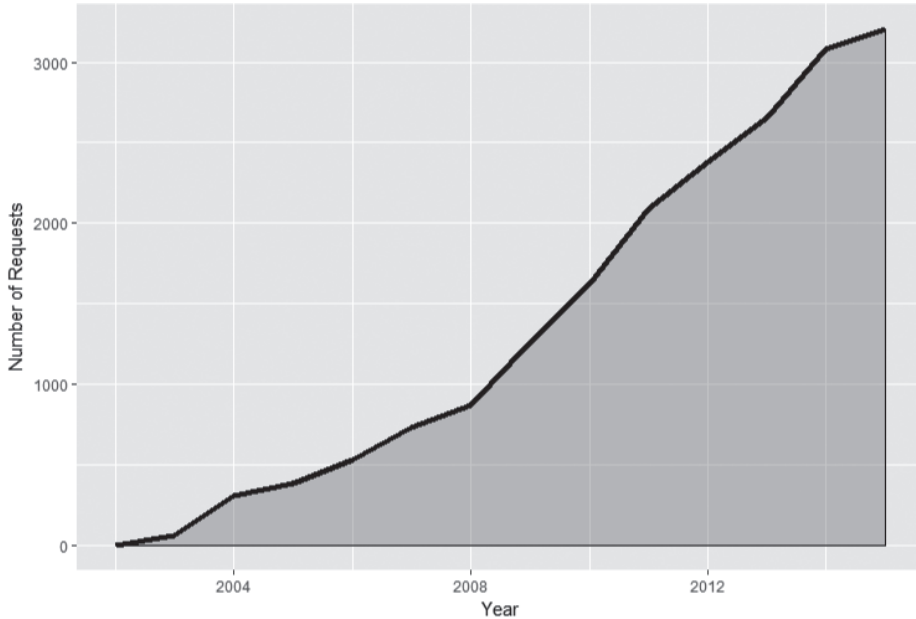


FIGURE 2.2 Number of Information Requests over Time



With the MMoU, IOSCO aims to ensure the commitment of domestic regulators to transnational enforcement cooperation and information exchange. In addition to information exchange, the MMoU also facilitates convergence of securities regulation by removing domestic secrecy or blocking laws (IOSCO 2002). Moreover, the MMoU directs that signatories within its framework “provide each other with the fullest assistance permissible to secure compliance [of their respective securities laws and regulations]” (IOSCO 2002). It includes rules concerning the scope of assistance required, the procedures to be followed, permissible uses of the information provided, confidentiality, and the limited circumstances under which assistance may be denied (Austin 2012).

Figure 2.1 shows that, over time, the MMoU has been widely adopted by its members. A general explanation for this pattern is easily provided. For instance, the MMoU may have proven to be a convenient technical solution for the problem of enforcing domestic regulatory rules and the prosecution of cross-border financial crimes. Economic network effects and tipping points may increase the MMoU’s usefulness as more regulators sign the agreement over time (Raustiala 2002). Alternatively, events such as the financial crisis may have pressured regulators to commit to cross-border collaborative arrangements.

However, such explanations fail to account for the *sequence* and *rate* of MMoU adoption over time. In other words, why did Portugal's securities agency adopt this standard in 2002, and the Argentinians in 2014? Agencies may initially lack the willingness or capacity to adopt the MMoU but eventually decide to do so. Adopting the MMoU thus requires a significant behavioural change on behalf of the agency. Below, we argue how network relationships influence this behavioural change and how such explanations account for the variation in the rate at which different regulators adopt the MMoU.

2.3 THEORETICAL FRAMEWORK

In the standing literature on transnational regulatory networks we observe that “network effects” are often ascribed importance (Raustiala 2002; Legrand 2015). In particular, scholars have underlined the potential influence of these networks on processes of regulatory convergence, in which networks act as channels of diffusion for the spread of transnational standards (Maggetti & Gilardi 2011; 2014). However, the way in which these networks have an effect has been the subject of much debate. Two main narratives exist regarding the role of transnational networks and their importance for understanding the spread of standards such as the MMoU .

The first type of explanation emphasizes *socialization*. Advocates of this approach describe the process of harmonization as a decentralized, incremental process of interaction and emulation in which networks play an important role (Slaughter 2004). Through socialization and peer influences, networks promote norms that contribute to the effective implementation of international standards (Maggetti & Gilardi 2011). Particularly because networks bring together regulators on a repeated basis, they may come to “define their roles partly in relation to their transnational reference group rather than in purely national terms” (Keohane & Nye, 1974: 45). For the adoption of soft rules, preferences and identities of actors engaged in transnational networks can thus be mutually transformed through their interactions with each other (Finnemore & Sikkink 1998). This type of explanation can be linked to established diffusion mechanisms, such as emulation and (social) learning (Gilardi 2012).

A second type of explanation emphasizes the *power dynamics* involved in transnational forms of networked interaction. According to this perspective, powerful actors can use transnational networks to promote policy export and shape foreign legislative agendas (Bach & Newman 2010). Concentrated regulatory power fosters

convergence, as weaker and newer jurisdictions ascribe to the norms and standards set by more powerful actors (Drezner 2008). In promoting the global export of their domestic policies, lead regulators backed by significant market power may use (information) asymmetries within the network to their advantage. Rather than horizontal collaboration, powerful agencies seek to control networks and their decision-making as to secure favorable distributional outcomes, at the expense of weaker jurisdictions. Such explanations are closely linked to the diffusion mechanism of *coercion* (Gilardi 2012).

The standing literature has had difficulty to differentiate between these types of explanation through empirical analysis. We argue that this primarily has to do with a metaphorical usage of the network term, in which networks represent a particular form of collaboration or organization characterized by horizontal relationships and informal interaction (Slaughter 2004). Although this provides a useful way to characterize a sense of horizontal interdependence between actors and to differentiate them from more hierarchical forms of organizing and interaction, such a conceptualization is not very clear on the precise network properties that are assumed to drive diffusion.

An alternative to treating networks as metaphors is by contextualizing network properties with reference to formal social network analysis (SNA) (Christopoulos 2008). Through SNA, we can give abstract concepts related to networked forms of collaboration, such as social capital, trust, and density, a more precise theoretical formulation. The way to do so is by perceiving networks as sets of relations that form patterns or regularities (i.e. a network structure). This allows one to examine structural variation in networks and assess its effects on actors and outcomes (see Wasserman & Faust 1994). Instead of studying network effects by only looking at network membership as an agency attribute (cf. Bach & Newman 2010), such an approach does more justice to the reality that activity, contacts, and structural embeddedness can vary greatly between and within member agencies over time. To do so, we must ask how structural variation is related to socialization and power dynamics (cf. Maggetti & Gilardi 2011).

Network-Structural Hypotheses

To formulate hypotheses, we have to specify socialization and power dynamics in network-analytical terms. For this, it is useful to distinguish between two dominant streams of network research, which differ in the way in which they treat network ties and their functions: a *connectionist* and a *structuralist* perspective (see Borgatti & Foster 2003).

First, a *connectionist* (or relational) perspective assumes networks to be channels that facilitate the flow of relational resources, such as information, experience, or support (see Lin 2001). These resources are transmitted through interaction between network actors and variation in (behavioural) outcomes can thus be explained on the basis of the differential exposure or access of actors to these resources. Following such a reasoning, network relationship play an important role in explaining standard adoption patterns on the basis the diffusion mechanisms of (social) learning and emulation in particular (see Burt 1987).

Regarding (social) learning, when domestic agencies seek information on the potential implications of adoption, they typically draw on the experiences of their *direct* network partners, whose actions and opinions are most salient and influential. Through interaction, network partners develop a shared understanding of the costs and benefits of adoption. If many direct network partners of a focal agency have already adopted a standard, it is likely that this understanding primarily favors the benefits of adoption, and thus increases the likelihood of adoption for the focal agency. Moreover, in the case of an agency lacking the capacity to adopt, network relationships can provide the necessary knowledge and resources to help build the capacity to fulfill the conditions set by IOSCO for signing the MMoU.

Regarding emulation, network relationships have also been shown to play an important role (Finnemore & Sikkink 1998). The adoption decision may be driven by concerns about reputation, status, or legitimacy. Being connected with many agencies that have adopted a standard potentially creates pressures for agencies to conform to the norm of adoption set by its network partners or direct reference group. Concerns about reputational losses from non-adoption, for instance, may lead to the adoption of standards, even if there is uncertainty about the potential outcomes or effectiveness of the standard for the focal agency.

A logical inference from the connectionist perspective is that agencies that have many network relationships to others that have already adopted the standard, will likely also adopt the standard themselves. We thus expect that an agency's likelihood of adoption increases proportional to the number of adoptees within the agency's ego-network. Therefore, regarding the adoption of the MMoU, we hypothesize that:

H1: The larger the proportion of other agencies (alters) that have a direct network relationship with a focal agency (ego) and have adopted the MMoU at time point t , the more likely the focal agency (ego) is to adopt the MMoU at $t+1$.

Second, a *structuralist* (or positional) perspective focuses on the structure and configuration of the network as a whole, looking at broader patterns of network embeddedness (see Burt 1987). This perspective assumes that actors within a network can make use of their structurally advantageous position in the network, which is usually defined by some measure of centrality. Centrality typically refers to the number of ties that actors maintain with the network, and actors with high centrality are assumed to be able to easily access resources and information due to their ties with many other actors. These central actors are therefore able shape the flow of information between other actors and influence the adoption decisions of others to align with their own preference.

Central actors that have adopted the MMoU are likely to become *advocates* of its further spread and enforcement, as an increased number of signatories effectively extends the usefulness of the MMoU for their own enforcement purposes (Raustiala 2002; Bach & Newman 2010). They may do so by blocking the flow of unfavorable information, encouraging the spread of favorable information, taking credit for the (timely) sharing of critical information, or threatening to negatively portray an agency to (a larger group of) other agencies in the network. Such reasoning can thus be linked to the diffusion mechanism of coercion, which states that powerful agencies can pressure others into adopting policies or standards.

From this perspective, we can explain variation in adoption by looking at the differential connections of agencies to those with structurally advantageous positions in the network. A structuralist perspective predicts that central actors exploit power asymmetries in order to impose their policy preferences on “weaker” agencies. Specifically, agencies most sensitive to such advocacy or coercion are likely to be those to which they are most closely connected through direct network relationships. Being connected to such central actors that have adopted the MMoU thus increases the probability that an agency will likewise adopt:

H2: The higher the centrality of other agencies (alters) that have adopted the MMoU and to which a focal agency (ego) has a direct network relationship at time point t , the more likely it is that the focal agency (ego) will adopt at $t+1$.

Potential Confounders

Regulatory agencies (and the jurisdictions they represent) vary considerably on a number of dimensions – e.g., power, size, budget, staff, political-institutional context – that all likely influence both the network relationships that they maintain *and* the

rate at which they adopt regulatory standards (Bach & Newman 2014). Therefore, we discuss several potential confounders that we control for in the empirical analysis.

First, we note the importance of market size in transnational financial regulation. The “weight” of an agency, represented by the importance of their jurisdiction and size of the market they regulate, likely impacts their popularity with other actors (i.e., more direct relationships) and their stakes regarding regulatory convergence (i.e., MMoU adoption) (Drezner 2008). Second, an agency’s degree of regulatory independence “back home” is important to consider, as this is an explicit condition (provision) for adopting the MMoU and makes it easier for agencies to engage in bilateral network relationships with each other (Bach & Newman 2014). Third, the activities of actors within IOSCO should not be discounted. The more active agencies are in IOSCOs various working groups and commissions, the more likely it is that they will form network relationships with foreign counterparts and become advocates of IOSCO standards and initiatives (Bach & Newman 2010). Lastly, we should control for network activity in general (a focal agency’s number of direct relationships), as both the formation of network relationships and the adoption of standards may signal an agency’s functional need toward transnational collaboration, for instance because of having a more internationalized market.

In addition to agency characteristics, we also consider three relational characteristics of “pairs” of agencies. First, the geographical proximity of actors in relation to each other likely affects both the tendency of agencies to engage in network relationships and their likelihood to adopt regulatory standards in response to each other (see Cao 2012). Second, in addition to IOSCO, there are several regional platforms of securities regulators, such as ESMA, COSRA, and ACMF. Given that membership in these platforms increases the chances for agencies to engage in network relationships, it also increases the chances that collective decisions on adopting global standards are made (Quaglia 2014). Third, agencies that share important political-institutional characteristics, such as established autonomous and independent government agencies (Jordana et al. 2011), will likely have lower barriers to cooperation and some of these characteristics may be favorable to the conditions of adopting the MMoU.

2.4 METHODOLOGY

Data Collection and Operationalization

To build our dataset, we first registered the precise dates at which different regulators adopted the MMoU. At the time of data collection (2016), IOSCO’s MMoU had

109 signatories, of which 104 constitute our sample⁵. We determined the years when each of these 109 agencies became a full signatory of the MMoU. This information was coded over time (2002-2015) in panel format, changing the agencies' value from '0' to '1' in the year they signed the MMoU.

To reconstruct the network of bilateral relationships between these 104 regulators, we collected longitudinal data on the formation of bilateral Memoranda of Understanding (MoU). Bilateral MoUs typically reflect well-established channels of communication, potentially transmitting information and resources (Brummer 2011). Such bilateral agreements are typically formed between agencies that interact more frequently to limit the transaction costs of constantly specifying conditions of cooperation and making agreements on the nature and confidentiality of exchanged information (see Slaughter 2004). In particular, the negotiation of bilateral MoUs requires intensive interaction between regulatory agencies and gives us the guarantee that at least some form of contact or interaction exists, or has existed between the regulatory agencies that establish such an agreement. When compared to other measures of networked interaction, such as network membership in general (Bach & Newman 2010) or co-membership in commission or working groups (Maggetti & Gilardi 2011), for which systematic and reoccurring contact is not guaranteed, bilateral MoUs serve as a more valid operationalization of direct network relationships. Comparability between agencies and availability of data over time are two other critical considerations.

Still, choosing bilateral MoUs as our main measure for network relationships may seem counterintuitive, particularly when using these relationships to explain the adoption rates of a *Multilateral* MoU. Both kinds of agreements appear to serve similar purposes and the observation that agencies maintain a large number of bilateral MoUs and are quick to adopt the MMoU may simply signal functional necessity or cross-border information exchange rather than real influence. However, in terms of commitments and requirements for regulators, the MMoU greatly exceeds those of bilateral MoUs (Brummer 2011). Moreover, if the signing of both bilateral MoUs and

5 During the data collection process, five signatories were dropped from the analysis for two reasons. First, Central African and Western African countries signed the MMoU as a regional platform, meaning that data derived from these countries tell us little about the adoption decision and network behaviour of individual national regulators. Second, two countries - Japan and the USA - had multiple actors reported as signatories to the MMoU. Given the size and importance of these countries - and its likeliness of skewing our analysis, particularly in terms of the control variables - we dropped two Japanese ministries and the US CFTC and chose the main securities regulator of both countries as the primary actor. The final sample for our analysis thus comprised 104 regulators over 14 time waves.

the MMoU are driven by the same factors, this should show up in our models where we control for this potential confounding tendency. In particular, by including the general tendency of agencies to form bilateral ties and assessing whether it has an effect on the rate of adoption, such problems of endogeneity can be dealt with.

Given that no dataset of bilateral agreements was available, we coded the relationships between securities agencies for the period 2002-2015. To do so, we first consulted the “international cooperation” sections typically maintained on the securities’ regulators websites. Second, we cross-checked this information with evidence from annual reports and press releases to reconstruct the dates of initiation of bilateral agreements. Third, for the agreements that were only reported by one side, we examined the signed agreement to validate the relationship. To be conservative, we discarded relationships that were only reported one-sidedly and for which an official document or other documentation could not be obtained. We coded the resulting information into adjacency matrices (one for each year) in which the existence of a relationship between agencies was denoted by a ‘1’ and a ‘0’ otherwise.

Control Variables

At the actor level, we gathered data on *market size* from the World Bank and IMF to determine countries’ GDP over time (2002-2015). To measure *regulatory independence*, we determined the legislative acts through which regulators were declared independent and subtracted the year of the legislative act from 2015 (cf. Jordana et al. 2011). This left us with a quantitative indicator that serves as a proxy for the independence of an agency. To capture *institutional activity* within IOSCO, we obtained working group and commission membership data of agencies within IOSCO from their website and coded the number of working groups in which agencies participate. To account for the potential stakes that agencies might have in the MMoU, we coded agencies that were part of IOSCO’s *Technical Committee* at the time of MMoU initiation, which was the platform’s primary decision-making body at the time.

To measure *geographical proximity*, we subdivided agencies based on the country regions identified in the QoG dataset (Teorell et al. 2018). For data on regional platforms, we examined existing institutional platforms in the field of securities regulation and constructed an affiliation matrix based on membership information. Due to strong overlap with geographical proximity, we only coded EU regulators separately, given that they participate in the most institutionalized form of regional cooperation, namely CESR/ESMA (Howell 2017). Lastly, to capture the political-institutional context of countries, we extended the dataset of Bianculli et al. (2013) on the different *administrative traditions* of countries. For countries that were not

reported in this dataset, we primarily used the QoG dataset (Teorell et al. 2018) and Painter and Peters (2010) for further categorization.

Analytical Strategy

We test the hypotheses using a Stochastic Actor-Oriented Model (Snijders et al. 2010). These models have been developed to describe and explain the co-evolution of network and behavioural characteristics over time. Given the nature of our data and the process of diffusion in which we are interested, we use a SAOM-extension so that the adoption times follow a proportional hazard model (Greenan 2015). An in-depth discussion of the model assumptions and estimation procedures is beyond the scope of the present study (see Ripley et al. 2018 for an in-depth discussion). Here, we present a non-technical discussion to aid in understanding the results of the estimated models and argue for the appropriateness of the approach given our research question and hypotheses.

The Appropriateness of SAOMs to Study Standard Adoption

Our primary reason for using a SAOM is that we want to take into account the way in which networks evolve simultaneously with the diffusion of standards. Standard diffusion studies that rely on Event History Models typically assume the network to be static, and model the time to an event as depending on a set of exogenous factors. However, modeling adoption and network evolution as a joint process allows us to incorporate explanatory variables which account for the dependencies that the network and the adoption of standards have on each other over time (Greenan 2015). This is a much more realistic representation of how network influences work in transnational diffusion processes.

Moreover, the standard cross-sectional (and longitudinal) regression-based models that are typically used to estimate contagion and diffusion effects in international politics also have several problematic limitations (Snijders & Pickup 2018). First, these techniques assume independence between observations and thus cannot account for the inherent interdependence between actors in complete networks. Second, network studies are typically unable to separate processes of network evolution (*selection*) and behavioural change (*influence*) and cannot control for potential alternative mechanisms that drive these processes (Steglich et al. 2010). Overlooking these problematic and interrelated issues when estimating the effects of networks on behaviour (or vice versa) likely leads to biased results and invalid inferences.

Estimation Procedure and Assumptions

The basic idea of a SAOM is that it defines the totality of possible network (and behavioural) configurations for a given set of actors as a state space of a stochastic process and models the observed network dynamics by specifying parametric models for the transition probabilities between these states. When working with panel data, each measurement (panel wave) of the network corresponds to one state in the overall state space, and we explain network dynamics by examining the transition probabilities by which the network “jumps” from one observation to the next. The first observation is conditioned upon and is taken as the exogenously given starting value of the stochastic process. The choice to create ties is modelled simultaneously with the choice to adopt (hence the co-evolution of networks and behaviour), and both decisions depend on previous states of the network and adoption at $t-1$.⁶

For our behavioural dependent variable, the only transition we empirically observe in the network of securities regulators is from ‘0’ to ‘1’, representing that the actor adopts the standard. This observation is characteristic of the diffusion of innovations in networks: once an agency has adopted a standard, it is stuck with it. Therefore, we include our predictor variables in the so-called *behavioural rate function* to model the *time to an event* (i.e., adopting the MMoU). A proportional odds time-to-event model is integrated with a SAOM of network dynamics, as described by Greenan (2015). The rate function aims to reflect the observed MMoU adoption process, as shown in Figure 2.1.⁷

6 Because the set of possible transitions between states is potentially very large, some simplifying assumptions are necessary. First, it is assumed that the transitions between panel measurements are manifestations of an underlying process (of network and behavioural evolution) taking place in continuous time. Second, actors are assumed to act conditionally independent of each other and only make decisions given the current state of the network. Third, actors change at most one tie or behavioural variable at a time. Observed transitions are then modeled by decomposing them into network- and behavioural ‘mini-steps’. A rate function indicates the speed at which the network actors have an opportunity to make such changes, and the objective function indicates how these changes actually appear, e.g., effects capturing tendencies toward triadic closure (Ripley et al., 2018).

7 Given the distinctive features of our network data, several additional issues must be addressed. First, we observe a network in which ties (bilateral MoUs) were never terminated between agencies. Therefore, in our model, the actors only have the option to create new ties or retain the status quo and cannot delete existing ties (cf. Ripley et al. 2018: 25). Second, given that we study a non-directed network (i.e., consisting of ties in which both actors have a say in its formation), we must consider how ties are created between two agencies. We assume network relationships are created by means of ‘unilateral initiative and reciprocal confirmation’ (Snijders and Pickup 2018). In this model, it is assumed that one actor takes the initiative and proposes a new tie; if the actor proposes a new tie, the other must confirm, otherwise the tie is not created (Ripley et al. 2018: 50). Given that MoUs must be signed and agreed upon by both agencies, this process best captures how bilateral agreements between national agencies are formed in practice.

Modeling the Hypothesized Network Effects

To test the first hypothesis, we included an *average exposure* effect (Ripley et al. 2018: 173). This effect captures the tendency for actors to become similar to their alters. It is defined as the proportion of an agency's alters who have adopted the standard, assuming that the higher this proportion is at t , the more likely an agency is to adopt at $t+1$. A positive average exposure effect indicates that the adoption of the MMoU at time t follows from the proportion of the agency's alters that had adopted the MMoU at $t-1$.

For the second hypothesis, we included an *infection-by-degree* effect (ibid.). This effect is defined as the sum of the degree of an agency's alters: if a network partner that has many connections in the network adopts the standard, this likely has a larger influence on your own likelihood to adopt compared to an alter that adopts but is peripheral in the network. Rather than merely looking at adoption behaviour of network partners, this effect thus takes into account the "power" of those partners, as defined by their degree centrality (i.e. the number of ties that an actor has).

We also included a *degree effect* (ibid.: 172) to assess whether the tendency to have ties increases the rate at which standards are adopted. This effect disregards whether the agency's network partners have adopted the MMoU and simply focuses on the network activity of the agency (ego) itself. A positive parameter value indicates that the more network relationships an agency maintains at time t , the higher the likelihood that the agency will adopt the MMoU at time $t+1$.

In addition to these effects on the *rate of adoption*, we also include effects that capture how the *formation of bilateral agreements* evolves over time. This helps us separate selection and influence effects by assessing whether the status of standard adoption also affects an agency's partner choice at $t+1$. Finally, we also included general effects that capture basic network dynamics, such as the overall network tendency toward triadic closure (see Ripley et al. 2018: 41-42). For the control variables *working group participation*, *administrative traditions* and *geographical proximity*, we added (dyadic) similarity effects to assess whether agencies that share traits on these indicators are more likely to form network relationships. A summary of all effects are given in Table 2.1 and 2.2.

TABLE 2.1 Summary of Included Effects ($Y=MMoU$ Adoption)

Name of Effect	Description of Effect	Data Source Control Vars.
Average Exposure (H1)	Captures whether the proportion of i 's alters that adopt the MMoU predicts i 's rate of adoption	
Infection by Degree (H2)	Captures whether the centrality of i 's alters that have adopted the MMoU predicts i 's rate of adoption	
Degree Effect	Outrate: captures whether the number of network relationships i maintains, predicts its rate of adoption	
Market Size	GDP (scaled): captures whether i 's market size (measured in GDP) predicts its rate of adoption	World Bank, IMF
Regulatory Independence	Captures whether i 's independence (measured in years since establishment act) predicts its rate of adoption	i.a. Jordana et al. 2011
Institutional Activity	Captures whether the number of IOSCO working groups in which i participates predicts its rate of adoption	IOSCO Website
EU-Member	Captures whether CESR/ESMA (EU agencies) membership predicts i 's rate of adoption	ESMA Website
Technical Committee	Captures whether membership in IOSCO's technical committee memberships predicts i 's rate of adoption	IOSCO Annual Rep.

TABLE 2.2. Summary of Included Effects ($Y=Network$ Formation)

Name of Effect	Description of Effect	Data Source Control Vars.
Triadic Closure	Captures tendency toward triadic closure for undirected networks.	
Indirect Ties	Captures the tendency for agencies to keep indirect ties (number of actor pairs at distance 2)	
Shared WG	Captures whether agencies that participate in the same IOSCO working groups are more likely to form ties	IOSCO Website
Geographical Proximity	Shared Region: whether agencies that are located in the same region are more likely to form ties.	QoG dataset
Shared Adm. Tradition	Captures whether agencies that share the same administrative tradition are more likely to form ties	i.a. Bianculli et al. 2013
Adoption Alter	Captures the tendency of a relationship to form if the alter has adopted the MMoU	
Adoption Similarity	Captures the tendency of a relationship to form between agencies if both have adopted the MMoU	

Estimation Strategy

We use the SIENA package in R to estimate our SAOMs. The estimation procedure aims to achieve a convergent model, meaning that the expected value comes sufficiently close to the target or observed values. However, particularly for networks

with many nodes ($n > 100$) and time waves (> 3), estimation becomes highly complex and convergence can be difficult to achieve. To manage these issues, we made two choices in our modeling procedure. First, rather than immediately estimating a complicated model with many effects included, we gradually constructed our model by beginning with our base effects. After this simpler model converged satisfactorily, we continued to add effects, taking the previous estimates of our simple model as the starting values for the more complicated model (see Ripley et al. 2018: 63). For some effects, estimating the precise numerical values of parameters was problematic and led to convergence problems. As a solution, we ‘fixed’ these effects at zero (meaning that these parameters are not allowed to vary) and conducted score-type tests for significance (see Schweinberger 2012).⁸ The parameter and standard error values of these effects are represented as ‘fixed’ and ‘.000’ in Table 2.4, respectively. For effects that could not be included in the model due to convergence problems, the parameters are labelled ‘NA’.

Second, we subdivided our full period of 14 years into three shorter periods. This is partly a modeling choice, as shorter periods reduce time-heterogeneity, which causes parameter values to shift too heavily over time, creating convergence problems (Lospinoso et al. 2011). It also helps account for important exogenous events that are relevant for our research context. To determine the cut-off points, we have no strong a priori expectations; the only event that stands out in our research context was the start of the global financial crisis in 2007. We took that year as the first cut-off point and subdivided the remaining eight years (2007-2015) into two periods of equal length. This resulted in three time periods for analysis (2002-2007; 2007-2011; 2011-2015), for which we assume the contexts to be relatively constant.

2.5 RESULTS

Figure 2.3 provides a visual representation of our network data. The nodes represent regulatory agencies and the ties between them represent the existence of a bilateral MoU. Based on how this network evolves over time, we want to assess whether the

⁸ Sometimes the inclusion of too many weak effects can lead to severe convergence problems. SIENA may have trouble determining precise numerical values for these parameters. From a modeling perspective, a straightforward solution is to exclude these effects. However, including these effects may be important on theoretical grounds. Following Ripley et al. (2018: 65), we fix these effects at zero, meaning that their parameter values do not vary during simulation. They can be included in the model but do not interfere with the estimation process (of the other parameters). Moreover, through score-type tests, these ‘fixed’ parameters can be tested for significance (see Schweinberger 2012).

pattern of adoption follows from the network relationships that agencies maintain. Visualizations for four years are shown (2002, 2007, 2011, and 2015). Note that the black nodes signify non-adoption.

FIGURE 2.3 *Network Visualizations*

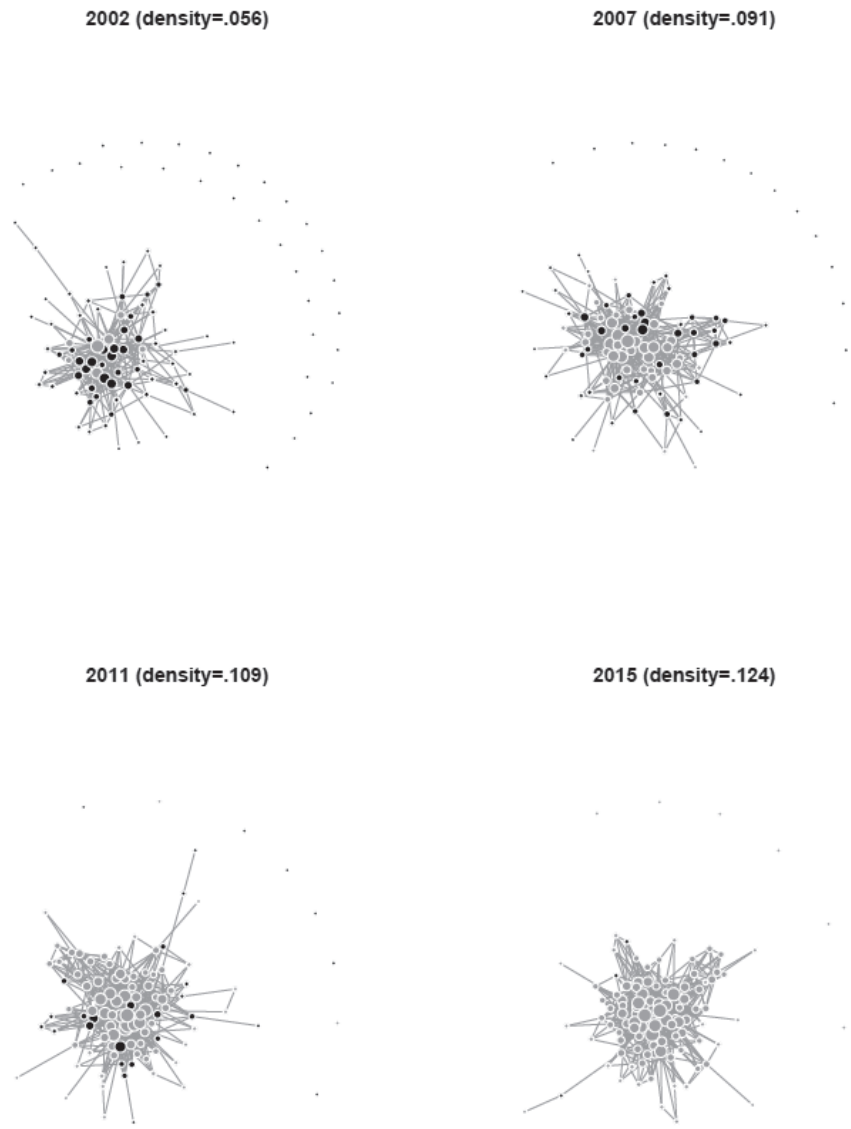


TABLE 2.3 Network Descriptive Statistics 2002-2015

Observation Time	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Density	.056	.062	.068	.077	.083	.091	.096	.101	.106	.109	.114	.118	.121	.124
Average Degree	5.77	6.37	6.98	7.92	8.56	9.33	9.89	10.39	10.89	11.21	11.71	12.12	12.48	12.75
Number of Ties	300	331	363	412	445	485	514	540	566	583	609	630	649	663
Jaccard-Index	NA	.906	.912	.881	.926	.918	.944	.952	.954	.971	.957	.967	.971	.979
MMoU Adoption (%)	6.7	22.1	24.0	26.9	32.7	41.3	46.2	59.6	66.3	73.1	87.5	91.3	95.2	97.1
Number of Adoptions	7	16	2	3	6	9	5	14	7	7	15	4	4	2
Cumulative Adoptions	7	23	25	28	34	43	48	62	69	76	91	95	99	101

Table 2.3 provides the descriptive statistics of our main variables, and shows that the number of adoptions increase steadily over time. The density of the network describes the number of ties in the whole network as a proportion of the possible number of ties given the number of actors. Given that we only observe the formation - never dissolution - of bilateral relationships, the network becomes increasingly dense over time.

SAOM Results

The results of our explanatory analyses are presented in Table 2.4. Regarding the hypotheses of interest, we observe that in the first period of observation (2002-2007), the *average exposure* parameter has a significant positive value, meaning that there is a tendency for agencies to adopt the MMoU when a large proportion of their network partners have adopted the MMoU ($b=2.117$; $S.E.=0.954$). Although the interpretation of parameters in SAOMs is not straightforward, they can approximately be interpreted as a log-odds-ratio of an increase in behaviour compared to remaining constant (Ripley et al. 2018: 168). For our model, which follows a proportional hazards model (Greenan, 2015), this odds-ratio describes the hazard of adopting the MMoU. If an agency's average exposure increases by $\delta \in [0, 1]$, then their hazard (of adoption) increases by approximately 8.5^δ (because $\exp(2.117) \approx 8.3$; cf. Greenan 2015: 160)⁹. General activity (*degree effect*) or infection-by-degree do not affect the rate of MMoU adoption.

For the network dynamics effects, there is a tendency toward triadic closure in our network. This means that agencies that are connected to the same agency through a bilateral MoU at point t tend to form a bilateral MoU with each other at $t+1$. In addition, once an alter has adopted the MMoU, it typically decreases the likelihood that a bilateral relationship will be formed with that agency (*adoption alter*). The same holds when both agencies have adopted the MMoU (*adoption similarity*). Both parameter estimates are significant in our model, which is intuitive given that the MMoU could be argued to replace the function of bilateral MoUs, i.e., it only makes sense for agencies to form additional bilateral agreements if they exceed the conditions set by the MMoU. Lastly, agencies that are geographically proximate (*shared region*), participate in the same working groups within IOSCO (*shared WG*), or share the same administrative traditions (*shared AT*) have a higher chance of forming bilateral relationships, with all estimated parameters significant at the 0.01 level.

⁹ This means that, if the proportion of an agency's alters that have adopted the MMoU increases by 0.3, this makes an agency approximately twice as likely to adopt the MMoU than when this proportion remains the same (because $8.5^{0.3} = 1.9$).

TABLE 2.4. Results Table

Variables	Period 1 (2002-2007)		Period 2 (2007-2011)		Period 3 (2011-2015)	
	Estimate	SE	Estimate	SE	Estimate	SE
<i>Network Dynamics</i>						
Triadic Closure	.395*	(.068)	.512*	(.112)	.314*	(.122)
Indirect Ties	-.032	(.027)	.021	(.036)	-.030	(.052)
Shared WG	.306	(.109)	.058	(.237)	.000	(fixed)
Geographical Proximity	.478	(.246)	.243	(.385)	.841	(.490)
Shared Adm. Tradition	.923	(.236)	.545	(.383)	.601	(.421)
Adoption Alter	-.889*	(.338)	-.525	(.441)	NA	NA
Adoption Similarity	-1.259*	(.305)	-.324	(.459)	NA	NA
<i>Behavioural Dynamics</i>						
Degree Effect	.126	(.084)	.321	(.244)	.274*	(.062)
Average Exposure (H1)	2.117*	(.954)	3.328*	(1.292)	-1.402	(.841)
Infection by Degree (H2)	-.005	(.007)	-.022	(.014)	.000	(fixed)
Regulatory Independence	.010	(.011)	.007	(.015)	-.008	(.028)
EU-Member	.724	(.486)	-.182	(.900)	.000	(fixed)
Technical Committee	.576	(.764)	.961	(2.581)	.000	(fixed)
Institutional Activity	.085	(.108)	.319	(.247)	-.833*	(.310)
Market Size (GDP)	-.522	(.571)	.000	(fixed)	NA	NA

Notes: All convergence t-ratio's < .06. Overall maximum convergence ratio .16

In our analysis of the second period (2007-2011), many estimated parameters no longer significantly affected our network and behavioural dependent variables of interest. However, regarding hypothesis 1, we observed an increase in the parameter estimate of our average exposure effect ($b=3.328$ $S.E.=1.292$), which is also significant at the 0.01 level. This means that for an average exposure increase of δ , the hazard of adoption increases by approximately 28^δ . Regarding the other two hypotheses, both general activity (*degree effect*) and infection by degree did not affect the rate at which regulators adopt the MMoU.

In the third period (2011-2015), the average exposure effect is no longer significant and does not appear to affect adoption rates. However, the degree effect capturing network activity is significant. This means that, in this last period, agencies that maintain many network relationships at point t are more likely to adopt the MMoU at $t+1$ ($b=.274$ $S.E.=.062$). Institutional activity, captured by the number of IOSCO working groups in which an agency participates, had a strong negative effect on

adoption rates. This may be because many institutionally active IOSCO members adopted the MMoU early on. Regarding network dynamics, the last period also showed a strong tendency toward triadic closure.

Interpreting MMoU Adoption Dynamics

Overall, we conclude that the early stages of adoption of the MMoU reflect a slow start. The MMoU was initiated during the aftermath of 9/11, when there were concerns regarding the use of financial markets for terrorist financing (IOSCO 2002; Austin 2012). However, the initial response to the MMoU was meagre, with only 25 adopters after the first two years. A 2007 IOSCO report assessed the obstacles to adopting the MMoU for regulators of “emerging markets”. Although they saw the need for international collaboration and a majority was favorable to the initiative, regulators had difficulty preparing their applications and meeting the requirements (IOSCO 2007b). Moreover, regulators also reported that they did not see a need for the MMoU because they were satisfied with existing forms of transnational collaboration or had little transnational activity to regulate (*ibid.*). Given the positive exposure effect found in this first analysis period, the limited number of additional agencies that adopted the MMoU before the crisis were primarily persuaded or pressured into the MMoU by their network peers.

The period from 2007 onwards proved to be the start of more turbulent times for securities regulators. Stock markets fell heavily and distorted the global economy into a financial crisis. This heightened the urgency of cross-border collaboration, which is reflected in the higher number of adoptions in this period. IOSCO itself may have played an important role in this upsurge of adoptees, given that they threatened to make IOSCO membership conditional upon signing the MMoU (as of 2010). Despite this, many of these new adoptions follow the patterns of the agencies’ network relationships, given the relatively high value of the average exposure parameter. The strong exposure effect in this period is potentially explained by the uncertain context of the global financial crisis and subsequent need for action on behalf of regulators.

By requiring all members to become signatories by 2010, IOSCO also became more active in pursuing a higher rate of adoption (IOSCO 2008). However, regulators still reported struggling with the requirements of the MMoU, particularly in terms of obtaining necessary legislative authority and sharing investigative results with foreign counterparts (IOSCO 2008). In 2012, further conditionalities were formulated regarding adoption of the MMoU (IOSCO 2014). With the creation of a watch-list for non-signatories as of 2013, IOSCO used a strategy of shaming regulators into adopt-

ing the MMoU (IOSCO 2013a). Moreover, IOSCO further limited the opportunities of non-signatories to influence decision-making with the so-called *Graduated Additional Measures*, which gradually stripped non-adopters of leadership positions, committee participation and voting rights over the course of 2014 (IOSCO 2013b).

The effectiveness of “review panels” that exert peer pressures for compliance has also proven effective in similar kinds of transnational regulatory networks (Maggetti & Gilardi 2014). Through the use of such instruments, IOSCO’s secretary thus played a more important role in persuading non-signatories to adopt the MMoU. This potentially explains the absence of endogenous network effects in the final period of analysis, as other (exogenous) factors become more important. However, it seems plausible that such institutionalized measures only work once a significant number of countries has already adopted or backed a standard or guideline (cf. Mukherjee & Singer 2010).

2.6 DISCUSSION AND CONCLUSION

In this chapter, we used a network-analytical perspective to study how transnational regulatory standards and principles spread across jurisdictions. Given the increasing importance of these “soft law” measures in regulatory practice, understanding the patterns by which they are adopted is crucial (Newman & Zaring 2013). Although scholars frequently point to the importance of network effects in studying processes of regulatory harmonization (Raustiala 2002; Bach & Newman 2010), theoretical intuitions are rarely explicated by rigorous empirical analysis. In this chapter, we accounted for the variation in the rate at which securities agencies adopt an enforcement cooperation standard, namely the MMoU, and were able to distinguish between different mechanisms that drive this process.

Specifically, our results indicate that the rate of adoption is driven by the adoption behaviour of direct network partners (hypothesis 1) and peer influences thus play an important role. However, the network positions of agencies (hypothesis 2) in terms of the centrality of their alters does not make a difference. Overall, these findings clearly favor a *connectionist* perspective on the effects of network relationships in processes of regulatory harmonization and the domestic adoption of standards, emphasizing mechanisms of emulation and learning, rather than a *structuralist* perspective emphasizing power dynamics and the mechanism of coercion (cf. Maggetti & Gilardi 2011).

These findings have several implications. Firstly, at the theoretical level, this chapter justifies the inclusion of network-structural variables when modeling decision-making regarding standard adoption and specifies in what way they are likely to have an effect. In particular, a more precise conceptualization of network-structural variables provides a better understanding of *how* transnational relationships can function as channels through which standards spread, and gives theoretical guidance on how structural variation across networks is likely to affect patterns of standard adoption. Next to domestic factors, such as regulatory independence (Bach & Newman 2014), or sectoral factors, such as levels of regulatory interdependence (Van Boetzelaer & Princen 2012), the embeddedness of agencies in transnational patterns of communication with other agencies is crucial to consider.

Secondly, the analysis clarifies the role that network relationships can play in transnational regulation, at different stages of development. In the absence of formal authority and enforcement tools at the global level, networks can help to orchestrate dispersed actors toward a common solution or collective action (Kenis & Schneider 1991). Particularly in the first stages of standard adoption, in which much uncertainty exists about the necessity and consequences of particular standards, such relationships drive adoption behaviour and can thus be utilized to steer collective outcomes. In later stages, more institutionalized and concrete forms of steering by network coordinators become more important. These insights are particularly valuable for understanding the way in which network structure plays a role in the potential of transgovernmental networks to act as regulatory intermediaries (see Jordana 2017). In particular, in facilitating regulatory activities and disseminating soft law standards, the relational structures that exist within networks are likely to moderate the effects that these intermediaries have.

Thirdly, the analysis offers a methodological contribution, as it demonstrates the importance of longitudinal designs and statistical network models in understanding processes of regulatory harmonization. In terms of making causal arguments regarding the effects of network relationships, such analyses allow for establishing temporal order between the formation of network relationships and adoption behaviour (see Snijders & Pickup 2018). Moreover, statistical network models such as SAOMs allow for modelling network changes, rather than assuming networks to be static.

Regarding the generalizability of our results, we concede that our argument may be limited to the specific type of standard we examined –, i.e., a multilateral agreement on information exchange and enforcement cooperation, standardizing blocking and

secrecy laws across jurisdictions – or only holds for the specific domain of securities. However, the coordination and collaboration dilemmas described in the context of the MMoU are not particular to securities regulators. The need for cross-national information exchange and enforcement cooperation is typical for many regulatory sectors (see Efrat & Newman 2018), and we can reasonably expect the network dynamics found in our analysis to also be present in other (regulatory) research contexts.

In conclusion, transnational networks do not operate in a vacuum: powerful environmental, political, and historical forces also affect the behaviour and decisions of regulatory agencies. Network dynamics are thus one of many factors to consider and they depend on the presence and quality of such contextual conditions as well. However, the key message of this chapter is that, if we want to take transnational network influences seriously, we should map the specific relations of the network itself and systematically assess how they are related to overall outcomes and the behaviour of agencies. Rather than treating networks as black boxes and assuming they have an effect of some sort, the specific relationships that agencies maintain and the local structures in which they are embedded are likely to significantly shape the rate and sequence of diffusion processes in transnational regulation.

Chapter 3

Network Structure and Tie Formation

ABSTRACT¹⁰

Transnational collaboration between regulatory agencies has proliferated rapidly within the last three decades. However, given that information regarding the motives, trustworthiness, and capabilities of potential partners is typically imperfect, decisions about with whom to collaborate are inevitably characterized by a degree of uncertainty. To better capture these dynamics, this chapter uses a network-analytical perspective and hypothesizes that agencies are more likely to form agreements with agencies to whom they are already indirectly connected (transitivity), that are highly connected (preferential attachment), or with whom they share tie-characteristics (assortativity). To test these hypotheses, a stochastic actor-oriented model is used to analyze an original, self-coded dataset in which bilateral information exchange agreements between national securities agencies (n=143) are mapped out over a 18-year period. The results show that the formation of agreements between regulatory agencies is driven by (1) the number of shared partners (i.e. triadic closure) and (2) similarity regarding agency characteristics (i.e. homophily).

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3.1 INTRODUCTION

Transnational collaboration between regulatory agencies has proliferated rapidly within the last three decades. The internationalization of markets and the need to cope with transnational policy issues has facilitated the development of regulatory networks in diverse policy areas, such as energy, telecommunications, privacy protection, human rights, international competition, and financial markets regulation (see Slaughter 2004; Bach et al. 2016). In these networks, agencies collaborate within multilateral settings, but are also connected through forms of bilateral collaboration, creating complex webs of information exchange agreements, partnerships, and memoranda of understanding (MOUs). These agreements institutionalize channels of regulatory cooperation between agencies and are often seen as a means to reduce the transaction costs involved in the exchange of sensitive regulatory information (Lazer 2001; Trachtman 2007). In that sense, they have a clear functional purpose, helping regulatory agencies to remedy shared problems in their common environments, such as the need to effectively regulate cross-market activity or conduct cross-border criminal/regulatory investigations.

However, such a functional perspective to transnational cooperation merely provides an explanation for the proliferation of bilateral agreements between agencies in general; the specific decisions of regulatory agencies about *with whom* to form bilateral agreements still warrants closer scrutiny. Given that these agreements typically involve the exchange of sensitive information regarding ongoing legal investigations or in-house evaluations, agencies need to carefully select their partners to avoid leaks that compromise internal investigations or reveal sensitive information (Efrat & Newman 2018). But because information regarding the motives, trustworthiness, and capabilities of potential partners is typically imperfect, such decisions are inevitably characterized by a degree of uncertainty. For instance, foreign agencies may have different professional standards regarding the handling of confidential and privacy-sensitive information, such as taxpayer-specific information in the case of tax authorities or business secrets in the case of antitrust regulators (see Yang & Maxwell 2011). Or exchanged information might be misused for other purposes than intended, such as the persecution of political opponents (see Nadelmann 1993).

Risks for defection and vulnerability to opportunistic behaviour thus characterize transnational agreement formation between regulators, and potentially weigh in on an agency's decision making about with whom to form such agreements (cf. Feiock et al. 2012). To better capture this underlying uncertainty, this chapter takes a network-analytical perspective, which explicitly conceptualizes the existing net-

work of relationships as an information repository through which organizations can reduce uncertainty about the trustworthiness of potential partners and learn about opportunities for new ties (see Gulati & Gargiulo 1999; Feiock & Scholz 2010). For instance, scholars have noted how past ties and third-party actors help agencies to mitigate risks of inter-agency cooperation by providing endorsements about or referrals to potential partners (Ahuja 2000; Carpenter et al. 2004). Moreover, the formation of information-exchange agreements can serve as signals of enhanced legitimacy for regulatory agencies and their respective jurisdictions (Ostrom 1990; Baum & Oliver 1991). The information provided by existing network relationships thus offers important cues for agencies about with whom to engage in future relationships (Gulati & Gargiulo 1999; Lee et al 2012).

Based on these insights, this chapter assumes that the formation of new bilateral agreements is embedded by a broader structure of already existing agreements, potentially increasing the probabilities of agreements between agencies from some countries and decreasing the probabilities of such agreements between others. Theoretically, this means that the existing transnational network of regulatory agencies is defined as a strategic environment in which agencies bargain over new agreements, endogenously influencing the way in which future agreements are formed (cf. Gulati & Gargiulo 1999). From this, the analysis assesses whether agencies are more likely to form agreements with agencies to whom they are already indirectly connected (i.e. network transitivity), agencies they perceive as popular or high-status (i.e. preferential attachment), or with agencies with whom they share network attributes (i.e. structural homophily). Testing hypotheses related to these basic network effects, allows for conclusions about the process of network evolution and the (theoretical) mechanisms driving it. Although scholars have frequently noted similar kinds of network dynamics in processes of policy diffusion or standard adoption (e.g., Simmons et al. 2006), how these dynamics matter for the evolution of information exchange agreements and enforcement cooperation is still unclear (see Efrat & Newman 2018).

Theoretically, such a network-analytical approach to transnational regulatory networks helps to clarify the role that the specific structure of relationship between agencies is likely to play in how these networks form and develop. This is an important addition to a literature which has primarily conceptualized such networks in metaphorical terms (Slaughter 2004; Mastenbroek & Martinsen 2018, see also Vantaggiato 2018), or has analytically ignored such structural network patterns and relational interdependence by only focussing on domestic (Bach & Newman 2014) or sectoral (Van Boetzelaer & Princen 2012) factors for explaining transnational collabo-

ration and coordination. Moreover, while many of these studies focus on decisions of agencies to join “a network”, the theoretically more interesting question lies in considering which specific partners agencies choose within these networks. Rather than loosely analogizing about the development of network forms of collaboration, network models thus give our intuitions regarding transnational forms of collaboration a more precise theoretical formulation (see Hafner-Burton et al. 2009; Kinne 2013). This gives a better understanding of globalizing administrative patterns and the underlying network dynamics that potentially play a role in how they develop. Particularly given the increasing prevalence of these transnational agreements in various regulatory sectors (Efrat & Newman 2018), this chapter provides a basis of further theorizing about future developments.

In terms of practical relevance, the way in which information exchange agreements form and develop is also important to consider. Given internationalized markets, national citizens have increased opportunities to be defrauded abroad and national firms can more easily engage in misconduct beyond what national agencies can meaningfully scrutinize (Cadmus 2010). Information exchange agreements and memoranda on enforcement cooperation can then extend national agencies’ investigatory power and are an important addition to their regulatory capacity (Efrat & Newman 2018). As such agreements increase the effectiveness of cross-border supervision, it is crucial to understand the barriers and constraints to their formation (see IMF 2007). Then one can think more clearly about institutional solutions that facilitate cross-border collaboration and promote information sharing and enforcement cooperation between regulators (see Brummer 2011).

To empirically test the hypothesized network effects, a longitudinal network analysis of the evolution of inter-agency agreement formation over time is presented. The data on which the analysis is based, is an original, self-coded dataset in which bilateral information exchange agreements (in the form of Memoranda of Understanding, or MOUs) between national securities agencies ($n=143$) are mapped out over a 18-year period. This transnational network of securities agencies has developed as an increasingly dense network of MOUs and serves as a plausibility probe for studying network effects in regulatory networks. In particular, this chapter applies Stochastic Actor-Oriented Models for non-directed networks to test our hypotheses (see Snijders et al. 2010).

Methodologically, the use of Stochastic Actor-Oriented Models is a considerable step forward from conventional uses of network analysis in the literature (e.g. Bach & Newman 2010; Maggetti & Gilardi 2011), as it allows us to better take into account

the network dynamics of the way in which transnational patterns of collaboration evolve over time. These network dynamics are important to consider, because each tie change modifies the state of the network, and later changes build on/are reliant on this new state (Snijders & Pickup 2017). Networks are thus characterized by relational interdependence. However, scholars analyzing transnational networks typically use cross-sectional data and regression-based approaches. While the former are problematic in terms of causality (particularly their inability to establish temporal order and separate selection and influence effects), the latter assume independence of observations, thus failing to account for the interdependence inherent to networked collaboration (Maoz 2012).

Below, this chapter firstly discusses and justifies the research context of this study. This gives a better understanding of the substantive questions behind the analysis and the applicability of a network-analytical perspective to transnational forms of collaboration between regulatory agencies. Then a theoretical argument is presented on the kinds of network effects we expect in the context of regulatory cooperation. After discussing the operationalization of the core variables, the basics of stochastic actor-oriented modelling are explained, as well as its (analytical) leverage in understanding processes of network evolution. The analysis tests the hypotheses, after which a conclusion reports the main implications of this study and sets out directions for future research.

3.2 RESEARCH CONTEXT

Although many regulatory sectors have seen the emergence of cross-national forms of collaboration between regulatory agencies (see Eilstrup-Sangionvanni 2009; Newman & Zaring 2013), international finance has been at the forefront of these developments. Within this sector, an “alphabet soup” of regulatory networks has developed (Ahdieh 2015), including the Basel Committee on Banking Supervision, the Financial Action Task Force (FATF), the International Association of Insurance Supervisors (IAIS), and the International Organization of Securities Commissions (IOSCO). Moreover, besides these more institutionalized forms of multilateral cooperation (see Lall 2015), regulatory agencies also cooperate bilaterally on a more ad hoc basis.

These developments are primarily driven by increasing internationalization of capital markets, calling up the need for cross-national collaboration between national regulatory authorities, as to maintain effective market oversight. Emerging

economies, such as those of Brazil, China, Turkey, and India, become increasingly integrated into the global economy, not only through trade, but also through capital flows into their equity and debt markets. Moreover, stock exchanges have become virtual facilities that can be accessed via trading screens located in any number of broker-dealers' offices. As a result, money can flow anywhere, instantly, regardless of national origin and boundaries. Taken together, these developments have created new and previously unimagined risks, seriously undermining the authority and control of (national) regulators (see Brummer 2011).

Within the field of securities, a particular problem that emerges from the observation that trading networks and market activity increasingly cross multiple jurisdictions, is that national regulators have more difficulty accessing information that would expose fraudulent or highly risky trading activities (Simmons, 2001: 612). This requires national regulators to exchange information with foreign counterparts and engage in various forms of bilateral and multilateral enforcement cooperation. As a result, an increasingly dense web of bilateral agreements has emerged among financial sector regulators. These agreements typically take the form of "Memoranda of Understanding" (MOU), which coordinate cross-jurisdictional relationships between agencies.

Although each MOU typically has its own particularities, most involve the enhancement of the signatories' enforcement powers and the identification of cross-border points of contact for enforcement purposes (Brummer, 2009: 337). In particular, these agreements establish a procedure by which information is gathered and specify what kind of information will be provided by the foreign agency. A typical MOU calls on each regulator to pass on information that may indicate a breach of the laws of the other party. Some MOUs also grant mutual authority for on-site inspections of fund managers in each other's jurisdictions (Simmons, 2001: 613). All in all, MOUs enhance cooperation, promote information sharing and knowledge exchange between regulatory agencies, and cultivate trust between partner agencies (Brummer, 2009: 338). Still, in choosing partners with whom to engage in bilateral MOUs, several uncertainties can be noted.

First, given that MOUs facilitate the exchange of sensitive and potentially damaging information, unreliable partners are not suitable for cooperation. Agencies may have concerns regarding leaks or misuse of information that potentially damages security, commercial, or other interests. Moreover, if confidential information leaks into the public domain, this may harm individuals involved in regulatory investigations and threaten the reputation of the information providing authority. Also,

the recipient might misuse information, by using it for some other purpose than intended (Yang & Maxwell 2011). Risks for defection and uncertainty about the reliability of partners are thus present in the formation of bilateral agreements and the information-providing agency needs assurances that exchanged information is handled in an appropriate manner (i.e. “due process”).

Second, not all potential partners have the necessary capabilities (or willingness) to fulfil the conditions of an MOU, particularly regarding national enforcement competences and available staff and resources. For agencies requesting information there is thus a risk that information is only shared selectively or not in a timely fashion. These considerations potentially disrupt the reciprocal nature of cooperation, particularly when only one of the agencies lives up to the conditions set by the agreement (see Singer 2004). Agencies thus require information on whether potential partners have the capabilities or resource ability to obtain requested information (locating and interviewing suspects) as well as the legal ability to transfer information (e.g., bank-secrecy laws) (see Efrat & Newman 2018). Below, the theoretical framework further discusses the implications of these considerations and translates them into expectations regarding partner selection in bilateral agreement formation.

3.3 THEORETICAL FRAMEWORK

A long-standing scholarship on inter-organizational collaboration argues that organizations typically form ties with each other in response to interdependencies that shape their common environment (Galaskiewicz 1985; Provan et al. 2007; Isett et al. 2011). From this perspective, network relationships emerge out of functional necessity and help to solve specific problems. As noted in the introduction of the chapter, the formation of bilateral agreements between regulators can also be understood from this perspective (see Lazer 2001), i.e. as a result of the internationalization of markets and the need to regulate cross-border market activity. The pattern of relationships within a network can thus be explained from agencies’ inducements or incentives to collaborate (see O’Toole 1997; Ahuja 2000).

However, such perspectives typically underestimate the difficulties that agencies face in determining with whom to form such network ties (Gulati & Gargiulo 1999; Lee et al. 2012). In particular, we note the challenges associated with obtaining information about the competencies, needs, and reliability of potential partners (see Feiock & Scholz 2010). Considering that the formation of bilateral agreements typically results in some form of enduring commitment between partners and

carries possible risks for defection, uncertainty about with whom to engage in such agreements is relevant for regulatory agencies as well (see Dawes et al. 2009). Imperfect information about partners raises search costs and risks of exposure to opportunistic behaviour (Feiock et al. 2009).

To help reduce these search costs and alleviate according risks of opportunism, scholars have underlined the important role that the existing structure of relationships within a network can play (see Gulati & Gargiulo 1999; Feiock & Scholz 2010). To deal with decision-making uncertainty, the network by which agencies are embedded can serve as a repository of information on the availability, competencies, and reliability of prospective partners (see Powell et al. 2005). In particular, the positions that actors occupy within a network signal to others their willingness, experience, and ability to enter into partnerships. By taking these information signals into account, agencies can reduce uncertainty in their decision-making regarding the selection of appropriate partners for collaboration.

Each time an agency chooses a partner by forming a bilateral agreement, this decision thus has informational value for other actors in the network, subsequently affecting future agreement formation. What follows is that network evolution (and partner selection) is an iterative process, in which newly created partnerships modify the previous network, subsequently shaping the formation of future ties. As the network develops over time, it internalizes more information about potential partners, guiding agencies' choices about future alliances (Gulati & Gargiulo 1999; Henry et al. 2010). The following section hypothesizes on the kinds of patterns that can then be expected in the formation of bilateral agreements between agencies.

Three Hypotheses on Network Effects

First, the notion of triadic closure is important to understand when talking about network dynamics. This idea states that the presence or absence of network ties between two actors is crucially determined by contacts with (shared) third party actors. These third party actors can serve as indirect channels for information and reputation effects, e.g. by signalling or providing information about the trustworthiness of potential partners (Carpenter et al. 2004; Lee et al. 2012). Indirect ties thus help organizations mitigate the risks of choosing unreliable partners (Gulati & Gargiulo 1999; Feiock et al. 2009), as endorsements and referrals from common partners provide information regarding a potential partner's quality and motives (Burt & Knez 1995). In terms of empirical patterns, one then expects that if both a network tie between actors A and B, and between actors A and C exists (at point *t*), there is a higher likelihood, *ceteris paribus*, that a tie between actors B and C will

come into existence (at point $t + 1$). Tie formation thus primarily works through referrals, leading to the hypothesis (H1) that:

H1: Agencies are more likely to form bilateral agreements with agencies to whom they are already indirectly linked.

Second, a common tendency for network actors is to attach to popular alters. This tendency, known as preferential attachment (Barabasi & Albert 1999), is borne out of several mechanisms. First, if organizations are uncertain about with whom to form network relationships, the popularity of actors may signal that they are preferable partners (Feiock et al. 2012). Highly connected agencies convey trustworthiness and reliability more credibly than unconnected agencies (Kinne 2013). Secondly, reputational considerations may also play an important role in this regard, in which attaching to popular alters potentially increases the legitimacy of the core agency as well (Baum & Oliver 1991). Overall, these mechanisms create a “Matthew effect” in which agencies that already have a high number of agreements, will accumulate more over time (see Merton 1968). This leads to the expectation that:

H2: Agencies are more likely to form bilateral agreements with agencies that already maintain a large number of ties.

Third, the concept of structural (or status-based) homophily describes the idea that actors with similar status are more likely to form relationships (Chung et al. 2000; Ahuja et al. 2009). The underlying mechanism here is the assumption that high-status actors expect low-status actors to not be able to reciprocate their efforts in future collaborations (Gould 2002). Forming a network tie with another high-status actor thus seems a plausible strategy to avoid risks of defective behaviour or unproductive network relationships. Moreover, if the quality of agencies is hard to assess, signaling effects become an important replacement on which to base partner selection choices (see Podolny 1994). Low-connected actors provide few signals and will thus not be easily seen as a reliable partner. As an extension to the second hypothesis, the third hypothesis thus states that:

H3: Agencies with a high number of ties are more likely to form agreement with other agencies that have a high number of ties.

Accounting for Alternative Explanations

Besides (endogenous) network effects as specified in our hypotheses, other tendencies may also account for the evolution of the network of securities regulators.

Controlling for these alternative explanations of tie formation patterns, allows one to better isolate the hypothesized relationships and assess whether network effects still make a difference for the way in which the network of bilateral agreements between securities regulators evolve over time. Five main categories of control variables are specified.

Firstly, agencies that are closer together may also be more likely to collaborate. The geographic proximity of agencies is thus something to take into account (see Cao 2012). Secondly, homophily based on actor characteristics is an important driver of the formation of inter-organizational network relationships (Kraatz 1998; Efrat & Newman 2018). Regulatory agencies might expose a preference for collaborating with agencies they perceive as “similar” with regard to certain characteristics, e.g. in terms of market size or administrative tradition. Thirdly, agencies that are more interdependent due to the existence of high volume capital or trade flows between them, are also more likely to collaborate, regardless of pre-existing network ties. Fourthly, countries that are already engaged in other forms of collaboration, for instance through trade agreements or regulatory cooperation in other sectors, may find it easier to also cooperate in the regulatory field of securities. Lastly, besides bilateral collaboration, agencies also engage in multilateral platforms. Frequent interaction within such multilateral platforms increases the chance of also engaging in a bilateral collaboration, as it potentially establishes agencies as a trustworthy partner.

3.4 DATA AND METHODS

Data Collection

To reconstruct the network of bilateral relationships between securities regulators, longitudinal data were collected on the formation of bilateral Memoranda of Understanding (MoU), from the 1980s onwards. To determine the membership of the network, agencies listed as members of IOSCO (the largest institutional platform for transnational collaboration between securities regulators) were used as a basis. For non-member jurisdictions, it was checked whether they had a separate securities agency or commission and, if this were the case, these were added as well. This provided a comprehensive list of 143 securities regulators. However, given the longitudinal nature of the analysis and the consideration that many agencies in our network did not exist for larger parts of the 1980s and -90s, network membership varies over time. To account for the changing composition of our network, agencies

were added to the network in the year in which it came into existence, based on the creation year of agencies stated in their respective establishment acts.

Given that no dataset of bilateral agreements was available, the relationships between securities agencies were self-coded. To do so, the “international cooperation” sections typically maintained on the securities’ regulators websites were first consulted. Second, this information was cross-checked with evidence from annual reports and press releases, allowing for the identification of the dates of initiation of bilateral agreements. Third, for the agreements that were only one-sidedly reported, the signed documents were checked to validate the relationship. To be conservative, the dataset excluded relationships that were only reported one-sidedly, lacked a year of signing, and for which the official document or other documentation could not be retrieved. Note that only coded agreements specifically related to securities were included, and not those in the domains of banking or insurance (which is sometimes done by the same agency).

The collected bilateral agreements were coded into adjacency matrices for each year of analysis¹¹. The existence of a relationship was coded as a ‘1’ when present and ‘0’ otherwise. Note that data were only collected on the creation of ties, resulting in a longitudinal dataset in which ties are added over time, but never terminated. For agencies that were not yet in existence in particular year, their relationships were coded as ‘structural zeroes’, indicating that the existence of ties for these agencies was impossible (see Ripley et al. 2018: 31). The membership of the analysed network thus varies over time, taking into account the year in which agencies were created and could start to form network relationships. All in all, this resulted in a panel dataset on the existence of network relationships between 143 regulatory agencies, for a period of 18 years (1999-2017)¹².

Control Variables

For the control variables on agency characteristics data were gathered on the market capitalization of countries throughout the years, as well as more general financial-economic information. In particular, the World Bank’s classification of economies based on GNI were used, allowing for division of jurisdictions into four categories (from low- to high-income countries). For market capitalization, data from the

11 Adjacency matrices are NxN matrices that store network data by signifying whether a relationships exists between actors at a given point in time (see Wasserman & Faust 1994).

12 We collected data from 1985 onwards, but due to the highly varying membership of the network in the period until 1999, primarily due to the creation of new agencies, this earlier period was not suitable for analysis.

World Federation of Exchange Database were taken. Given the highly fluctuating nature of this data, the precise market capitalization values were recoded into categories. These categories seem to better reflect the way in which they can be taking into account for regulatory agencies' decision-making. More specifically, the small countries for which no market capitalization was reported, were coded as a 'zero'. The other countries were coded onto an ordinal scale in which the group of smaller markets (between 0 and 100.000.000) were given a '1' and every tenfold increase in market capitalization represents a category increase (with the largest market being assigned a '6').

To measure *regulatory independence*, the legislative acts by which regulators were declared independent were traced back and this year was subtracted from 2017 (Jordana et al. 2011). This gives a quantitative indicator that serves as a proxy for the independence of an agency. To capture the political-institutional context of countries, the dataset of Bianculli et al. (2013) on the different *administrative traditions* of countries was used. For countries that were not reported in this dataset, the QOG dataset and the Painter and Peters (2010) book were used for further categorization. Activity within IOSCO was based on working group and commission membership data of agencies within IOSCO, available through their website. This information was coded into the number of working groups in which agencies participate. The year in which agencies adopt IOSCO's Multilateral MoU (MMoU) was also taken into account. This is a multilateral standard on information exchange and enforcement cooperation and potentially interferes with tie formation behaviour regarding bilateral MOUs (see Austin 2012).

To capture the *geographical proximity* of pairs of actors, agencies were subdivided based on the country regions identified in the QoG dataset (Teorell et al. 2018). For data on regional platforms, the existing institutional platforms in the field of securities regulation were identified and an affiliation matrix¹³ was constructed based on according membership information. EU-regulators were coded separately, given that they participate in the most institutionalized form of regional cooperation, namely CESR/ESMA (Howell 2017). Lastly, to capture trade/prior agreements

13 Affiliation matrices record the affiliation of actors to an event, in this case agencies to regional platforms (see Wasserman & Faust, 1994: 298-299). Such affiliation matrices allow us to create dyadic covariates that indicate whether or not agencies operate in similar regulatory platforms.

between countries, information from the DESTA-dataset on trade agreements was included by coding all bilateral base-treaties between countries (Dür et al. 2014)¹⁴.

Analytical Strategy

The primary challenge of analyzing network data is dealing with relational interdependence. Regression-based analyses of network effects typically assume that observations are independent, which is inherently problematic for analyzing networked settings. Traditional estimation methods (including standard count and survival models) then potentially lead to biased estimators (see Steglich et al. 2010).

To account for these shortcomings, ERGMSs have gained prominence as a method of statistical inference for network analysis (Lubell et al. 2012; Lusher et al. 2013). However, ERGMs are traditionally used for estimation of effects in cross-sectional data and do not have an explicit actor-level focus (see Block et al. 2016). Given this chapter's interest in the choices of individual actors over time, a Stochastic Actor-Oriented Model (SAOM) of network evolution is used¹⁵. This type of statistical network model takes the formation of network relationships as its dependent variable and allows one to model endogenous and exogenous influence that potentially drive this process (Snijders et al. 2010). Changes in a network are assumed to result from the purposive decisions of individual actors, who evaluate their positions and adjust their ties as to maximize their utility. Actors are thus assumed to “make the changes” in the networks, which is consistent with this chapter's theoretical argument of strategic choice in the formation of bilateral network relationships (see also Kinne 2013).

The basic idea of SAOMs is that it defines the totality of possible network configurations for a given set of actors as a state space of a stochastic process, and then models the observed network dynamics by specifying parametric models for the transition probabilities between these states (Snijders et al. 2010). When working with panel data, each measurement of the network corresponds to one state in the overall state space and we explain network dynamics by looking at the transition probabilities by which the network “jumps” from one observation to the next. The

14 Because the European Commission has negotiated all trade agreements on behalf of its members states since 1958, this variable unfortunately does not capture trade agreements with EU countries.

15 Although advanced models such as Dynamic Actor Network Models also exist (Stadtfeld et al. 2017) such models require time-stamped data, i.e. data in which specific dates are given for the formation of network ties. Given that for the data used in this chapter, this information was not always available, the analysis uses yearly panels. For such a data structure, Stochastic Actor-Oriented Models provide a reliable and well-developed method of analysis.

first observation is conditioned upon, and is thus taken as the exogenously given starting value of the stochastic process.

Because the set of possible transitions between states is potentially very large, some simplifying assumptions are needed. Firstly, it is assumed that the transitions between panel measurements are manifestations of an underlying process (i.e. of network evolution) taking place in continuous time. Secondly, actors are assumed to act conditionally independent of each other and only make decisions given the current state of the network (Markov property). Thirdly, actors change at most one tie variable at a time. Observed transitions are then modelled by decomposing them into network ‘mini-steps’. A *rate function* indicates the speed at which the network actors get an opportunity to make such changes, while the *objective function* indicates what such changes actually look like.

The parameters of the network objective function thus represent the direction of changes in network mini-steps. These can be understood as behavioural rules that determine changes in network ties. For each actor, the probabilities of the choices to maintain, dissolve, or establish a relationship with another agency, are an increasing function of the expected utility as calculated from the variables in the model. Probabilities of these tie-changes are in part endogenously determined, i.e., as a function of the current network structure itself, and in part exogenously determined, as a function of characteristics of the nodes (‘actor covariates’, e.g., regulatory independence) and of characteristics of pairs of nodes (‘dyadic covariates’, e.g., similar administrative traditions).

Because the estimation of parameters is highly complex and cannot be calculated analytically (e.g. through maximum likelihood procedures), they are approximated by Monte Carlo simulations. What this means is that the researcher selects a vector of statistics, and then determines the parameter estimate as the parameter value for which the expected value of this vector of statistics equals the observed value at each observation (Snijders & Pickup 2018). The basic idea is that the network dynamics are simulated many times with trial parameter values. These values are then updated until the averages of a suitable set of network descriptives, reflecting the estimated parameters, are close enough to the observed values. This process is repeated until the algorithm converges, although sometimes it is necessary to repeat the estimation, taking the earlier obtained parameters as new initial values.

Modelling Undirected Network Relationships

In transnational political and organizational settings non-directed collaborations and agreements between actors are more typical, potentially changing the dynamic by which networks evolve (see Snijders & Pickup 2018). In such non-directed ties, actors on both sides have a say in its existence, requiring specific assumptions about the negotiation and coordination between actors in terms of tie creation and termination. Ties thus have no directionality, in the sense that $X_{ij} = X_{ji}$ and they are treated as one and the same variable. For undirected networks, the same effects can be used as for directed networks, although some are now redundant (because $i \rightarrow j$ and $j \rightarrow i$ are now equivalent).

Snijders and Pickup (2018) propose five undirected network models to capture this dynamic of non-directed networks. For the kind of network relationships studied in this chapter, ‘unilateral initiative and reciprocal confirmation’ are chosen. In this model, it is assumed that one actor takes the initiative and proposes a new tie; if the actor proposes a new tie, the other has to confirm, otherwise the tie is not created (Ripley et al. 2018: 50). This process best captures the way in which bilateral agreements between national agencies are formed in practice.

3.5 ANALYSIS

To test the hypotheses, network influences are modelled into the objective function of our SAOM¹⁶. For the triadic closure effect, a (undirected) transitive triads effect is included, which captures the prediction that agencies prefer agreements that lead to closed triads. More specifically, the GWESP effect¹⁷ was chosen, which places decreasing weights on higher numbers of shared partners (Snijders et al. 2006). For the preferential attachment hypothesis a popularity effect was included, which captures the tendency of agencies with a high degree (i.e. a large number of bilateral MOUs) to attract additional ties *because* of their current high-degree value. To capture the network effect of the third hypothesis, a general assortativity effect was included, which captures the tendency of high-degree nodes to be connected to other high-degree nodes (see Newman 2002). Lastly, for the most important type of control

16 Because in the network-data only the creation of ties is observed, several basic parameters cannot be defined. Most importantly for such “uponly” networks, the outdegree and linear shape effect are not defined, because these effects define the balance between the probabilities of going up or going down. This does not apply for networks in which only the formation of ties is observed (see Ripley et al. 2018: 30).

17 GWESP stands for Geometrically Weighted Edge-Wise Shared Partners.

variable, i.e. homophily effects with regard to actor characteristics, similarity effects on various dyadic covariates were included. These effects indicate whether agencies that share a value on certain characteristics (such as administrative tradition, or shared market size) are more likely to form agreements.

Note that the overall analysis was divided into two time-periods: 1999-2008 and 2008-2017¹⁸. This is partly a modeling choice, as shorter periods reduce time-heterogeneity, in which parameter values shift too heavily over time, creating convergence problems (Lospinoso et al. 2011). In addition to this technical consideration, subdividing the analysis in smaller time periods also helps to account for important exogenous events that are relevant to the studied research context. The year 2008 was taken as a cut-off point and resulted in two 10 year periods of analysis, giving a substantively interesting pre- and post-financial crisis subdivide. Given the large role securities played in the global financial crisis (see Shiller 2011), this seems like an important exogenous event to consider.

Visualizations and Descriptive Statistics

Figure 3.1 provides a visual representation of the network over time. The nodes represent regulatory agencies and the ties between them signify the existence of a bilateral MOU. The size of the nodes represents the number of bilateral MOUs an agency maintains (also referred to as the *degree* of an agency). Visualizations for four years are shown (2000, 2005, 2010, and 2015). Over time, more agencies become active in the network and start to form bilateral MOUs. Also, the number of high-degree nodes clearly increases, as more large-size nodes emerge in the center of the network visualizations.

Figure 3.2 provides histograms for the degree distributions in our data. The x-axis represents the degree, while the y-axis represents how many nodes have a certain degree (i.e. the number of ties they maintain). Over time, more agencies accumulate a larger number of network ties, although a high number of low-degree nodes remains throughout. The skewed distribution characterizing our network-data seems to be the first indication of the presence of preferential attachment mechanism (see Newman 2005). In Table 3.1 the descriptive statistics of our network data are given.

18 As noted, the first waves of our analysis, from the 1990s onwards, gave too many problems during analysis, particularly regarding convergence and inflated parameter values and standard errors. Therefore, the current analysis focuses on the last 20 years of collected data.

FIGURE 3.1 *Network Visualizations*

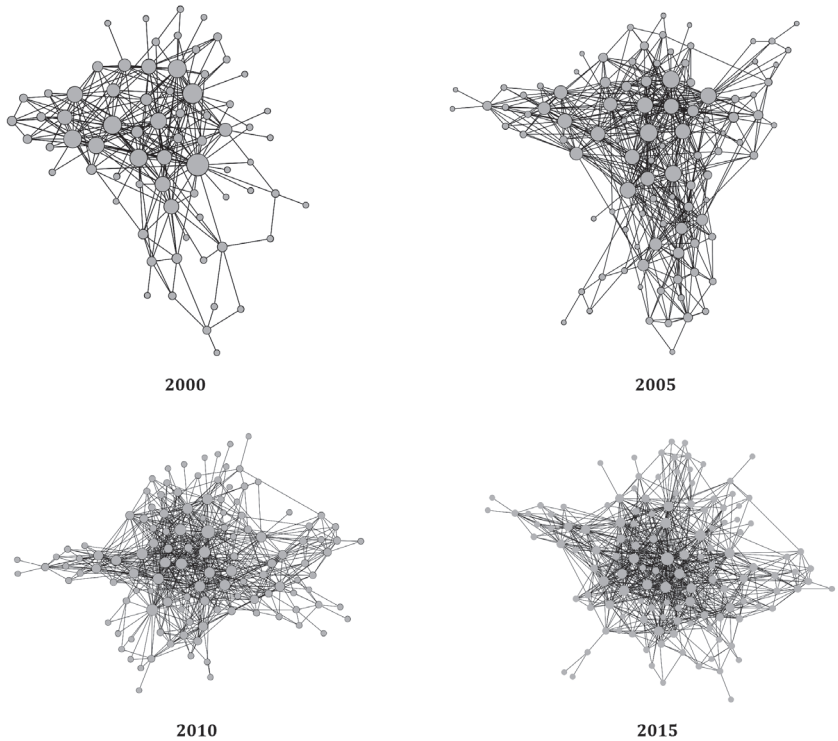


FIGURE 3.2 *Degree Distributions*

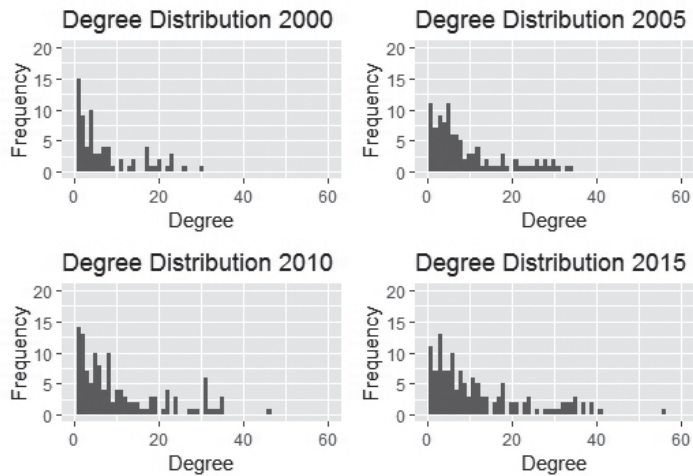


TABLE 3.1 *Network Descriptives 1990-2017*

Observation Time	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Number of Actors	46	52	59	67	72	80	88	92	101	106	110	118	121	122
Number of Ties	14	24	41	65	84	103	132	167	214	242	271	314	360	403
Average Degree	.61	.92	1.39	1.94	2.33	2.58	3.00	3.63	4.24	4.57	4.93	5.32	5.95	6.61
Observation Time	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of Actors	127	131	135	135	135	136	140	141	141	143	143	143	143	143
Number of Ties	448	503	543	582	616	649	677	701	730	755	784	811	831	851
Average Degree	7.06	7.68	8.04	8.62	9.13	9.54	9.67	9.94	10.35	10.56	10.97	11.34	11.62	11.90

Results

The results of the explanatory analyses are presented in Table 3.2. Despite the division into two analysis-periods, both initial models presented in Table 3.2 had significant time heterogeneity, primarily due to the inclusion of several control variables. Time heterogeneity means that parameter values shift too heavily over time for the model to give a reliable estimation and this potentially leads to bias in parameters of interest (see Lospinoso et al 2011). A first option to deal with time heterogeneity is to include dummy variables for time heterogeneous effects. However, given the large number of effects and time waves for which dummies would have to be included, the model would become overly complicated.

As a solution for both models, the effects for which the most severe time heterogeneity was detected were removed from the model (denoted by 'NA'). This solved the issue of time-heterogeneity for the overall model, providing a more reliable estimation of the parameters of our core effects. In Table 3.2, the results of the different models are shown next to each other (periods 'a' and 'b'), while the second models are interpreted in-text below. Note that for both models, goodness-of-fit tests show adequate results in the sense that the values produced by the simulation models are close enough to the values in the data (see Appendix B).

The parameters in Table 3.2 capture the changes that agencies make in their network, in terms of the formation of ties. The direction of the parameter values indicate whether agencies make choices that increase or decrease the statistic associated with the parameter (e.g., more or less triads). Parameter sizes can be translated to (conditional) odds ratios. They thus represent the respective probability that agency

i will choose one particular tie to *j* over another, given that the only difference is a one-unit change in the covariate of interest (see Kinne 2013; Ripley et al. 2018). However, given that a precise interpretation of these numbers are problematic (and potentially unrealistic), significant estimators are held to indicate that agencies, in their partner selection choices, have an overall tendency for the effect captured by the included statistic in the model (e.g. a tendency toward triadic closure).

TABLE 3.2 Results SAOM-Analysis Bilateral MOUs Over Time

	Period 1a		Period 1b		Period 2a		Period 2b	
	(1999-2008)		(1999-2008)		(2008-2017)		(2008-2017)	
Variables	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
<i>Network Dynamics</i>								
Triadic Closure (h1)	2.004*	(.407)	1.566*	(.302)	1.910*	(.415)	1.791*	(.376)
Popularity Effect (h2)	.010	(.051)	.077	(.040)	-.001	(.049)	.047	(.032)
Assortativity Effect (h3)	.060	(.104)	-.068	(.079)	.207	(.129)	.061	(.078)
Indirect Ties	-.023	(.043)	-.077	(.036)	-.039	(.036)	-.055	(.032)
Geographic. Proximity	-.187	(.185)	NA	NA	.923*	(.236)	.853*	(.220)
Shared Adm. Tradition	.643*	(.157)	.634*	(.131)	.628*	(.210)	.761*	(.201)
Regulatory Indep.	-.216*	(.047)	NA	NA	-.547*	(.170)	NA	NA
Regional Platforms	.225	(.161)	NA	NA	-.322	(.229)	-.521*	(.215)
IOSCO Activity	1.701*	(.408)	1.634*	(.355)	-.056	(.843)	-1.304*	(.238)
Shared Market Cap.	-.095	(.138)	-.056	(.136)	.060	(.172)	.100	(.169)
Shared Income	.704*	(.123)	.626*	(.121)	.228	(.165)	.149	(.166)
Trade Treaty	.791*	(.181)	.821*	(.178)	.119	(.294)	.167	(.292)
MMoU Adoption Alter	-.494*	(.223)	-.628*	(.224)	-.229	(.261)	NA	NA
MMoU Adoption Similarity	-.388*	(.183)	-.383*	(.177)	-.566*	(.195)	NA	NA

Notes: All convergence t-ratio's < .06. Overall maximum convergence ratio .12

Analysis Period 1999-2008

Regarding the hypotheses of interest, the first period of observation (1999-2008) shows that the *triadic closure* parameter has a significant positive value ($b=1.566$; $S.E.=0.302$), meaning that there is a tendency for agencies to close open triads. In other words, friends of friends tend to become friends over time, providing evidence that tie formation in the MOU network works through referrals or third-party actors. Note that rather than a standard triadic closure effect, we included the GWESP effect, which places decreasing weights on a higher number of shared partners. In other words, the first two shared partners are more likely to lead to triadic closure than the sixth or seventh (see Snijders et al. 2006). Both the *popularity effect* (H2) and the *assortativity effect* (H3) do not seem to make a difference for tie formation patterns.

In terms of the control variables some interesting patterns also emerge. Most prominently, both shared administrative traditions ($b=.634$; $S.E.=.131$) and income classifications ($b=.626$; $S.E.=.121$) are strong predictors for the tendency of agencies to form ties among themselves, pointing to *homophily* effects regarding actor-characteristics. Also, for MOU-formation between agencies it seems to matter whether the countries they represent already have a trade agreement in place ($b=.821$; $S.E.=.178$). Regarding the other variables in our model, note that the more active agencies are within IOSCO working groups, the higher the likelihood that they will form ties in general ($b=1.634$; $S.E.=0.355$), and whenever both agencies have signed IOSCO's MMoU they have a lower tendency to also form a bilateral MOU ($b=-.383$; $S.E.=.177$). For some agencies, multilateral agreements thus partly replace the function of bilateral agreements.

Lastly, for the three parameters for which significant time-heterogeneity was detected, note that in the first model, years of independence seemingly decreases the likelihood of agencies to form ties in general ($b=-.216$; $S.E.=.047$). This is seemingly explained by the consideration that agencies that have existed for a longer time, already had many MOUs in place before the period of analysis started. Also note that the geographical proximity and regional platform parameters were excluded, although these effects were not significant drivers of tie formation to begin with.

Analysis Period 2008-2017

For the second period of analysis, many of the core effects remain, although some have changed in strength. Regarding the first hypothesis, this period still shows a strong tendency toward *triadic closure* ($b=1.791$; $S.E.=0.376$). However, the other main effects regarding the hypotheses on *preferential attachment* and *degree-assortativity* still make little difference to understanding patterns of tie formation.

Regarding *homophily* effects based on actor-characteristics, note that regulatory agencies that have a similar administrative tradition still have a higher likelihood of also forming a bilateral MOU ($b=.761$; $S.E.=.201$). However, similarity regarding income classifications no longer makes a difference ($b=.149$; $S.E.=.166$). For the other included effects, *geographical proximity* now has a positive and significant parameter value in this period of analysis ($b=.853$; $S.E.=.220$). Agencies from countries that are closer together are more likely to connect, indicating that patterns of tie formation are structured according to geographical regions.

The three parameters for which significant time-heterogeneity was detected in this model, were *Regulatory Independence*, *MMoU adoption alter*, and *MMoU adoption similar-*

ity. All three of these effects had a significant negative parameters value, meaning that they lowered the tendency for agencies to create ties. Excluding these effects potentially explains the inflation of *IOSCO activity*, which now has a large negative parameter value ($b=-1.304$; $S.E.=.238$). For these effects, time heterogeneity seems to be an intrinsically interesting phenomenon in itself. However, given that the exclusion of these effects did not significantly alter our main parameters of interest, a further in-depth analysis of time heterogeneity effects currently exceeds the scope of this chapter.

Interpretation of Findings

Overall, the analysis showed a strong triadic closure effect for both periods. In particular, the GWESP-effect provided a good fit, meaning that in its effect on the likelihood of tie formation, the number of shared partners between agencies has decreasing returns. In other words, the first shared partner has a stronger effect on the likelihood for tie formation than do the 6th or 7th shared partner. Although triadic closure is sometimes interpreted as to be driven by an externalities mechanism, in which shared partner create a stronger interdependence between actors raising the likelihood for tie formation among them (see Kinne 2013), this observation of decreasing returns raises confidence in an information mechanism being at work. After all, for the externalities mechanism we would expect the likelihood of tie creation to increase with each additional shared partners, a pattern not found in the data.

Note that the absence of an assortativity and popularity effect also allow us to draw some conclusions about the way in which information signals play a role in the formation of inter-agency network ties. The number of ties an agency maintains (i.e. its degree centrality) apparently tells us relatively little about the way in which future ties develop. This means that either degree centrality is not a very good operationalization for measuring high-status or popular agencies, and that proxies such as market size are potentially a better candidate. Or it could mean that status or reputation is simply not an important consideration for agencies when forming bilateral agreements. This latter point may reflect the consideration that, given the extensive time and effort that can go into negotiating such agreements (see IMF, 2007: 109), there should always be an instrumental purpose underlying their formation. A triadic closure effect is compatible with such an instrumental purpose, given that it assumes the initiation for such agreements to have a functional necessity but that the potential uncertainties underlying such agreements leads to the expectation that such agreements are more likely to form when agencies have shared partners than when two agencies are otherwise unconnected. With the other

two types of explanations, however, this complementary function is apparently lost, given that popularity effects purely rely on status or reputational considerations, and the assortativity effect means that limiting the formation of agreements with similarly-connected agencies undercuts the instrumental purpose of cross-border collaborations.

Regarding exogenous factors driving network formation patterns, we should consider that the high value of institutional activity within IOSCO. This may reflect the consideration that “institutionally active” agencies get their information signals about other regulators from institutionalized multilateral platforms. In other words, agencies active within the institutionalized settings of IOSCO more often meet other regulators in the working groups or committees part of these settings, and can estimate the reliability of a partner through participating in these settings. Triadic closure mechanisms might then primarily be important for those not very active in these kind of settings, which is, based on the working group participation within IOSCO, still the biggest part of the agencies in the sample (99 out of 143). Still, we should also note that those active within multilateral setting may simply have a higher need for transnational collaboration and that this explains their higher likelihood to form agreements.

Lastly, the significance of several homophily-effects regarding agency characteristics also point to interesting dynamics regarding inter-agency agreement formation. The significance of such effects may reflect the consideration that for similar countries the transaction costs of agreement formation are lower. For MOUs in particular, having similar provisions regarding the disclosure of information or presumptions of privacy, making the formation of agreements arguably easier. In that sense, having a similar legal framework or administrative tradition can remove important barriers toward collaboration. Such similarities likely create greater understanding and predictability of each other’s behaviour (see Baccini 2014; Efrat & Newman 2018).

3.6 DISCUSSION AND CONCLUSION

This chapter assessed the applicability of a network-analytical perspective to study patterns of tie formation in a transnational network of information exchange agreements between securities regulators. The analysis provides clear evidence for the presence of network effects in the formation of bilateral agreements over time. Most prominently, tie formation is driven by *triadic closure*: having shared partners influences the likelihood that two agencies will also form a bilateral agreement amongst

themselves. This finding is consistent with the first hypothesis and supports the line of reasoning that agencies use their existing network relationships as information signals to guide future partner selection choices. Moreover, the effect was robust for different periods of analysis and the inclusion of a number of potential alternative explanations.

However, other hypothesized network effects hardly play a role in tie formation patterns over time. Mechanisms of *preferential attachment* and *degree assortativity* provided little explanatory leverage in the context of information exchange agreements between regulatory agencies. This questions the applicability of these theoretical insights - primarily derived from studies of inter-firm partnerships within market settings - to the more public context of regulatory collaboration (see Isett & Provan 2005). Still, *homophily* effects regarding actor attributes *do* play an important role in the formation of bilateral ties, as agencies that share administrative traditions and have a similar sized economy are more likely to form an MOU than agencies that do not share these characteristics. This seems consistent with recent findings from studies that have looked at the importance of (domestic) institutional similarity in the formation of information-sharing agreements (see Efrat & Newman 2018).

All in all, the findings of this chapter speak to scholars that have looked at globalizing administrative patterns in several ways. First, the study provides a basis for theorizing on the kind of network effects to expect when analyzing how transnational relationships between regulatory and administrative agencies from various jurisdictions form and develop. Although a metaphorical usage of the network-concept has long been used to think about such transnational forms of collaboration (see Rausitala 2002; Eberlein & Newman 2008; Bach & Newman 2010), the explicit modeling approach of this chapter gives these intuitions regarding network effects a more precise theoretical formulation. Second, by utilizing new developments in the field of statistical network models, the analysis demonstrated how these hypothesized effects can be subjected to rigorous empirical testing. In that sense, a type of inquiry that has been applied in the fields of international relations and policy research (see Kinne 2013; Snijders & Pickup 2018) also provides promising directions for the study of transnational regulatory networks.

The policy implications of the presented study should also be considered. In particular, the analysis demonstrated that collaboration is driven by triadic closure and that shared partners can thus help agencies to overcome barriers to collaboration. These findings can be of interest to international organizations and institutions (or domestic agencies) concerned with promoting transnational collaboration and point to the

important role they can play in helping agencies overcome these barriers by acting as brokers themselves or by providing platforms or opportunities for agencies to meet. In this way, they can help overcome potential fragmentation emerging from triadic closure tendencies and facilitate collective action at the transnational level (see also Feiock & Scholz 2010). The consideration that IOSCO has partly taken up this role, may explain the insurgence of memorandum-like agreements in the field of securities (see Verdier 2009; Brummer 2009), and serves as a potential guideline for policy-makers in other fields as well.

In future research, scholars are encouraged to assess the generalizability of findings, beyond the context of transnational collaboration between securities regulators. Given that the form of collaboration studied in this chapter is typical for many different types collaborative settings (see Yang & Maxwell 2011; Efrat & Newman 2018), we can reasonably expect the network dynamics found in this chapter to be present in various forms of collaboration relevant to public administration research. However, comparing different research contexts gives us a better idea of how network effects vary across research settings and what particular contingencies potentially influence inter-agency agreement-formation. Moreover, considering the strength of relationships between agencies (e.g. by looking at the extensiveness or number of agreements) or the way in which patterns of collaboration spill-over across regulatory sectors may provide promising lines of future inquiry.

Also, scholars should look more carefully into the time dimension of network evolution. Although this study incorporated a longitudinal design that helped us establish temporal order and enabled us to better distinguish between selection and influence effects (Steglich et al. 2010), it did not explicitly theorize on how exogenous shocks or factors (financial crises, institutional activity) influence the existence, strength, and directions of network effects over time. However, given the findings of this study, in which the parameter values differed between periods of analysis, this seems a promising avenue for future research. Time heterogeneity is not merely a modeling consideration, but a intrinsically interesting phenomenon in itself (see Lospinoso et al. 2011).

Lastly, the specifics of agencies' decision-making regarding transnational cooperation warrant further scrutiny. In this chapter, it is assumed that information or reputational cues play an important role in this regard, emphasizing the way in which agencies use these cues to deal with uncertainty. However, insights about the motivations for actual decisions can only be verified through more in-depth qualitative evidence in which involved actors reveal what they did and why. Then we can

also start to think about how these decision-making dynamics might be relevant for other kinds of organizational outcomes, such as decisions of standard adoption (Maggetti & Gilardi 2011) or network membership (Bach & Newman 2014). In that sense, network relationships as an independent variable can potentially be linked to a number of other variables that are of interest to scholars in regulatory decision-making. For understanding globalizing administrative patterns as they develop, it will then be important to keep asking who is linked to whom, what is the nature of those linkages, and how do these linkages affect behaviour.

Chapter 4

Partner Selection and Decision-Making Uncertainty

ABSTRACT¹⁹

Recent decades have seen a rapid increase of cross-national interactions between national regulators and ministry officials from various jurisdictions. However, we know fairly little about how (public) officials operating in transnational environments decide with whom to establish and maintain close network relationships. Particularly when operating within complex environments, the number of potential partners is relatively large, while time, information processing capabilities, and resources are generally restricted. Because of this, considerable decision-making uncertainty is likely to underlie transnational collaborative choices. In response, this chapter develops a conceptual model that specifies contingencies at different levels of analysis (network-, organizational-, and individual-) and argues how they mitigate such decision-making uncertainty. To substantiate this argument, we draw on empirical material derived from 16 semi-structured interviews with Dutch (senior) public officials involved in international financial regulation. In particular, we use these interviews to illustrate the uncertainty that characterizes partner selection in complex networked environments and theorize on the specific contingencies that exacerbate or mitigate this uncertainty.

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4.1 INTRODUCTION

Recent decades have seen a rapid increase of cross-national interactions between national regulators and ministry officials from various jurisdictions. Whether one talks about regulators negotiating about banking standards in Basel (Tarullo 2008), or ministry officials preparing policy in Council working groups (Beyers and Dierckx 1998), the emerging image of administrative practice seems to be one of multiple actors and organizations that are linked to each other across national borders, often in complicated ways (Stone and Ladi 2015). The interpersonal communication networks that (public) officials establish and maintain in these settings are valuable for their home departments and agencies: they provide them with access to relevant information and resources, help them learn about potential policy problems and solutions, and create the potential for forming alliances and coalitions with like-minded partners (Alexander et al. 2011).

Besides these potential gains of collaboration, however, costs are also involved (Agranoff 2006; Feiock 2013). In particular, it can be hard for domestic officials to acquire information regarding the preferences, capabilities, and trustworthiness of potential partners (see Carpenter et al. 2003; Leifeld & Schneider 2012), particularly when such information must be acquired across national borders (Hamilton & Lubell 2018). Identifying suitable partners for transnational collaboration thus requires extensive time and effort on behalf of domestic officials, while the networking capacities and resources of their agencies are inevitably limited. Because of this, considerable uncertainty may underlie collaborative choices at the transnational level, particularly when also considering the multiplicity of venues and diverse array of actors by which transnational policy arenas are typically characterized (Ansell & Torfing 2015; Berardo & Lubell 2019). To understand transnational administrative patterns as they continue to develop (see Stone & Ladi 2015; Mastenbroek & Martinsen 2018), it is thus crucial to understand how such uncertainty affects transnational partner selection. This is the theoretical question to which this chapter turns.

At the conceptual level, uncertainty generally refers to the difficulty of predicting the future, which comes from incomplete information (see Pfeffer & Salancik 2003). Uncertainty in relation to partner selection, then refers to the difficulty of predicting how prospective partners will behave, given a lack of information about their preferences, capabilities and trustworthiness. Such uncertainty is theoretically important to consider, because it problematizes established drivers of collaboration such as preference similarity (Henry et al. 2010; Gerber et al. 2013) or perceived influence (Weible 2005; Park and Rethemeyer 2012), given the extensive

information-processing capabilities it requires from individual decision-makers (see Jones, 2001). Moreover, from a practical standpoint, such uncertainty potentially leads to suboptimal choices for domestic agencies regarding collaborative ties and the information and influence derived from them.

Important to note, however, is that the decision-making uncertainty underlying collaborative choices can also be mitigated. For instance, policy network scholars have emphasized the role that the institutional context of collaboration can play in this regard (Leifeld & Schneider 2012; Scott & Thomas 2015), and these insights are relevant for understanding patterns of transnational collaboration as well (see Keohane 2005). In particular, the working groups, task forces, or committees through which much of such collaboration occurs, present domestic officials with a clearly defined pool of potential partners with whom they have a chance to become acquainted (see also Fischer & Sciarini 2016). This reduces decision-making uncertainty regarding the selection of appropriate partners, as these institutionalized structures make information about potential partners more accessible and easier to obtain. However, despite these important advancements in theorizing about partner selection in collaborative settings, several issues require further consideration.

Firstly, although scholars increasingly find that, on average, joint participation in institutionalized settings and bilateral collaboration are correlated (Leifeld & Schneider 2012; Lubell et al. 2017), such findings tell us relatively little about the potential moderating role that the different characteristics of these settings can play. Importantly, the institutional settings through which collaboration occurs may vary considerably, for instance in terms of the number of participants, their institutional rules, or the frequency at which meetings occur (Choi & Robertson 2014; Fischer & Leifeld 2015). By extension, the degree of decision-making uncertainty underlying collaborative choices can thus also be expected to vary across institutional settings, contingent on its characteristics and the degree to which they provide policy actors with easy access to information about potential partners. However, there is currently little theoretical guidance on what characteristics are most important to consider in this regard, particularly in the context of transnational collaboration.

Secondly, besides the institutional setting, characteristics at the organizational- and individual-levels seem equally important to consider when looking at decision-making uncertainty in the context of collaborative choices. Organizations typically have different structures and resources, potentially influencing the capacity of its members to operate collaboratively (McGuire & Silvia 2010). For instance, the existence of explicit boundary-spanning roles or *internal* coordination structures likely

affect the way in which organizational members engage in collaboration (see 6 et al. 2006). Moreover, organizational members themselves differ on a number of characteristics, such as in their experience with collaborative settings or their expertise about the policy issues discussed therein (Juenke 2005; Meier & O'Toole 2010). These characteristics can similarly be expected to mitigate decision-making uncertainty underlying collaborative choices, given that they have a likely influence on the time and effort officials require when searching and evaluating collaborative partners.

To better understand the uncertainty involved in collaborative choices in a transnational context, this chapter thus studies the collaborative choices of public officials in complex networked environments, and asks the following research question: *What contingency factors at network, organizational, and individual levels potentially affect the decision-making uncertainty underlying partner choices in transnational collaborative settings?* Answering such a question helps to better understand the (theoretical) relationships between collaborative/institutional settings and the networks that exist within them (cf. Ostrom 1998; Emerson et al. 2012). Moreover, by also shifting the analytical focus to the individual officials that operate in these settings and the organizational contexts from which they do so, it provides more consideration of the cross-level factors that may be influential for collaborative choices (see Brass et al. 2004). In that sense, the goal of this chapter is *theory elaboration* (see Fisher & Aguinas 2017; Ashworth et al. 2018), in which it brings together and specifies contingency factors at different levels of analysis potentially affecting the uncertainty that domestic officials experience when choosing transnational collaborators.

Importantly, developing such a conceptual model also has practical relevance. For policy-makers involved in managing and coordinating transnational networks, it can help to develop institutional settings that facilitate collaborative behaviour on behalf of participants and the development of trust between them (see Keohane 1982; Klijn & Koppenjan 2004). In particular, given the differences between participating actors and the resources and capabilities that they have, thinking about institutional design through the lens of mitigating the decision-making uncertainty underlying collaboration can help to establish more of a level-playing field (see Hamilton & Lubell 2018). Moreover, for domestic agencies involved in increasingly complex patterns of networked collaboration, identifying contingencies at the organizational and individual-levels provides guidelines about the kind of organizational structures and routines that create capacity for their officials to “operate collaboratively” (see McGuire & Silvia 2010). This arguably helps domestic agencies to better cope with the increasingly complex transnational environments in which they have come to operate.

To substantiate this chapter's theoretical claims, it draws on semi-structured interviews with 16 Dutch (senior) public officials involved in international financial regulation. In particular, these interviews are used to illustrate what characterizes the problems of partner selection that domestic officials face in complex networked environments and theorize on the specific conditions that potentially exacerbate or mitigate these problems. This provides the basis for a conceptual model which formulates propositions on the contingency factors affecting the uncertainty underlying collaborative choices. Note that financial sector regulation presents domestic agencies with a wide variety of actors and institutions operating within a highly dense system of rules, regulatory standards, and international agreements (Frieden, 2016; Alter & Raustiala 2018). In that sense, the research context of our study is understood as a prototypical complex environment for which uncertainties underlying collaborative choices are expected to be particularly high. This gives us a research context in which the phenomenon of interest is more likely to be "transparently observable" (see Eisenhardt 1989).

Below, the research context of this study is firstly discussed, as to provide a better understanding of what transnational collaboration entails and why questions of partner selection and decision-making uncertainty are relevant to consider. Second, a separate section discusses the main theoretical framing of this chapter, by reviewing literature that has looked at partner selection in (networked) policy settings and considering the different levels at which contingency factors might occur. Third, the overall study design is provided, describing the data collection procedures and analytical strategy of this study. Fourth, the analysis of is presented, which describes the empirical material leading to a discussion that formulates propositions on the contingencies expected to affect decision-making uncertainty underlying collaborative choices. The chapter ends with a conclusion that notes the implications of the developed model and gives suggestions for future research.

4.2 RESEARCH CONTEXT

Often characterized as a natural outcome of governance frictions and economic interdependence in an increasingly complex and globalized world, transnational administrative networks have developed in diverse policy areas, such as energy, telecommunications, crime, privacy protection, human rights, international competition, and financial markets regulation (Slaughter 2004; Levi-Faur 2011). Within these networks, regulatory and ministry officials regularly interact on a face-to-face basis, often outside of the scope of direct political supervision (Raustiala 2002).

Besides sharing information and best practices, these networks are concerned with preparing policy advice or formulating and harmonizing regulatory rules and standards, aimed at guiding the conduct of member agencies.

Particularly the field of international financial regulation has seen an “alphabet soup” of international organizations and standard-setting bodies that can be characterized as (transnational) networks (Ahdieh, 2015: 76). Among them are the Basel Committee on Banking Supervision (BCBS), the Financial Action Task Force (FATF), the International Association of Insurance Supervisors (IAIS), and the International Organization of Securities Commissions (IOSCO) at the global level, as well as more institutionalized platforms at the regional level, such as the various ESA’s in the context of the EU. Within the institutionalized settings of these networks, interaction between national officials primarily occurs through the various working groups, commissions, or task forces, which carry out most of its operational work. Besides these more structured interactions, however, regulators also meet each other informally on a more ad hoc basis.

Within and around the institutionalized settings of these networked organizations, complex patterns of interaction thus exist between regulatory and ministry officials from various countries. On the one hand, these officials are connected to each other through their joint participation in one of the working groups or commissions that make up the overall structure of the transgovernmental network. Being connected in such a way simply means receiving the same group mails or periodically attending the same meetings. On the other hand, officials selectively coordinate their actions with a limited number of foreign counterparts. This is the level at which officials interact with others to exchange information, monitor and align political behaviour, and develop, communicate, and potentially implement a common plan of action (see Calanni et al. 2015; Scott and Thomas 2015). These latter patterns of interaction are the main focus of this chapter, with a specific theoretical interest in the uncertainties underlying the particular choices of domestic officials about with whom to engage in such close communication and information exchange.

Two specific types of interaction are relevant to consider in this regard. Firstly, given that decisions by transnational policy-making bodies have potentially large implications for national jurisdictions (Bach and Newman 2010; Maggetti and Gilardi 2011), national officials representing these jurisdictions have a stake in trying to influence them. To do so, these officials need to find partners from other jurisdictions with whom to coordinate their actions and exchange political-strategic information to steer decision-making into their favoured direction. Such information gives them

an idea about the positions of other actors on pending policy decisions, what future developments regarding policy issues are relevant to consider, and which potential pathways they have to try to influence them.

Secondly, network interactions between officials are assumed to also serve a more practical or instrumental purpose. Due to the technical advancements and increased economic interdependence of recent decades, regulating financial activity has become increasingly complex. The number, level of detail, and subject matter of international agreements within financial regulation has grown exponentially, complicating the external environments of national authorities (Alter and Meunier 2009). To then still fulfil policy and regulatory tasks effectively, a great amount of specialized technical knowledge is required, for instance about the magnitude of regulatory issues being addressed and the probable impacts of alternative policy decisions to solve them (Sabatier, 1978: 397). Although some of this specialized knowledge already resides within the organization, network relationships are a potentially beneficial and cost-effective way of acquiring further knowledge (see Vestlund 2017; Vantaggiato 2019).

Besides these different types of interaction relevant to transnational patterns of collaboration, several other complicating factors are also noted. Most prominently, the officials involved in these settings vary considerably in terms of their hierarchical positions, ranging from agency- or department-heads participating in the core decision-making bodies of the more important networks, to junior or senior policy advisors and experts working out technical details in one of the preparatory bodies. Transnational interactions thus play out at different levels, in different forms, and occur between a highly diverse group of officials. Below, we further discuss these issues, focussing particularly on potential drivers of collaboration as identified by the literature on policy networks and discussing them in light of decision-making uncertainty.

4.3 THEORETICAL FRAMEWORK

Partner Selection and Decision-Making Uncertainty

Given the complex patterns of interaction that exist within and around the institutionalized settings of transnational collaboration, this chapter's theoretical interest is primarily in how domestic officials operating in these environments select their collaborative contacts and the uncertainty associated with choosing these contacts. Similar to other kinds of collaborative governance settings studied in the public

administration literature (see Emerson et al. 2012), these collaborative contacts help officials to acquire relevant information and resources, help them learn about potential policy problems and solutions, and create the potential for forming alliances and coalitions with like-minded partners (Alexander et al. 2011). However, given that officials are limited in the number of collaborative contacts they can simultaneously maintain, we assume they have to be selective in choosing them.

Based on a scholarship studying policy networks, two main frameworks can be identified to better understand such choices and theorize on why policy actors typically connect to some but not others. First, a main assertion of many scholars studying interaction in policy arenas is that actors will establish contacts with like-minded actors in terms of (policy) beliefs or values (Henry et al, 2010). *Preference similarity* is thus held to be an important driver of partner selection and several scholars have provided empirical evidence for this line of argument (Weible 2005; Gerber et al. 2013). Second, scholars departing from Resource Dependence Theory (RDT) argue that policy actors will use collaborative ties to maximize one's access to (political or technical) resources (Park and Rethemeyer 2012). Actors thus seek out partners they perceive as influential or technically competent, due to their control over (or access to) critical resources such as information, technology, personnel or political clout (Henry 2011; Matti & Sandström 2011).

However, when translating these frameworks to how decision-making occurs at the individual-level, we also note that making such assessments about potential partners require considerable information-processing capabilities on behalf of network actors. For instance, explanations related to preference similarity assume a well-defined policy space in which preferences of potential partners and that of the choosing actors are known. However, for complex and newly emerging issues, this is typically not the case and actors might actually enter policy arenas to “discover” their own preferences, as well as that of others (Jones, 2001: 102). Similarly, assessing other actors' influence or technical competence is also potentially difficult when having to choose between a large number of actors that are relatively unfamiliar (Hamilton & Lubell 2018). In practice, considerable uncertainty may exist about the trustworthiness, capabilities, and preferences of potential partners, further complicating collaborative choices.

In response to these issues, policy network scholars have theorized on the ways in which institutional settings can mitigate some of this uncertainty and help facilitate collaboration. Most importantly, the joint participation in particular working groups, commissions, or task forces provide policy actors with a pool of potentially

relevant and suitable partners to choose from, helping them to minimize search costs (Leifeld & Schneider 2012; Fischer & Sciarini 2016). Moreover, regular meetings of these institutionalized venues facilitate communication between participating actors and gives them the opportunity to learn about each other's preferences. This makes decisions about the formation of network ties arguably easier as several barriers toward collaboration are taken away (Scott & Thomas 2015). In particular, for officials deciding on collaborators, such settings can mitigate decision-making uncertainty by providing easy access to information about the preferences, interests, and trustworthiness of prospective collaborators, making their future behaviours more predictable.

However, we should note that joint participation in working groups or commissions and close collaboration between actors are not synonyms. Institutionalized settings may vary in terms of the number of potential collaborators (Hertz & Leuffen 2011), their importance (Fischer & Sciarini 2016), decision rules (Choi & Robertson 2014), as well as the frequency at which meetings occur. These factors potentially raise the unfamiliarity between actors participating in similar institutional venues, and seem particularly relevant to consider for transnational settings (Hamilton & Lubell 2018). In large commissions or working groups, for instance, actors may sit across the table from one another but never interact or engage in collaborative efforts. The finding that, on average, joint participation in institutionalized settings and bilateral collaboration are correlated (Leifeld & Schneider 2012; Lubell et al. 2017), provides little evidence on the way in which these settings mitigate decision-making uncertainty, nor about what specific characteristics of these settings are most important to consider.

Moreover, besides dimensions of institutional structure, factors at the organizational- or individual-level seem equally relevant when studying decision-making uncertainty, but are rarely incorporated into studies of (the formation of) policy or administrative networks. Firstly, officials work from within a given agency structure, which likely influences their capacity to operate collaboratively (McGuire & Silvia 2010). This structure allocates work roles and largely determines the way in which organizational officials are related to the external environment (Child 1972). As Simon (1945: 79) already observed, an important function of the organization is “to place the organization members in a psychological environment that will adapt their decisions to the organization objectives, and will provide them with the information needed to make these decisions correctly”. In that sense, organizational characteristics are likely important for coping with uncertainty regarding partner

selection, as they allow for more focused and efficient information processing about the capabilities, trustworthiness, and preferences of potential partners.

Secondly, agency officials establishing and maintaining collaborative contacts likely differ in terms of their transnational experience and the informal networks they have already built up, as well their expertise regarding the issues discussed in transnational policy settings (Juenke 2005; Meier & O'Toole 2010). This means that officials also differ in terms of their capacity to perform the decision-making task of partner selection (Taylor, 1975). For instance, experienced actors typically have better mental representations of the policy spaces of the networks in which they operate, as well as a higher sensitivity toward the constellation of other actors and their interests (see Hileman & Bodin 2019). This arguably makes decision-making situations about potential partners less uncertain, as experience implicitly encodes information relevant to such decisions. Moreover, expertise on policy issues likely facilitates the more efficient processing of such information. Particular individual-level characteristics thus arguably simplify decision-making and this suggests the importance of a learning effect in selecting reliable and trustworthy partners (see Dall et al. 2012).

Overall, contingency factors at three levels of analysis are thus relevant to consider when studying decision-making regarding partner selection and its underlying uncertainty. The mechanism by which these factors can be expected to mitigate decision-making uncertainty is by providing domestic officials with easier access to information on the preferences, capabilities, and trustworthiness of potential transnational partners. Although some of these contingencies are hinted at in the above-provided discussion, many still require further elaboration. In the empirical analysis below, we further analyze the role that these and other contingency factors are likely to play in domestic officials' decisions on transnational collaboration. Then we can more clearly identify what specific contingency factors are important and theorize on how they matter for the uncertainties underlying collaborative choices. First, however, the data collection and analysis procedures are described.

4.4 OVERALL STUDY DESIGN

The presented analysis is based on qualitative research in the form of semi-structured interviews. Such a method of data collection is justified because the goal of this research is *theory elaboration* (see Lee et al. 1999; Fisher & Aguinis 2017). In other words, the consideration that institutional, organizational, and individual charac-

teristics can mitigate decision-making uncertainty regarding partner selection is a theoretical starting point of this chapter, and the analysis focuses on what these characteristics might be and how they might do so²⁰. The strength of a qualitative design then lies in the consideration that these characteristics can emerge from the data in an open-ended way. Existing concepts are thus used to collect and organize the data, particularly as input to interview guidelines and an initial coding scheme. The analysis helps to further specify these concepts and theorize on how they are related to the main outcome of interest, i.e. decision-making uncertainty regarding collaborative choices. Before we describe how this done, however, a justification of the studied cases is first provided.

Case selection and Scope Conditions

Looking at transnational collaboration patterns in the field of financial regulation is suitable for the purposes of this research for several reasons. Firstly, national agencies within this sector typically operate in a wide variety of transnational policy settings, both at the regional and global levels, as well as in various degrees of institutionalization (Brummer 2011; Newman & Zaring 2013). This means that there is a lot of variation in terms of the institutional settings in which interviewed respondents operate, allowing us to compare and collect data on the importance of different characteristics of these settings.

Secondly, the Dutch context is suitable given that it allows for comparison between three different organizations involved in transnational regulation and policy-making, while the nature of the collaboration in which they engage is largely held constant. The ministerial department mainly does transnational policy work in the context of the EU, but is also involved in global platforms such as the FSB. Moreover, given the twin peaks model of supervision that exists within the Netherlands, responsibilities for financial sector regulation are split between two separate agencies, with the AFM responsible for securities regulation, and DNB responsible for banking, insur-

20 As noted in the introduction chapter, this form of theory elaboration is referred to as *construct splitting* in which existing theoretical constructs are split into specific dimensions based on qualitative data (see Fisher & Aguinas, 2017: 446).

ance, and pensions regulation (DNB)²¹. This allows for comparing officials engaged in transnational network activities within three different organizational contexts.

Data Collection & Analysis

In the period between April and June 2017, face-to-face interviews were conducted with 16 Dutch officials involved in international financial policy and regulation. These respondents occupied different positions in the regulatory policy departments at either the Dutch Ministry of Finance (n=4), DNB (Dutch Central Bank) (n=7), or AFM (Securities Regulator) (n=5)²². The one common denominator of these respondents is that they were all heavily involved with international networks, at either (or both) the European or global level. The respondents were identified through a combination of snowball and purposeful sampling, in which heads of departments were firstly approached for an interview. These heads of departments were asked to identify different individuals in the organization involved in the different networked settings in which the agency or ministry engaged. Maximum variation in terms of networked settings was thus an important criterion for identifying the different respondents.

Drawing on a topic list, these respondents were interviewed (45 minutes on average) by the author in a semi-structured fashion. Topics discussed in the interviews were – inter alia – the kinds of international platforms in which they participate, how they prepare for international meetings, who their contacts are, what channels they use to influence the international regulatory process, and how they went about selecting partners and for what reasons. *Grand tour questions* were asked about what a typical preparation for international meetings looks like (Leech 2002), as well as example questions about issues discussed in international meetings. Moreover, explicit probing was carried out for the way in which the respondents identify potential collaborators and what the difficulties are in this regard. The interview guide is provided in the Appendix A.

21 For regulatory matters, DNB primarily participates in CPSS (payment & settlement), IAIS (insurance), IOPS (pensions), BCBS (banking), BIS (banking), Joint Forum (general finance), OECD (WG's on insurance and pensions), IMF, PPSC (payment & settlement), EBA (banking), EIOPA (insurance & pensions), SSM (banking), and ESRB (together with AFM). The AFM participates in IOSCO (securities), IFIAR (accountancy), FinCoNet (consumer protection), ESMA (securities), ESRB (together with DNB), CEAOB (accountancy), and OECD working groups. The transnational activities of the ministry primarily focus on the EU, e.g. Council Working Groups and the ECOFIN, but also operate at the global level in platforms such as the FSB.

22 In particular, we focussed on specific departments within these organizations most involved with regulatory policy. For the Ministry of Finance, this was the department Financial Markets, for AFM, the department Strategy, Policy, and International Affairs, and for DNB, the department Supervision Policy.

To analyse the interviews more systematically, the recordings were transcribed and analysed through a process of coding. Three steps were involved in moving from the raw interview transcripts to further theorizing on decision-making uncertainty and partner selection. Firstly, *topic* coding was used to identify passages relevant to decision-making uncertainty regarding partner selection (see Richards, 2015: 110). These passages typically hinted at the time and effort needed for making contact and identifying preferences, capabilities, and trustworthiness of other actors. Secondly, passages describing institutional-, organizational-, and individual-level characteristics were identified and categorized according to the level at which they belonged. This gave a selection and initial ordering of interview passages relevant to the theoretical question of interest.

As a second step, this collection of passages was then reviewed as to develop analytical categories (Richards, 2015: 110-112). This *analytical* coding was used to interpret and further select passages categorized under different levels of characteristics, particularly assessing which of these passages were relevant for decision-making uncertainty underlying collaborative choices. Moreover, at this stage more specific codes were attached to the passages as to signify specific characteristics (see Fisher & Aguinas 2017), such as “network size” at the institutional level, or “international experience” at the individual level.

Lastly, the identified categories were related to the existing literature on collaboration and decision-making as to signify their meaning, and to formulate specific propositions on how the identified characteristics were important for decision-making uncertainty underlying partner choices. For this last step, the identified categories were primarily evaluated in terms of their likely effect on the time and effort needed to identify information about potential partner and their preferences, capabilities and reliability (the core mechanism identified in the theoretical framework). This theoretical interpretation of the interview passages leads to the conceptual model developed in the discussion section of this chapter.

4.5 ANALYSIS

As a precondition to identifying characteristics affecting the decision-making uncertainty underlying collaborative choices, a first step is to establish that such uncertainty is actually an issue for the respondents of this study. This is what is done in the next section. Then separate sections present empirical material pointing to

the importance of particular characteristics at three different levels of analysis (i.e., the network-, organizational-, individual-levels).

The Problem of Partner Selection

From the interviews, the need for transnational collaboration quickly becomes clear. In particular, given that the substance of rules and regulations that flow from international arenas can differ considerably from the rules and regulations that they currently have in place, national authorities will have a stake in influencing them. However, doing so is a rather burdensome task and requires them to devote considerable resources, both in terms of time, staff and travel expenses. This means regulators will have to prioritize, assessing what standards at what venues are (or become) potentially important for their own jurisdiction. Moreover, given that domestic officials are unlikely to be influential going at it alone, they will have to seek out partners that share similar stakes or interests in order to shift discussions in these international fora in a - to them- favourable direction.

Because of this, established drivers of collaboration such as preference similarity and perceived influence play an important role in officials' motivations for collaborating with certain partners. Respondents frequently talk about their "natural partners", whom they know think about certain issues the same way. As one regulator stated, *"if there's an important issue, for us, coming up, for which we know there will be a lot of difference of opinion, we try to mail, call with similarly-minded countries, to see how we can best go into such a meeting"* [R4]. Similarly for perceived influence, many respondents expressed a preference for working with the "big countries", that are influential and resourceful. In discussing collaborative partners one respondent noted: *"you know, these nine countries, why did we choose them.. [because] they are all big, semi-big [countries]. I mean, the small ones... they just don't have the capacity"* [R6].

However, identifying these preferences and capabilities of actors is not as straightforward as it sounds. Given the wide variety of different topics that are dealt with in financial regulation, the cards are constantly being reshuffled for every new topic or issues that national officials have to deal with. Although respondents typically talk about "natural partners" with whom they share similar interests, they are quick to emphasize that *"your natural partners differ per topic"*. A senior regulator noted that *"for me, it is not really the case that you have a fixed group [...] you really have to search your coalition depending on the topic"* [R3]. Moreover, given the fast developments and innovations in international finance, regulators are also often confronted with topics on which they have not yet formed a position. As one regulatory official noted in preparing an international meeting with an extensive agenda, *"it is our role, given*

these 25 points, to ask, how important is this [for us],, what is the constellation of power,, do we have a chance?" [R5].

As a consequence, the search for suitable partners can be rather complex and uncertain. For each new issue, you will have to find out what the policy positions of other network participants are. Moreover, you have to know which potential partners actually want to collaborate, whether they are trustworthy, and which ones are capable enough to reciprocate your own efforts. This information about other actors is not always clear, nor are all other network participants equally approachable. As one senior regulator remarked, *"if you're in a project group, then you have really active countries, that are just involved. Some countries are not very active in the project group and you have to reach them at a different level"* [R4]. In terms of approaching collaborators, another agency official noted: *"most big countries have a separate desk, a [network-X] desk that you can contact... I also once sent an email to [a smaller agency], to ask who did the coordination [of network-X].. It turned out to be director himself. So that complicates things"* [R5].

Besides the difficulties in identifying or reaching particular partners, the trustworthiness of others is sometimes also difficult to assess. In the interviews, several respondents complained about collaborators who are "indirect" in their communications or even "unreliable". In discussing potential partners for collaboration, one senior regulator noted how, *"with the guys from [country X] I just communicate better, with [regulators from country y] it always stays with niceties, but... what do you really think"* [R3]. Similarly, a ministry official remarked after striking a deal with a foreign counterpart: *"with them, you're never completely certain, whether you're being played with, let me put it that way"* [R16]. In that sense, risk of defection always remains an issue.

Given these considerations, domestic officials will suffer considerable search costs in finding suitable transnational partners, as information about others' capabilities, reliability and motives is typically imperfect. Overall, dealing with decision-making uncertainty underlying collaborative choices is thus an important issue for domestic officials engaged in transnational collaboration.

Institutional Settings

The above-described issues problematize the selection of transnational partners for domestic officials. However, as already argued in the theoretical framework, the institutionalized settings through which transnational collaboration occurs, can help to mitigate some of these problems, particularly in terms of dealing with the decision-making uncertainty underlying collaborative choices. The interviews

provide extensive anecdotal evidence for this consideration. As one senior official noted in discussing the way in which he contacts collaborators, “[...], usually you speak with the people from your committee, that is your first point of reference. You know them, you experience them in meetings, you sometimes have had dinners with them. Those are the people with whom you have had the most contact.. so you’ll speak with them first” [R3]. The working groups, commissions, task forces in which domestic officials participate thus help them to delineate their choice set of potential partners. Moreover, through the interaction occurring within these groups, they can become acquainted with them, providing a low-cost strategy to identify and select appropriate partners.

Notably, institutionalized settings fulfil such a mitigating role for both political and technical information exchange. For political-strategic information exchange, one regulatory official described how in looking for potential partners, “you look for a coalition with people of whom you know they have similar ideas, and there is only one way to find that out, and that is to make sure you’re in those groups” [R6]. Similarly, for identifying partners with whom to exchange technical information, a securities regulator noted how in the transnational sessions in which he participates, “it becomes more clear what issues are prevalent for different countries. After such as session you can determine, wait.. I have to contact colleagues in Spain or colleagues in Brazil, because they also have problems with their mortgage markets, or whatever” [R11]. Overall, the institutional settings of transnational networks thus provide an important context to collaboration choices.

However, the interviews also demonstrated that these institutional settings vary considerably in terms of their characteristics. Firstly, respondents note how some groups in which they participate only meet two or three times a year, while others do so on a more frequent basis. This *frequency of interaction* is obviously important for how often actors see each other face-to-face and have a chance to become acquainted. In reflecting on his participation in both European and global institutions, one senior regulator noted that “the frequency and intensity in Europe is much higher. So you meet more often and more intensively within Europe than [...] globally. This means you know each other better, are more familiar with their systems. You know more.” [R2]. Similarly, another regulator remarked about a working group that meets relatively frequently: “the advantage of those working groups is, you meet each other multiple times a year. [...] So, if you’re a bit pro-active, within half a year [...] you’ve spoken with everyone in one way or another” [R7].

Secondly, respondents reported a large variety in terms of the number of participants of the working groups, commissions, boards, and task forces in which they participated. While some talked about groups in which only 7 other people participated,

others mentioned numbers up to 30 or more. An obvious consequence from this variation in *group size* is that it determines the time and effort you have to devote to getting to know the others within your group. This leads to selective behaviour on behalf of domestic officials about whom to contact as transnational collaborators. As one regulator mentioned about identifying partners with similar preferences in a relatively big group, *“it’s not that I’m going to call all 28, definitely not... You call, with whom you expect you’ll have the biggest chance that it will work”* [R8]. Similarly, a ministry official noted that *“after a while, you recognize the most important faces. But of course it’s a big group, 28 countries”* [R16].

Thirdly, respondents also report how the *decision rules* of the institutionalized settings in which they participate are important for the way in which they make collaborative choices. In particular, the decision rules within a group determine the degree to which actors can be selective in collaborative choices, or also need information on all other co-participants. As one ministry official noted in reflecting about his partner selection strategy, *“some topics go by unanimity, then you get different kinds of negotiations.... Other negotiations go by QMV, then you see much stronger, I mean, everyone can count how many votes a country represents, and then you can count [...] do I have a blocking minority or not ”*[R15]. Another regulatory official described an instance in which the members of his working group had to reach consensus on a set of recommendations, in which *“it was an intensive process to get everyone on the same line. So it costs quite a lot of time and lot of diplomacy skills and negotiations to eventually get a version that we could back but also the others[...] It was intensive in the sense that we had different conference calls, write different versions, constantly adjusts things, make a new versions, ask reactions, process reactions, or not, [...] So, there was a whole process beforehand”* [R12].

Organizational Characteristics

Besides contingencies at the network-level, it should be noted that organizational settings also matter for the way in which domestic officials operate collaboratively. For transnational collaboration in general, the differences between ministries and agencies are interesting to consider, particularly given that ministry officials typically work with more formalized positions due to the BNC-fiche procedure²³. However, for gathering information on potential collaborators, the way in which transnational network activities are internally structured and coordinated is particularly crucial.

23 BNC stands for ‘Beoordeling Nieuwe Commissievoorstellen’ (Assessment New Commission Proposals), which is a document in which the government assesses new proposals coming from the European Commission. The initial draft is written by civil servants, but it has to be formally approved by the (national) Council of Ministers.

Firstly, the existence of specific units or roles focusing on the strategic aspects and coordination of transnational activities stands out. Both regulatory agencies had special teams of coordinators overseeing transnational interactions that served as *“the internal and external point of contact for all matters related to [network X]”* [R8]. These units have the time and resources to think more clearly about the strategic dimensions of transnational collaboration. Moreover, by assisting or advising experts from other units when engaging in transnational activities, they also help other officials that arguably have less time to do so. As one regulatory official fulfilling such a coordinative role noted, *“in these [preparatory] meetings, possibly we walk through the agenda of the committee in which someone partakes. Just to see, what’s there, what are the issues... Also, to get a sense of, how is it going, what is the structure, what is the vibe, who are the natural allies”* [R8].

Moreover, officials fulfilling these coordinative functions typically also play an important role in the team-based structures that the studied organizations have in place to prepare international meetings. As one ministry official described, *“People always coordinate their input beforehand. So say they go to Brussel, there is an agenda, and they will always say, this and this is on the agenda, these are our interventions, or we will take these positions.. so that I can, before they go, say whether I agree or not, or whether it needs to be different. So that I can do a check,... this indeed is in line with what our position actually is”* [R14]. Similarly, a regulatory official noted: *“At some point, an agenda is released. And I have arranged with the experts that once this agenda is there, the expert plans a meeting.. With me, and possibly also with other colleagues within AFM [...] to get together and walk through the agenda.. And then I can give some generic input”* [R9]. Such structures thus allow for the pooling of expertise and network capacities. The sharing of business cards of potential collaborators or introducing colleagues to your informal network are important other examples in this regard.

Secondly, the *number of venues* in which domestic agencies or ministries participate is important to consider. Respondents of all three organizations carefully reflect on how their organizations have to prioritize in the working groups, task forces, and committees in which they participate, pointing to the *“scarce resources”* or *“fre-resctrictions”* they have to deal with. Moreover, interviewed respondents point to the consideration that if they actually want to be influential in these venues, considerable time and resources are required. As one banking regulator noted, *“if there are points that you think are important, experience teaches that, if you want to be effective to bring in these points, it takes a lot of time and energy. It’s more than just going to the meetings and making your argument. If you want to be effective, you have to lobby. So, then there’s a lot more to it”* [R3]. Because of this, several regulatory officials noted how different

levels of engagement are considered for each working group, task force, or committee that constitute the transnational institutional environment, ranging from not participating at all or only being an “email-member”, to actively “writing” or even trying to become “chair”. Eventually, the limited time and resources that agencies have, needs to be distributed across a large number of venues. The more venues in which agencies participate, the fewer time and resources for each venue they have.

Thirdly, formalization and standard operating procedures that exist within organizations are important for the way in which domestic officials engage in transnational collaboration. Respondents point to the formalized process by which they report on international meetings, and how this has a function in the preparation of future meetings. As one regulatory official described, *“of all meetings a report is made, and that is shared with the relevant colleagues, and that is usually then, on the one hand the report, and others hand the contribution of the experts.... together that is the input for the next rounds. So in that sense, it is an iterative process”* [R7]. Similarly, a ministry official noted how, *“for meetings that officials go to themselves, they have to write reports. And those are saved and that’s basically the archive. And it is always convenient to know, what has been said, and sometimes you need them again, because you cannot remember it all”* [R16]. Importantly, this stored information can be accessed by organizational members when preparing international meetings, even if they were not involved in previous interactions.

Individual Characteristics

At the individual-level, several contingencies are also noted. A first point to consider in this regard is the importance of the *international experience* that officials have in terms of transnational collaboration. Some respondents talk about *“being used to conducting business internationally”* or having to learn how *“everything works internationally”*. Moreover, the contacts you know from one setting can also be important for other settings, particularly when participating in a new working group for the first time. As one regulatory official remarked about establishing contact with foreign counterparts, *“If you’ve been doing this for a while, you run into international colleagues in these working groups... who you know from other working groups. So that helps”* [R7]. Moreover, such experience is crucial for lowering barriers to cooperate, as it allows you to rely more on the informal networks you have built in the past. As one official noted, *“if you have a case that crosses borders, and you have to collaborate, it just helps if you already know someone informally, once had a dinner, or already collaborated with someone during a meeting”* [R12].

Secondly, the *expertise* of officials is noteworthy, particularly given the highly technical policy discussions in which interviewed respondents often engage. As one

regulator noted, “*all of a sudden you are in these policy discussions and it is really hard to see where you are exactly and what you think [about an issue.]... Over time it gets better*” [R7]. Similarly, a ministry official mentioned that “*this area is eventually just very complex, and within our department, my division is also the most technical one... and there is a lot of issues... If you’re new in such an area, you really have to invest in it a lot at the beginning*” [R14]. Although these quotes point to the important mitigating effect that experience is likely to have, it is clear that for highly specialized policy discussions it is potentially harder to evaluate your own (policy) position, as well as that of others. This inevitably complicates transnational collaboration, making the specialized expertise of officials engaging in such collaboration more important to consider.

Lastly, the interviews pointed to the consideration that domestic officials vary on the *available hours* they have for transnational network activities in general and preparation of international meetings in particular. For many respondents, participating in transnational networks is a duty they have *besides* the other core tasks or functions for which they are responsible, while preparing international meetings can take a lot of time. As one ministry official remarked, “*on average, I already lose one day [a week] just calling the different counterparts. And then you also need another day just reading the underlying documents*” [R13]. Such intensive preparation is problematic for officials that do not have such time available. As one regulatory official noted “*On average, I try to devote half a day a week, to this work. It would be good to devote much more work into this*” [R5]. Another regulatory official noted that preparing international meetings simply requires “*a lot of talking on the phone, a lot of conference calls. Ideally you would also meet each other face-to-face, but that isn’t always doable. It just takes too much time*” [R12].

4.6 DISCUSSION

The above-provided empirical materials illustrate the way in which several characteristics at different levels of analysis matter for transnational collaboration. Below, we theorize more concretely on how these characteristics matter for decision-making uncertainty in particular, i.e., by explicitly relating them to the way in which domestic officials acquire information about the preferences, capabilities and trustworthiness of potential partners. Through incorporating literature on collaborative governance and organizational decision-making, the theoretical relevance of the identified characteristics are further clarified and a more specific theoretical model on the way in which they affect uncertainty underlying collaborative choices can be developed. In this model, these characteristics are labelled as contingency factors, given that they are likely to vary from context to context, in that way influencing

the degree of decision-making uncertainty underlying collaborative choices (cf. Oliver 1990).

Institutional Characteristics and Decision-Making Uncertainty

Firstly, at the network-level, the importance of the *frequency of meetings* within institutionalized settings was noted. Within organizational theory, the relationship between frequency of interaction or prior ties and the development of trust is well-established (Burt & Knez 1993; Ring & Van de Ven 1994; Vangen & Huxham 2003). Similarly, for transnational collaboration, participating in the same working groups gives officials a chance to become acquainted and develop trust relationships, mitigating uncertainty about collaborative partners. However, if the groups in which domestic officials participate meet relatively infrequently, there is less chance for face-to-face interaction and to become acquainted with co-participants. In these instances, information about the preferences, capabilities, and trustworthiness of potential partners is likely to be restricted, creating considerable decision-making uncertainty. This reasoning leads to the expectation that:

P1: The higher the frequency of meetings within institutionalized settings, the lower the decision-making uncertainty underlying collaborative choices.

Secondly, the *size of groups* that come together within collaborative settings is important to consider. As noted by Hamilton and Lubell (2018), joint participation in working groups or commissions does not ensure that participants actually interact. Particularly when these groups have a large number of participants, the chances of interaction between two particular members decrease (see also Fischer & Leifeld 2015). Network scholars have also extensively reported on how with each additional network participant the number of potential connections increases exponentially (see Borgatti et al. 2009), making these institutionalized settings more difficult to manage and further complicating patterns of communication. These considerations are important for the uncertainty underlying collaborative choices, as it means that more information is required on a larger number of co-participants. Given that the time and effort that domestic officials can put into acquiring such information is inevitably restricted, a larger group size means that choices about collaborative partners will inevitably be characterized by higher degrees of uncertainty. This leads to the expectation that:

P2: The larger the groups in institutionalized settings, the higher the decision-making uncertainty underlying collaborative choices.

Thirdly, *decision rules* also have a clear role in shaping and constraining the deliberation and decision processes within institutionalized settings (see Choi & Robertson 2014; Fischer & Leifeld 2015). The crucial divide here is between the use of unanimity or majority rules to achieve decision-making. To some extent, majority rules simplify partner selection because domestic officials can focus their attention on a limited number of actors, while others can be ignored. With consensual decision-making, on other hand, also less familiar actors have to be involved. Moreover, actors with more extreme positions have to be facilitated (see Miller 1985). This arguably increases the uncertainties underlying collaborative choices, as more information is needed on a larger number of actors. Moreover, additional time and effort are required in gathering such information from actors that are relatively unfamiliar. From these considerations, it follows that:

P3: *The larger the majority needed for making decisions within institutionalized settings, the higher the decision-making uncertainty underlying collaborative choices.*

Organizational Characteristics and Decision-Making Uncertainty

At the *organizational* level, the ways in which the coordination of transnational activities are structured within the studied agencies is important to consider. What stands out in particular, is the existence of functionally specialized units or *boundary-spanning roles* overseeing and coordinating transnational network activities (see Aldrich & Herker 1977). Such boundary-spanning units are traditionally seen as an important way for organizations to cope with environmental uncertainty (Thompson 1967), and fulfil a similar role for domestic actors engaging in transnational network activities. Officials within such roles or units have the time and resources to strategize on transnational networked environments, using this information to identify appropriate partners and advise others within the organization. Moreover, the team-based structures through which international meetings are prepared, lets officials pool their attentional capacities and expertise (see Ocasio 2011). In that sense, internal structures help to mitigate decision-making uncertainty regarding partner selection, primarily through a more efficient way of processing information on potential partners and their preferences, interests, and capabilities (see also Bendor 2010). This leads to the expectation that:

P4: *The more explicit transnational boundary-spanning units/functions domestic actors have, the lower the decision-making uncertainty underlying collaborative choices.*

Secondly, given the limited capacities and resources with which public agencies typically operate, the *number of venues* in which they participate is crucial to consider.

This number determines the amount of time and resources an agency has for each particular venue, making venue shopping and issue prioritization an important consideration for transnational collaboration (see also Weible 2005). In particular, agencies participating in many venues typically have less time to spend on establishing and maintaining collaborative ties *within* these venues. Participating in fewer venues, on the other hand, allow agencies to focus their attention, although it may mean they are not able to address all of their policy goals (see Hileman & Bodin 2019). Overall, however, a reasonable expectation is that the more venues an agency participates in, the more diverse the array of actors is with whom they can collaborate, and the more extensive the information needed to collaborate with these actors. This arguably raises uncertainty regarding collaborative choices, leading to the expectation that:

P5: *The larger the number of venues in which domestic actors participate, the higher the decision-making uncertainty underlying collaborative choices.*

Thirdly, formal reporting requirements regarding transnational network activities are important to take into account. In particular, the extensive backlogs and reports of international meetings and activities create organizational memory through which (strategic) information regarding previous interactions is stored (Schilke & Cook 2013). This information can be accessed by organizational members when preparing international meetings, even if they were not involved in previous interactions. These standard operating procedures in reporting about transnational activities thus encode (transnational) experiences that help guide organizational behaviour (Levitt & March 1988; Moynihan 2008). In particular, by providing information on the preferences and actions of others in previous meetings, such formalized reports mitigate decision-making uncertainty regarding partner selection when preparing new meetings. This reasoning translates to the proposition that:

P6: *The more formalized reporting duties domestic actors have about transnational activities, the lower the decision-making uncertainty underlying collaborative choices.*

Individual Characteristics and Decision-Making Uncertainty

At the *individual* level, a first prominent factor to consider is the *international experience* of domestic officials that represent agencies and ministries in transnational environments. Through such experience, domestic officials can resort to the informal ties they have built up in the past. Particularly within organizational research, such prior ties are emphasized as an important way in which uncertainty about future interactions can be mitigated (see Gulati 1995; McEviley et al. 2003). Similarly, in

transnational collaboration, actors acquire information from their past interactions and resort to this information when considering future collaborations. In addition, with experience, actors develop networking skills and gain an overview of the complex institutional environments in which they find themselves (see Juenke 2005; Meier & O'Toole 2010). Arguably, this makes it easier to acquire and interpret information about collaborative partners, leading to the expectation that:

P7: The more experience domestic actors have with transnational network activities, the lower the decision-making uncertainty underlying collaborative choices.

Secondly, the importance of *expertise* is also crucial to consider when thinking about decision-making uncertainties regarding partner selection. Empirically, expertise has been shown to be an important factor in decision-making, particularly in terms of information-processing (Day & Lord 1992) and search behaviour (Newell & Simon 1972). For decisions regarding partner selection, this is also an important consideration, given that domestic officials representing the agency or ministry in networked environments typically do so in highly technical policy discussions. Arguably, this makes it more difficult to evaluate one's own (policy) position on newly emerging issues, as well as those of others. In that sense, specialized expertise is crucial to consider, as it allows domestic officials to more effectively process information regarding potential partners and their policy positions. However, important to note is that while such expertise may mitigate uncertainty *within* a particular policy settings, officials with generalist knowledge are more widely deployable. In that sense, this latter form of knowledge mitigates uncertainty *across* settings. Overall, however, the proposition can be formulated that:

P8: The more specialized expertise domestic actors have when engaging in transnational network activities, the lower the decision-making uncertainty underlying collaborative choices.

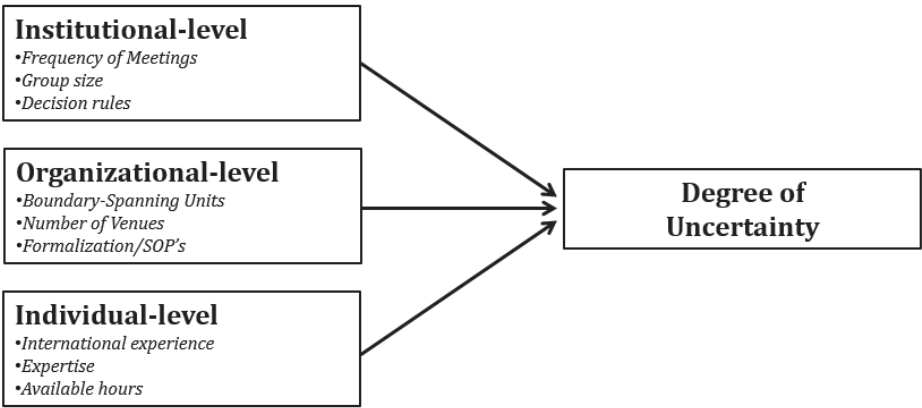
Thirdly, the *number of hours* that domestic officials can devote to transnational network activities is an important consideration. Scholars studying the effects of time availability on decision-making primarily note its importance in terms of the number of alternatives considered (Bluedorn & Denhardt 1988). More hours means the ability to acquire more information about other actors in the network, and less uncertainty when deciding about with whom to collaborate more closely. Although network models looking at tie formation in policy network settings implicitly assume actors to have the time to understand their own preferences, acquire those of others, and carefully select partners from there (see Berardo & Scholz 2010), this time availability is likely to vary considerably depending on the number of (other)

tasks officials have within their home organizations. Based on this variation, we can also expect the uncertainties underlying collaborative choices to vary. From this, it follows that:

P9: *The more hours domestic officials can devote to transnational network activities, the lower the decision-making uncertainty underlying collaborative choices.*

Overall, contingency factors at different levels of analysis may thus influence the degree to which the decision-making situations surrounding partner selection are characterized by high or low degrees of uncertainty. Importantly, all of the identified factors do so through the mechanism of providing easy access to information on the preferences capabilities, and trustworthiness of potential partners. This unifying mechanism allows us to specify an overall conceptual model in which the formulated propositions are brought together (see Figure 4.1).

FIGURE 4.1 Conceptual Model Decision-Making Uncertainty and Partner Selection



4.7 CONCLUSION

Transnational policy settings are characterized by complex webs of linkages between a large numbers of actors (Newman & Zaring 2013; Stone & Ladi 2015). Within these settings, domestic officials have to choose appropriate partners with whom to collaborate and exchange information, as to achieve policy goals important to their home agencies and departments. However, given that at a transnational scale, the pool of potential partners is large and relatively unfamiliar (see Hamilton & Lubell 2018), considerable decision-making uncertainty may underlie these collaborative choices. Based on interviews with domestic officials operating in a prototypical

complex environment, i.e. financial-sector regulation, this chapter analyzed how some of this uncertainty is potentially mitigated and developed a conceptual model incorporating contingency factors at different levels of analysis.

By developing such a model, this chapter provides a better theoretical understanding of the cross-level factors likely affecting collaborative behaviour. The institutional settings of networked collaboration have an important function in engendering familiarity among actors and building trust between them (e.g., by facilitating more frequent interactions within a given venue) (see Hamilton & Lubell 2018). However, as this chapter demonstrates, individual and organizational level factors should also be considered. At least in part, we can assume the skills and abilities of individual officials and the administrative capacity of an organization to contribute to (the capacity for) collaborative outcomes as well (McGuire & Silvia 2010), particularly when considering the uncertainties underlying transnational collaboration. Integrating these factors at different levels of analysis into a single model, helps us think more clearly about the decision-making problems that confront an increasingly large number of public and regulatory officials that have come to operate outside the boundaries of domestic bureaucratic structures (see Stone & Ladi 2015; Knill & Bauer 2018), while also providing ideas on how such problems may be mitigated.

Through this latter point, the practical relevance of the developed model also becomes clear, as it points to several strategic choices that domestic agencies can make when engaging with transnational networked environments. A primary concern here is that these agencies have to create the conditions through which their officials can cope with the uncertainties emerging from complex transnational settings. On the one hand, this means having appropriate (organizational) structures in place that allow officials to adequately acquire and process relevant information and focus their attention to relevant aspects of their task environments. On the other hand, it means making adequate strategic choices given the limited time and resources with which agencies typically operate, such as appropriately prioritizing relevant venues and limiting staff turnover as to enable officials to develop (transnational) experience and expertise. In this way, agencies can help their officials to better cope with the uncertainties that they are likely to encounter when collaborating transnationally.

Besides these points of theoretical and practical relevance, however, several issues still require further consideration. Firstly, it should be noted that many of the contingencies identified at the organizational- and individual-levels are likely a function of the resources and capacities that agencies have. This also means that the

more complex transnational administrative patterns become, the more the big and resourceful agencies are likely to profit. After all, they have the capacity to process the vast amounts of information flowing down from transnational policy arenas and best strategize on how to influence policy processes and decision-making. The increasing complexity of transnational environments creates a greater scope for strategic behaviour and those with greater capacity to act strategically are likely to benefit most in this regard, steering “collaborative” outcomes into their favored direction (see also Drezner 2013).

Secondly, we should further consider the behavioural implications of operating under conditions uncertainty. The developed conceptual model implies that there will also be circumstances in which domestic officials will be confronted with high levels of uncertainty, while making a particular decision is still required. A core insight from scholars studying individual decision-making, is that such uncertainty typically leads to selective information-processing and the use decision-making heuristics (see Simon 1985; Jones 2001; Vis 2019). What these heuristics are for the context of partner selection is an important agenda for future research. In other words, we should open up the analytical possibility that, besides the strategic or rational modes of decision-making that most theoretical models regarding tie formation imply (see Berardo & Scholz 2010), such decisions are made in different ways, potentially reflecting an unthinking reliance on past strategies, or even becoming spontaneous with little reference to potential losses or gains (Jones et al., 2006: 44; see also Walgrave & Dejaeghere 2017)

Thirdly, as complex patterns of interaction continue to develop, we should think more clearly about aspects of organizational structure and design and the ways in which they allow domestic officials to better operate in relational modes. To emphasize once more, an important function of the organization “is to place the organization members in a psychological environment that will adapt their decisions to the organization objectives, and will provide them with the information needed to make these decisions correctly” (Simon, 1945: 79). By coordinating the activities of many individuals, each with partial and incomplete knowledge, organizations thus allow decision-makers to overcome many of their individual limitations (Jones, 2001: 131). Its rules tell people how decisions are made, how authority is allocated, and how they are to relate to other members of the organization. In the face of complexity, organizational mechanisms can then achieve some form of stability (McGuire & Silvia, 2010: 280-281; Thompson 1967). As globalizing administrative patterns continue to develop, such mechanisms will become increasingly important and should be explored further.

Chapter 5

Coordinating Transnational Network Behaviour

ABSTRACT²⁴

Due to the internationalization of markets and growing interdependence of policy issues, many forms of transnational collaboration have emerged, enmeshing domestic agencies in a wide variety of (formal and informal) transnational policy settings. However, the internal problems of management and coordination this potentially creates for domestic agencies are rarely studied by public administration scholars. This chapter applies the concept of boundary-spanning and connects it to organizational structure, as to provide a better understanding of the different ways in which external network activities can be internally organized and what potential tensions might emerge. The analysis demonstrates how domestic agencies use network coordinators to resolve tensions between the differentiation needed to operate in complex transnational environments and the integration needed to keep them accountable. The discussion notes several challenges resulting from a reliance on such network coordinators and sets out directions for future research.

24 To be submitted to an international peer-reviewed journal.

5.1 INTRODUCTION

Given the internationalization of markets and growing interdependence of policy issues, the external environment of many domestic (regulatory) agencies has changed considerably. In particular, to avoid negative externalities and regulatory loopholes, many forms of transnational collaboration between regulatory agencies have emerged in a large number of policy areas (see Koppell 2010; Newman & Zaring 2013). Within these collaborative settings, regulators (and ministry officials) directly interact with their foreign counterparts, often outside the scope of political supervision (see Slaughter 2004; Eilstrup-Sangiovanni 2017). For instance, national competition authorities meet each other in various platforms such as ECN, ECA, and ICN to exchange information and formulate standards (Djelic 2011), while the annual reports of national food safety authorities report a long-list of transnational collaboration partners with which they are actively involved (see Yesilkagit 2016). As a consequence, an increasingly large number of national officials at different levels of the organizational hierarchy are simultaneously involved in transnational networking on behalf of these agencies.

However, the internal problems of management and coordination this changing transnational environment potentially creates for domestic agencies are rarely studied by public administration scholars. Empirical studies of regulatory agencies in relation to transnational administrative patterns typically lack an intra-organizational dimension, either focussing on the effects of internationalization on domestic bureaucratic structures in general (Laegreid et al. 2004; Danielsen & Yesilkagit 2014), or analyzing the actions and decisions of agencies in transnational networks as if it were unitary actors (Bach & Newman 2010). Similarly, while public management scholars have sought to articulate effective management and leadership within networks (Agranoff & McGuire 2003; Ansell & Gash 2008), they also gloss too easily over these potential internal coordination problems. As McGuire and Agranoff (2010) observe, “we know very little about what an agency experiences as it prepares to enter into a network”.

Particularly for (semi-)public agencies, this intra-organizational neglect is problematic. The need for external control and accountability within the public sector potentially creates further hierarchical tendencies and rule proliferation (Stazyk & Goerdel 2010; Davis & Stazyk 2015), raising questions about whether the organizational design of (semi-)public agencies is supportive of the collaborative functions in which their members increasingly have to engage (McGuire & Agranoff 2011; Foss et al. 2013). There is a potential mismatch between the “cognitively unavoidable”

need for decentralization and specialization of organizations operating in complex environments (see Grandori 2009) and the tendencies toward centralization and formalization required for (semi-)public agencies that are expected to be accountable (Groeneveld 2016). However, there is little empirical analysis of how the resulting tensions manifest themselves in practice or what to do about them.

To shift the analytical focus to these issues, this chapter applies the concept of *boundary-spanning* (see Thompson 1967; Aldrich & Herker 1977) and connects it to dimensions of *organizational structure*. Boundary-spanners typically relate organizations to their environments and are traditionally associated with the core functions of information processing and external representation (see Aldrich & Herker 1977). Organizational structure delineates who interacts and communicates with whom, as well as who has ultimate decision rights over activities related to transnational policy settings. A conceptual focus on boundary-spanning and organizational structure provides a better understanding of the different ways in which external network activities can be internally organized and what potential tensions might emerge. This gives a research question in: *how are the transnational boundary-spanning activities of domestic agencies internally organized and how do structural design choices potentially influence the coordination of such activities?*

Theoretically, shifting the analytical focus to the intra-organizational level of analysis, provides a clearer image of how organizational members involved in boundary-spanning are embedded by organizational structures and how different choices about structural design parameters potentially influence boundary-spanning activities and the way these activities are coordinated. Rather than treating the domestic agencies involved in transnational networks as unitary actors, we thus explicitly open up the organizational black box and assess the way in which individuals acting on their behalf aggregate to organizational-level strategies. Assuming that organizations are inherently a means of combining individual efforts to achieve collective goals, this provides a theoretical focus on questions of aggregation and the central role that organizational design and structure can play in this regard (see Stinchcombe 1990; Barney & Felin 2013).

Practically, studying the way in which agencies deal internally with new tasks emerging from transnational environments is also important. As globalizing administrative patterns continue to develop (Stone & Ladi 2015), an increasing number of individual actors from different levels of the organizational hierarchy become simultaneously involved in networking activities on behalf of the agency. In some way, their individual behaviours will have to be aggregated to organizational-

level strategies, as to effectively (and accountably) represent the domestic agency in transnational networked settings and internalize information originating therein. Otherwise, these agencies run the risk of being overwhelmed by the new tasks and functions emerging from transnational environments, which are added onto the existing set of (national) tasks and responsibilities they already have.

The empirical setting on which this chapter bases its analysis is provided by international finance regulation, looking at the way in which Dutch national financial sector regulators (banking and securities) internally coordinate their actions in transnational regulatory networks at both the European and global level. This research context of financial sector regulation is understood as a prototypical complex environment, given the wide variety of actors and institutions operating within a highly dense system of rules, regulatory standards, and international agreements (Alter & Meunier 2009; Frieden 2016). This makes it particularly suitable for our analytical purposes, given that the process of interest (i.e. the management and coordination of transnational network behaviour) is likely to be “transparently observable” (Eisenhardt, 1989: 537).

This study proceeds as follows. First, a conceptual framing is provided in which the potential implications of operating in complex transnational environments are discussed and the core analytical concepts of boundary-spanning and organizational structure are spelled out. After describing the overall research context of this study, the methods of data collection and analysis of the study are given. Subsequently, the analytical section of this chapter is divided into two parts. First, description is provided on the way in which boundary spanning activities are internally structured and coordinated within the studied agencies. Second, the specific functions of information-processing and external representation are discussed in relation to dimensions of organizational structure. In the discussion, the focus is primarily on how agencies internally deal with the tensions emerging from the analysis and what theoretical and practical questions this calls up. A conclusion reports the core findings and sets out directions for future research.

5.2 CONCEPTUAL FRAMEWORK

Globalizing Administrative Patterns and Domestic Bureaucratic Structures

Recent decades have seen the development of transnational forms of collaboration in diverse policy areas, such as energy, telecommunications, crime, privacy protec-

tion, human rights, and international competition (see Picciotto 1997; Slaughter 2004). These collaborative settings typically take the form of information exchange platforms, standard-setting bodies or networked organizations, and facilitate interaction and negotiation between substate actors from various jurisdictions (see Koppell 2010; Newman & Zaring 2013). Given that the rules, regulations, and standards flowing from these transnational bodies potentially have large implications for national jurisdictions, domestic agencies are forced to devote an increasing amount of staff and resources to participating in these networks (see Maggetti & Gilardi 2011; Bach & Newman 2014).

Overall, these developments thus mean that a transnational dimension has become increasingly important for the operations and functioning of domestic regulatory agencies (see Newman 2008; Ruffing 2015). As a result, domestic officials frequently interact with foreign counterparts with whom they exchange information, share experiences, or participate in one of the numerous working groups, committees, or task forces that make up the institutional structure of many transnational networks. The work in these latter settings include writing policy briefs, research reports, recommendations, and doing the preparatory work for the (regulatory) standards that many of these transnational networks formulate. In that sense, the rise of transnational networks means that national regulatory agencies have become more directly involved in rule formulation and standard setting, often outside the scope of national legislatures and political executives (Pollitt & Bouckaert 2004; Coen & Thatcher 2008). This extension of tasks and responsibilities likely has several important implications for the way in which domestic agencies function.

Firstly, given the wide array of transnational policy settings in which domestic agencies participate and the large group of officials that typically represent them therein, questions emerge about how these officials are coordinated internally. Different officials participate in different working groups, committees, or task forces, meaning that attention centres of domestic agencies regarding its transnational environments are inevitable scattered across the organization. If the information originating in heterogeneous transnational environments is to adequately inform agency decision-making, efficient communication structures are thus required. In addition, given that the officials representing the agency potentially work from different (organizational) units, at different managerial levels, with different sets of expertise, extensive coordinative capacities are required as to ensure this wide variety of officials speak with one voice when operating transnationally.

Secondly, it is important to note that the transnational networks in which domestic actors increasingly participate, have come to share the same “regulatory space” as established national structures (see Busuioc 2016; Yesilkagit 2016). Although increasing numbers of regulatory officials operate outside domestic bureaucratic structures, the agencies that they represent remain “anchored to national governments” (Egeberg & Trondal, 2011: 870). In practice, this means that when engaging in transnational network activities, domestic officials are potentially confronted with competing requirements and demands. In particular, the coordinative structures required to operate in complex and heterogeneous transnational environments may not be compatible with those needed to remain accountable within a national context. Domestic agencies basically “network in the shadow of bureaucracy” (McGuire & Agranoff 2010), calling up questions about how the increasing need to operate in relational modes is reconciled with the hierarchical tendencies characterizing domestic bureaucratic structures (see Groeneveld 2016).

To assess how these issues manifest themselves in practice, analytical concepts are required that can study the implications of transnational forms of collaboration for domestic agencies and their internal functioning and structuring. However, the standing public administration literature that has studied the effects of internationalization on domestic bureaucratic structures typically has a more general focus (Bach et al. 2016; Mastenbroek & Martinsen 2018). Scholars have particularly noted processes of *agencification* in light of internationalization and have focused on how such developments increase the (bureaucratic) autonomy of these established agencies vis-à-vis their parent ministries (see Yesilkagit 2011; Bach & Ruffing 2013). Given that the unit of analysis of many of these empirical studies is typically “central government bureaucracy”, issues of coordination as a result of internationalization are primarily studied as occurring *between* parent ministries and subordinate agencies to which autonomy has increasingly been delegated (see Christensen & Laegreid 2008). The coordination issues occurring *within* domestic agencies as a result of operating in increasingly complex and heterogeneous transnational environments have remained less clear (for an exception, see Ruffing 2017).

Therefore, to better understand such internal coordination issues, this chapter turns to the analytical concepts of *boundary-spanning* and *organizational structure*, which have more of an intra-organizational focus. While the former of these concepts can help to analyze the kinds of external and internal activities that help domestic agencies cope with the increasingly complex transnational environments in which they have come to operate, the latter can better describe the different ways in which such activities can be organized. Both concepts are discussed further below.

Boundary-Spanning: Information Processing and External Representation

To cope with *complex* environments²⁵, organizations need the capacity to adapt and react to environmental changes (see Schneider et al. 2017). A broad literature has emphasized the importance of boundary-spanning roles in this regard (see Thompson 1967; Williams 2002). Boundary-spanning roles are fulfilled by organizational members that operate at the boundaries of the organization and generally maintain the organization's interactions with its environment. Conceptualizing boundary-spanning can help to better understand the kinds of activities domestic officials are involved with when engaging with transnational networks.

In general, boundary-spanning activity typically has two associated functions (see Aldrich & Herker 1977). First, it has an important function of *information-processing*, helping the organization filter through the large amounts of potentially relevant information that originate in external environments and communicating it to other units within the organization on a regularized basis. In this way, boundary-spanning helps avoid information overload and shields the organization's technical core from outside disturbances (Thompson 1967). Two steps of information-processing can be identified: boundary-spanners have to (1) select information from the environment, and (2) communicate it through within the organization. In that sense, they fulfil a gatekeeping role, by acting as a conduit for inflows from the environment to the organization (see Friedman & Podolny 1992). Information-processing thus typically implies *inward* communication from external environments to the organizational core.

Second, boundary-spanners typically maintain the organization's external relationships, acquiring and disposing resources, upholding the organization's image to outside audiences, and building legitimacy with external stakeholders. This *external representation* function can be understood as being a transmitter of outflows from the group to the environment (Friedman & Podolny 1992). Actions taken by boundary-spanners operating in this role, can originate from authoritative commands in the core of the organization, or grow out of their own initiative depending on their degree of role autonomy (see Perrone et al. 2003). In any case, the behaviour of boundary-spanners when externally representing the organization is expected to reflect policy decisions from higher up the organizational hierarchy (see Aldrich & Herker, 1977: 220). Importantly, the way in which boundary-spanners fulfil this

25 Understood as an environment in which 'the number of items or elements that must be dealt with simultaneously by an organization' is large (Scott, 1992: 230).

function determines the way in which the organization presents itself to outside audiences. External representation is thus concerned with *outward* communication from within the organizational core toward the external environment.

By fulfilling these two core functions, boundary-spanners can increase the organization's ability to respond to environmental demands and process information about environmental conditions and contingencies in a more sophisticated manner (Leifer & Delbecq 1978). Given the complex transnational environments in which domestic agencies increasingly participate and the vast body of information, standards, rules and regulation that flow down from these environments, these core functions are likely important for these agencies as well. Information-processing is about making sure that decision-makers within the agency are adequately informed about (transnational) policy developments and the likely consequences and implications of formulated transnational standards or regulations. External representation is about making sure that the strategies decided on by those that have the accountability and responsibility to do so are actually implemented by lower-level officials operating in transnational network environments, as to fulfil the overall policy goals of the agency. However, important to note is that the boundary-spanning activities of domestic agencies can be organized in various ways. To better understand this variation, dimensions of organizational structure and design are useful to consider.

Structural Design Choices and Boundary-Spanning Behaviour

Organizational structure can be defined as the “relatively enduring allocation of work roles and administrative mechanisms that creates a pattern of interrelated work activities” (Jackson & Morgan, 1982: 81). This structure thus delineates who interacts and communicates with whom, as well as who has ultimate decision rights over activities related to transnational policy settings. In that sense, organizational structures and its particular dimensions provide an important context in which agency officials operate. It functions as an architecture of action and interaction and in that way constrains or enables collective activities such as boundary-spanning (see Barney & Felin 2013). Changing these architectures, changes behaviour and thus also the way in which the boundary-spanning activities of an organization are coordinated. To specify how this works, particular dimensions of organizational structure should be identified. For this, we follow Albers et al. (2016) by mainly considering an organization's degree of *specialization*, *centralization*, and *formalization*, and argue how they are important for the organization and coordination of boundary-spanning activities.

First, *specialization* is concerned with the division of labour within the organization, i.e. the distribution of official duties among a number of positions. Boundary-spanning activities within an organization can also vary in terms of their degree of specialization, depending on whether organizations establish separate units responsible for managing the external relationships with regard to a particular aspect of the environment (high specialization), or whether it organizes boundary-spanning as an additional function of organizational members besides their regular work (low specialization). Through specialization, officials can more easily engage with transnational networked environments, as it allows them to focus on one particular aspect of the organization's task environment (see Perrow 1977). This helps boundary-spanners to become acquainted to the technical specificities of particular domains, arguably enhancing their capacity for information processing (Day & Lord 1972). However, too high degrees of specialization potentially lead to fragmentation and communication problems within the organization.

Second, *centralization* captures the locus of (decision-making) authority within organizations and its dispersion among actors (Mintzberg 1979). The boundary spanning activities in the organization can be (vertically) centralized in the sense that decision-making authority is concentrated in a single channel higher up the organizational hierarchy, or decentralized in the sense that decision-making authorities are delegated to lower-level managers. Centralized decision-making procedures typically allow organizations to better align and give direction to joint action. However, such centralized structures are quickly pushed beyond their limits of attention and do not create the advantage of "parallel processing" through which different aspects of a problem can be dealt with simultaneously (see Jones, 2001: 134). In turn, however, too extensive decentralization may lead to "agency problems" regarding lower level units, frustrating information sharing between different units and hampering the organization's ability to speak with one voice (Shimizu 2012).

Third, *formalization* refers to the specification and standardization of rules, procedures, plans, and documentation to guide organizational activities, as well as the need and requirements for documenting actions and decisions *after the fact*. Regarding boundary-spanning activities, organizations can vary in terms of the degree to which they draft standard operating procedures to guide the conduct of organizational members when operating outside organizational boundaries and require them to extensively document and justify their actions and decisions in external environments (see Perrone et al. 2003). Note that formalization potentially improves the information-processing capacity of the organization, by formalizing decision-making language and codifying new knowledge (see Galbraith 1974; Cohen

& Levinthal 1990). However, too high levels of formalization potentially limit the autonomy of boundary-spanners, hampering the organization's ability to respond to new opportunities or quickly changing environments.

Overall, when thinking about how organizational design choices affect the core functions of boundary-spanning, it is thus important to consider that the effects of specific structural dimensions are likely to point in both directions. In other words, structural design parameters may enable certain aspects of information-processing or external representation while impeding others. This reflects more general insights from literature that has looked at how organizational design acts as a decision-making context for organizational members (see Simon 1945; Bendor 2010). These scholars typically perceive organizational structure to be a *double-edged sword*, in which, on the one hand, structural design parameter can compensate for the inevitable bounded rationality of individuals (see Landau 1969; Jones 2001), while, on the other hand, these same design choices can lead to a host of new coordination problems (see Bendor 2010).

Still, besides these tensions, the above-provided discussion of the nature of organizational structure and its relation to the core functions of boundary-spanning, provides a way to better understand how domestic agencies can adjust to the complex and heterogeneous transnational environments in which they have come to operate. Such environments require domestic agencies to have multiple foci of attention and devote an increasing amount of resources and personnel to transnational network activities. This likely has implications for the internal functioning and structuring of the organization and the above described structural dimensions give us a conceptual idea about what these implications look like. This allows for better description of the different ways in which transnational network activities are internally structured and coordinated and can help us think more clearly about the implications of different design choices for the agency's capacity to operate collaborative (see 6 et al. 2006; McGuire & Silvia 2010).

However, one should note that within a (semi-)public sector context, the strategic choices that organizations can make in terms of structural design are potentially limited by path dependency (McDermott et al. 2015) and ambiguous political environments (Pandey & Wright 2006). Because of this, many (semi-)public agencies will simultaneously reflect the need to specialize and decentralize as to effectively operate within increasingly complex environments (i.e. differentiation), as well a tendency toward centralization and formalization as to be accountable within a public context (i.e. integration) (see Stazyk et al. 2011; Groeneveld 2016). In the

empirical analysis below these issues are further elaborated on, focussing particularly on (1) how structural design choices affect the way in which core functions of information-processing and external representation are organized within domestic agencies engaged in transnational network activities, and (2) what issues this calls up in terms of internally managing and coordinating boundary-spanning behaviour. First, however, the research context of this study is described.

5.3 RESEARCH CONTEXT

As a research context of this study, the analysis focuses on the way in which Dutch financial regulatory agencies internally coordinate and manage the transnational network behaviour of its officials. These agencies regulate the different sectors of the financial sector, including, banking, securities, insurances, and pensions. Given the vast expansion of international financial activity, they have become increasingly involved in transnational coordination efforts, as to avoid negative externalities and regulatory loopholes (see Brummer 2011; Newman & Zaring 2013). A primary reason for choosing this research setting is the institutional and technical complexity by which international finance regulation is characterized. This means that the coordination challenges described above are likely relevant for the studied organizations, allowing us to collect evidence on the ways in which they deal with these challenges.

Regarding the institutional complexity, note that the transnational coordination of financial regulation takes various forms. At the global level, the Basel Committee on Banking Supervision (BCBS), the Financial Action Task Force (FATF), the International Association of Insurance Supervisors (IAIS), and the International Organization of Securities Commissions (IOSCO) are its most prominent manifestations, while at the regional level, more institutionalized platforms such as the various ESAs play an important role (Ahdieh, 2015: 76). While some of these networks only provide a platform for informal discussion and information exchange, others actively seek out a role as international standard setter (see Koppell 2010). Within these settings, domestic regulatory officials interact with foreign counterparts through the diverse array of working groups, task forces, and committees that carry out most of the operational work.

Given the large number of transnational networks active within the field of international finance regulation, a highly dense system of rules, regulatory standards, and international agreements has also developed (Frieden 2016). This further complicates the transnational environments of domestic agencies, given that they have

a considerable task in assessing how ongoing developments surrounding transnational regulation potentially have implications for their own national jurisdictions. These implications can be large as the Basel accords negotiated by the BCBS (see Chey 2014) or standards on insider trading in the context of IOSCO (see Bach & Newman 2010) have shown. Keeping track of regulatory issues is thus crucial if domestic agencies are to strategically act within transnational policy settings and react to ongoing developments. However, given that within international finance innovations develop quickly and regulatory issues are relatively complex (see Baker 2010; Porter 2014), this is no easy task. Regulating OTC-derivatives (see Tsingou 2006), or what to do about the dispersion of risk weighted assets (Ferri & Pesic 2017), for instance, are complicated topics that require extensive specialized expertise.

Not surprisingly, domestic financial regulators devote increasing amounts of staff and resources to transnational network activities (see Newman & Zaring 2013). Inevitably, these officials are involved in both externally representing the agency in transnational policy settings and processing information regarding ongoing policy and technical developments originating in these environments. The analysis then primarily focuses on how these activities are internally structured and coordinated and what potential issues occur. To do so, the data collection and analysis procedures are discussed first.

5.4 DATA COLLECTION & STUDY DESIGN

Methodological Considerations

The nature of this study is primarily exploratory with an emphasis on *theory elaboration* (see Fisher & Aguinas 2017). In other words, by applying existing concepts to a new research context – i.e. boundary-spanning and organizational structure to the coordination of transnational network behaviour –, it aims to assess how these concepts apply in settings different from those in which they were originally developed and generate new insights based on themes that emerge from the data (Miles & Huberman 1994). Qualitative research is particularly suitable for these purposes, as it enables attention to be given to particular circumstances (Antonakis et al. 2004), while its open-ended nature is sufficiently flexible to allow for such new insights or themes to emerge (see Piore 2006).

In terms of the research setting, it was already argued that financial sector regulation can be understood as a prototypical complex environment, given the wide variety of transnational policy settings in which domestic agencies can engage (see

Alter & Meunier 2009). This makes it a particularly suitable research context for this study's analytical purposes, given that the process of interest (i.e. the management and coordination of transnational network behaviour) is likely to be "transparently observable" (Eisenhardt, 1989: 537). In other words, domestic agencies within financial sector regulation typically have a large number of officials operating in transnational environments, which require the coordination of their activities, allowing for the collection of evidence on the way in which they do so and the problems they may encounter in this regard.

Note that within this setting, the analysis primarily focuses on the way in which the Dutch banking and securities regulators coordinate their transnational network activities. The Dutch context is convenient, given that its Twin Peaks model of regulation allows for the comparison of two different regulatory agencies, that largely operate within a similar context in terms of institutional and technical complexity of their transnational environment (see Frieden 2016). Although the goal of the analysis is not to provide an explicit comparative case study, studying multiple organizations does allow for additional insights to emerge regarding particular organizational settings or contingencies.

Data Collection & Analysis

In the period between April and June 2017, 12 face-to-face interviews were conducted with Dutch senior officials involved in international financial regulation. These individuals occupied positions from middle to senior management at DNB (Banking regulator, 7 respondents) or AFM (Securities regulator, 5 respondents). The one common denominator these respondents had was that they were all heavily involved with transnational network behaviour, at either (or both) the European or global level.

As noted in the previous chapter, respondents were identified through a combination of snowball and purposive sampling, in which the aim was to identify officials involved in coordinating transnational network activities. To do so, heads of departments or managers of relevant units and departments of the studied organizations were approached first and also interviewed. These initial respondents were then used to identify other suitable respondents within the organization, particularly those "heavily involved in transnational network activities". The benefits of such a sampling approach means that selected respondents were highly relevant for the research topic, giving a higher likelihood of achieving data saturation (see Burmeister & Aitken 2012).

Note that besides all being involved in transnational network activities, the selected respondents also varied on several other dimensions. In terms of hierarchical positions, interviewees included top- and middle-managers, as well as lower level experts and policy advisors.²⁶ Moreover, within the different organizations, most respondents belonged to different subunits and were involved in widely varying transnational networks and policy activities. The respondents are thus expected to have a different perception of the phenomenon of interest, i.e. the way in which boundary-spanning activities are organized within the agency, decreasing risks of convergent retrospective sense making and impression management (see Eisenhardt & Graebner, 2007: 28).

Drawing on a topic list, the respondents were interviewed (45 minutes on average) by the author in semi-structured fashion. The semi-structured nature of these interviews allow respondents to answer open-endedly, while still facilitating comparison about similar topics. Topics discussed in the interviews were – *inter alia* - how regulatory officials prepare for international meetings (both individually and collectively), how their unit is set up and relates to the rest of the organization, how international activities are generally coordinated, and how (and to who) they report back on these activities. Specifically, for the process of internal coordination of boundary-spanning behaviour, explicit probing was carried out to identify potential difficulties or challenges and for the respondents to provide specific examples or experiences.

To analyse the interview data, audio recordings of the interviews were transcribed and interpreted through a process of coding. Firstly, *topic coding* was used to categorize passages relevant to the core functions of boundary-spanning, i.e. information-processing or external representation (see Richards, 2015: 110). These passages typically described activities related to the processing or internal communication of (network-relevant) information (i.e. information-processing) or external activities related to transnational networks, such as participating in transnational working groups or contacting foreign counterparts (i.e. external representation).

In a second round, these passages were subjected to *analytic coding*, in order to assess whether the described activities hinted at the specific dimensions of organizational structure, as identified in the conceptual framework. Specialization, for instance, is assigned when respondents note the existence of separate boundary-spanning roles

26 Given that anonymity was promised to the interviewed respondents, information cannot be provided on the specific department, function, age, or sex of the respondents, as it would make them easily identifiable.

or units. (De-)Centralization is assigned when respondents describe issues like the degree of autonomy they have in making decisions about transnational network activities. And formalization was assigned whenever respondents note a need for reporting of transnational activities or similar kind of activities. An overview of the coding scheme is provided in Figure 5.1.

Overall, this process of coding resulted in a collection of coded passages that signify whether they describe a particular function of boundary-spanning, as well as whether they describe a particular tendency toward centralization, specialization, or formalization. This collection of passages forms the basis for discussing the way in which boundary-spanning activities are internally structured and coordinated and the degree to which it allows domestic agencies to effectively and accountably operate in transnational networked environments.

TABLE 5.1 Coding Scheme

Concept	Dimensions	General Definition	Manifestations
Boundary-Spanning	<i>Information-Processing</i>	Activities related to the processing of external information, and communicating it within the organization	Setting out information requests; information exchange; internal communication
	<i>External Representation</i>	Activities related to representing the organization in external environments	Working group participation; voting in decision-making bodies; travelling to conferences
Org. Structure	<i>Specialization</i>	Differentiation of tasks	Mentions of specific roles/units; other tasks next to external activities
	<i>Centralization</i>	Locus of decision-making	Mentions of decision-making processes; lines of authority; supervisors
	<i>Formalization</i>	Reporting duties or standard operating procedures	Mentions of rules, regulations, reporting duties, activity logs

5.5 ANALYSIS

In this section, the analysis of this chapter is presented in two parts. First, description is provided on the way in which boundary-spanning activities regarding transnational networks are organized and coordinated within the studied agencies.

Second, the specific boundary-spanning activities and its associated functions of information-processing and external representation are noted and linked to dimensions of organizational structure.

The Internal Coordination of Boundary-Spanning Activities

At the operational level, both agencies typically involve three basic groups of officials in their transnational networking activities. Although all three groups can be identified as boundary-spanners in the sense that they interact with the organization's (transnational) environment (see Robertson 1995), each of these groups is involved differently in coordinating and executing the overall boundary-spanning activities of the organization. To clarify their roles, each group's particular responsibilities are described, as well as the way in which they are internally related to each other. Note that, although they differ in denomination, the functions of these groups and the relations between them are basically similar across the studied agencies.

First, a group of higher-level officials decide on the management of the organization's boundary conditions and strategy formation. Although officials in these management functions differ in terms of their hierarchical levels (e.g. division directors, department heads, unit directors), they are formally responsible for the activities of the agency in transnational networks, particularly for the members of their specific unit or division. In addition, these higher-level officials decide internally on the general strategic approach to transnational policy arenas and prioritize what issues are most important to the agency. Moreover, in terms of explicit boundary-spanning roles, they typically partake in the main decision-making bodies of transnational networks, for which they are prepared and informed by lower-level policy experts and advisors. As one division-director noted, *"I talk to the experts who have prepared (the meeting)... I talk to them, discuss... and on the basis of those instructions you go into the meeting"* [R3]

Second, at lower levels of the organizational hierarchy, the operating core of the organization consists of technical experts and policy advisors. These are regulatory officials that are typically from specialized units and have technical expertise in topics related to regulation. When engaging in transnational network activities, they do so by participating in the various lower-level working groups and commissions of the different networks, where most of the preparatory work for the network's main decision-making bodies is done. At this level, they engage in highly technical policy discussions, writing reports, working out the technical details of proposed standards, and discussing position papers. This is basically the "groundwork" of international regulation, as one respondent called it. Moreover, for higher-level

meetings they are asked to provide input for particular agenda points or to prepare certain dossiers or briefings related to their field of expertise.

Thirdly, in between these two groups, both agencies have officials that explicitly fulfil a function of “network-coordinator” for the different transnational policy settings in which the agency participates. These officials have an important role in the policy-relevant activities related to transnational networks and describe their work as being a “linking-pin” between the technical experts and the managers or directors making the main decisions. Although not formally part of the line, in the sense that they have formal authority over the technical experts in the different units, they *are* typically responsible for the overall coordination of all different activities related to a particular network, especially in terms of preparing director-level officials for (transnational) board meetings. This means they have a degree of functional authority over line members on matters related to the activities of the agency within a particular network. Their activities primarily focus on being the first reference point for issues regarding a particular network, making them a central actor in the internal communication patterns regarding transnational network activities. As one network-coordinator described her function, “*it is about being the internal and external point of call for everything regarding [network X]*” [R8].

Important to note is that the transnational interactions of the agency thus do not solely involve the higher levels of the organizational hierarchy: staff at different levels of the organizations all contribute to the boundary-spanning activities of the organization. In that sense, boundary-spanning can be conceived of as an organizational *process*, in which a large number of organizational members are internally and externally involved. The roles and functions of these organizational members, their specific arrangements, and the relationships between them will likely vary according to the dimensions of organizational structure identified in our theoretical framework. This has consequences for the way in which boundary-spanning activities are internally coordinated and the issues that are likely to emerge. To explore this point further, the next section focuses on the two core functions of boundary-spanning behaviour, namely information-processing and external representation, and relates them to structural design parameters.

Boundary-Spanning and Information-Processing

Regarding information-processing, it is noted how for both agencies the coordination of a particular network is typically concentrated in one or two organizational members. These members typically have the responsibility of “coordinating” the activities related to the different networks or policy settings in which the agency

participates. This means that communication regarding a specific network is concentrated within them. As one network-coordinator noted, “*on a weekly basis, we got a lot of emails that we forward (to others within the organization) and to which we then have to respond*” [R5]. These positions are clearly specialized toward specific transnational networks. In fulfilling this function, coordinators typically gather input from different experts when external requests come in, or make sure everyone gets the relevant underlying documents accompanying the agendas of transnational meetings. Although experts are also specialized in certain issue areas, they are not specialized toward particular networks. The same goes for higher-level officials, who have a more general view and typically participate in the decision-making bodies of multiple networks, sharing or distributing these portfolios with other directors and managers.

The lower-level officials interviewed in this study typically report a large degree of autonomy to fulfill their functions regarding transnational network activities. Still, given that higher level officials eventually have to represent the agency in the main decision-making bodies of transnational networks, much of the communication structures regarding transnational activities are still centralized. This means that information relevant to such decision-making must be communicated upward in order to reach and inform higher-level officials. However, the amount of potentially relevant information originating from transnational networks is extensive and this potentially clutters communication channels. As one network-coordinator illustrated in discussing the preparation for a director-level transnational meeting, “*you have twenty-three topics. So, for each topic you get the underlying documents, you do that times twenty-three [...] On average, we have about eight hundred pages of underlying documents, for one meeting*” [R6].

Information condensation is thus an important part of the work of (internal) boundary-spanners and primarily serves to adequately inform decision-makers. To do so, the underlying documents of international meetings are typically transformed into *covernotes* that are sent to the relevant director or manager. These covernotes provide all necessary information on the relevant decision-making issues in an understandable and summarized format and help higher-level officials to prepare for international meetings. They contain information on “*... what's in the underlying documents, this is...what we think about it, and this is what you have to say... That is, to put it bluntly, what it comes down to*” [R6]. However, given the vast amounts of potentially relevant information, the preparation of these covernotes is not straightforward. As one network-coordinator strikingly noted about the hundreds of pages of underlying documents that come out of the transnational network setting in which he is

involved, “with us, it basically goes into a blender, and what comes out is a covernote [....] of about twenty-five to thirty pages” [R7]. As information from external environments travels up the organizational hierarchy, the choices on what information to discard and what information to communicate onward is largely left to lower-level policy experts and network-coordinators. These choices have important consequences for organizational outcomes, as they effectively become the new informational premise for decision-making. However, as one director noted, “I sometimes also deviate from them [the covernotes], because I think it’s nonsense or [...] because in a meeting, you can’t raise your finger with every single point” [R3].

Formalization also plays an important role in information-processing. The agencies studied require their officials to keep extensive backlogs on the information that is communicated through the network. As one official noted, “the underlying documents from your meetings have to be searchable, in the system of the agency, so that someone else has access to the relevant documents and information” [R8]. This formalization allows boundary-spanning activities to be, at least in principal, subjected to external checks. One network-coordinator noted how formalization also played an important role for the way in which they gathered input from experts when preparing the director to go to meetings: “we ask the experts to draw up briefings... and basically, this is a format that we impose on them, which also helps them to include all relevant questions, and give [the director] all the information he needs to make a decision” [R6].

Boundary-Spanning and External Representation

The boundary-spanners studied also extensively operate in external environments, representing the interests of the agency in one of various working groups, commissions, or task forces that make up the policy arenas of international finance regulation. Although many of the experts involved in working groups are not necessarily specialized boundary-spanners, both agencies have separate units or functions that think more concretely about the strategy dimension of participating in international meetings. As one network-coordinator noted about fulfilling such a position: “different themes come together, you get an overview, you see the overlap between A and B. This allows you think along strategically” [R7]. These officials are thus heavily involved in preparing international meetings, primarily at the board-level, while also advising technical experts on the strategic dimensions of their work.

Still, many respondents report that agency officials are relatively autonomous in operating in transnational networks, primarily given the technical nature of their work. One official described the directions from top-level directors as “abstract clues” for which the experts typically have a large degree of autonomy to elaborate

on. However, as another official noted, “for some issue this [positioning] can be really strict, in which directors say, this is where we draw the line [...], and with other topic we perhaps have a bit more freedom” [R7]. Still, the same official described the difficulty of sometimes having to make a “judgment-call” about whether “this is something for which I have a mandate, or is this something I should throw up the line” [R7]. Usually, however, those in management functions have an important function to “keep everything within the appropriate bandwidths”. Particularly controversial topics are discussed in pre-meetings and one manager noted that although experts mostly prepare meetings themselves, depending on the topic or experience of the expert, she’ll get involved. The political salience of a dossier or an issue thus largely determines the discretionary room with which lower-level officials can fulfill their external representation function.

Regarding formalization, respondents noted the reporting duties they had when coming back from international meetings. As one official noted, “everybody makes a report. You have the simple highlights... That one is shared more broadly. And a more detailed report, for the experts so to say” [R5]. One mid-level official justified this extensive reporting by saying that “everybody’s role should, in principle, be possible to take over” [R8]. Moreover, besides reporting on activities undertaken in transnational environments, officials also reported formalization in strategizing on transnational network activities. Although lower-level experts can take initiatives to participate in certain working groups, one network-coordinator explained the formalized step he requires them to take: “often times, the initiative comes from the experts to say, I want to participate here and there... because I heard this and that... Then he has to pay us a visit with an assessment framework [that we developed] to explain to us, why it is so important” [R9].

5.6 DISCUSSION

Most notably, the analysis illustrates how, in coordinating boundary-spanning activities, both agencies make use of formal coordinators that connect different units and experts on activities related to specific networks and act as a liaison in between formal decision-makers and policy experts (see Zahra & George 2002). In that sense, these officials play an important role in dealing with a dilemma found in many organizations: that the organizational members maintaining the gross share of the agency’s external contacts, are not the same individuals that make the decisions on the basis of information originating from these contacts (see Foss et al. 2013). They provide an integrative mechanism to the “cognitively unavoidable” specialization and decentralization typically needed in knowledge-intensive organizations and

help manage the potential rifts in communication and coordination across units and (specialized) officials that these structural changes create (Grandori, 2009: 83).

Particularly for (semi-)public organizations, such formal positions are crucial for bridging hierarchical levels. Those at the top of the organization, with the authority needed to keep the agency accountable, typically lack the expertise to engage in specialized policy issues. However, those within the agency that *do* have such expertise, typically do not base their decisions on an agency-wide perspective, i.e. “strategic awareness” about organizational goals is likely to decline at lower levels of the managerial hierarchy (Hambrick 1981). The “network- coordinators” of the agency then practically fulfill a middle-management function, in which they act as an important liaison in between those with formal decision-making authority and those with policy expertise. In practice, this means they condense raw information and communicate it upward, while also translating abstract directions into specific strategies the other way around. In this way, officials fulfilling such a coordinative role regarding the external activities of the agency, help manage one of the classic conflicts in the study of bureaucracy, i.e. that between authority and expertise (see Hammond & Miller 1985). However, for both core functions of boundary-spanning, several risks of relying on such formal coordinators should be noted.

For information processing, this risk manifests itself most concretely in the consideration that as information is communicated upward in the organizational hierarchy, hundreds of pages of underlying documents are transformed into a simple covernote or briefing. The choices on what to leave out are primarily left to the discretion of network-coordinators and due to information asymmetries and the limited possibilities for control that higher-level officials have, these decision-makers have to accept the communicated information pretty much as it stands (see Hammond 1986). This potentially creates problems of “uncertainty absorption”, in which inferences are drawn from a body of evidence by lower-level officials and the inferences, rather than the evidence itself, is then communicated upward to high-level decision-makers (March & Simon, 1958: 165). The communicated information becomes the new premise for organizational action, while there is little guarantee that this premise is actually valid and takes into account all relevant considerations.

For external representation, the primary challenge lies in the observation that much of the transnational network activities of domestic agencies are delegated to lower-level officials and policy experts. Because the issues with which these experts are concerned are highly specialized, the directions coming from above are necessarily abstract and general. This gives network-coordinators and policy experts

an important role in the formulation of strategy and its implementation (Floyd & Woolridge 1992), as they are the ones that translate these abstract guidelines into more specific directions and actions. They necessarily have a lot of discretionary room to do so, but this typically requires a judgment call on their behalf about how far their mandates extend and when issues are to be “escalated upwards”. This potentially calls up a number of agency or accountability problems (see Shimizu 2012), particularly for scholars reasoning from a politics of bureaucracy perspective (see Moe 1984; Miller 2005).

Within the context of the public sector, these identified risks then raise crucial questions concerning the authority and responsibility of those at the top of the organization (see Hammond & Miller 1985). Although network-coordinators potentially allow the organization to effectively operate within transnational environments, similar to other kinds of decision-makers, they also have limited attentional capacities (March & Simon 1958). This means that they selectively allocate attention to particular aspects of the communication and information streams that come together at their positions. The abstract guidelines they get from those higher up the hierarchy will have to be interpreted and potentially become biased as they are translated to specific strategies. Similarly, information-processing about particular issues or developments also requires such interpretation and will determine the way in which they inform decision-makers about policy consequences and implications of decisions. The delegation needed for operating in complex environments, thus potentially has large consequences for the way in which policy decisions are informed and implemented (see Eisner 1991; Dohler 2017).

Given these concerns, we should think hard about the conditions that allow boundary-spanners to effectively fulfill their tasks, while also keeping them accountable. Structural design choices are inevitably limited in this regard, as their “double-edged sword” nature often favors either the one or the other (cf. Lawrence & Lorsch 1967). In that sense, alternative means of coordination should also be sought. For instance, norms of professionalization and expertise potentially justify delegation through some form of bottom-up accountability (see Eisner et al. 1996; Groeneveld 2016). Moreover, besides the formal structure that allocates organizational members their role, the informal structures by which they are embedded, influence the efficiency of their communications and can help achieve some form of social control to their actions (see McEviley et al. 2014). In thinking about how boundary-spanning activities are structured and coordinated, these considerations should be taken on board as well.

5.7 CONCLUSION

Domestic agencies have increasingly become involved in transnational networks, in which a large number of regulatory officials engage in boundary-spanning behaviour on their behalf. In this chapter, analytical focus was shifted to the intra-organizational level to better understand how these transnational activities are *internally* structured and coordinated. In particular, it was argued that particular structural design choices help agencies to better adjust to the demands of complex environments, but that these same design choices call up potential new coordination dilemmas. The discussion section subsequently focused on the formal network-coordinators that help integrate the differentiated activities of domestic agencies operating in complex transnational environments and noted several risks of relying on such formal coordinators for the way in which the core boundary-spanning functions of information processing and external representation are fulfilled.

Theoretically, the analysis of this chapter draws attention to the observation that information and knowledge necessary for adequate decision-making are not possessed by the agency itself, but rather by the individuals within it. The information and knowledge possessed by these individuals can be wide-ranging and conflicting, creating different beliefs and expectations about appropriate courses of action. Questions of boundary-spanning are thus essentially questions about how individual efforts aggregate to achieve collective goals. However, given that individuals are boundedly rational and interaction patterns quickly become complex, this aggregation cannot be assumed but is a theoretically interesting question in itself (Barney & Felin 2013). Organizational structure and design, which provides the architecture of such aggregation, is crucial to consider in that regard. Several implications of these observations should be noted.

Firstly, for scholars that have looked at the effects transnational governance on domestic (regulatory) agencies (see Bach et al. 2016), this study problematizes the assumption of seeing these agencies as unitary actors. By providing an intra-organizational dimension to these agencies, this chapter shifted attention to the internal problems of management and coordination that complex and changing transnational environments potentially create for domestic agencies. Particularly, the realization that regulatory officials are embedded within organizational structures and that this structure likely influences their capacity to operate collaboratively, potentially provides a better understanding of their behaviour in transnational settings. Transnational network behaviour typically occurs in the “shadow of (domestic) bureaucracy” (see McGuire & Agranoff 2010), and the potential tensions this creates

should be core focus when trying to understand how globalizing administrative patterns will continue to develop (see Stone & Ladi 2015).

Secondly, although much of the literature on networks in public management has sought to articulate effective management and leadership within networks (Ansell and Gash 2008; Isett et al. 2011), it has had little to say about the internal coordination problems these forms of collaboration call up for participating organizations. These issues are easily overlooked given that most studies on boundary-spanning or network-behaviour typically focus on the organizational-level, as if this were a unitary actor, or only look at the actions and decisions of a single manager, boundary spanner, or policy entrepreneur taken as representative of the entire organization (Alexander et al. 2011: 1274). By shifting the level of analysis to the sub-unit level of organizations, this chapter has provided more of an idea of what agencies experience as they prepare to work with and within networks, and what consequences the *external* requirements of changing environments have for the organization's *internal* functioning and operations.

As a cautionary note, however, it should be mentioned that this study has only looked at the way in which two Dutch financial sector regulators coordinate their boundary-spanning behaviour regarding transnational networks. Although one can reasonably expect that the considerations of this study are also relevant for other public administration settings in which organizations are involved in complex environments, the gathered evidence potentially emphasizes contingencies particular to the specific research setting of this study. Further comparative designs are thus encouraged as to ensure that officials and agencies operating in various contexts are studied and new potential contingencies, for instance at the country- or cultural-level, may emerge. This allows for better comparison and theorizing on the role that context plays in how boundary-spanning behaviour is internally managed and coordinated, and what factors at the individual-, organizational-, and institutional-level are important to consider (see O'Toole & Meier 2015).

In conclusion, it is noted how globalizing administrative patterns will continue to challenge domestic agencies to manage and coordinate the behaviours of an increasingly large number of officials that act on their behalf in transnational policy settings. This is a management issue, requiring solutions on how to effectively guide and control network behaviour and manage increasingly complex information flows (see Agranoff & McGuire 2013). At the same time, given the consideration that an increasingly large number of domestic officials operate outside the confines of domestic bureaucratic structures, questions of accountability and control will

inevitably emerge. The competing demands this places on domestic agencies will have to be reconciled *within* the agency, further underlining the importance of an intra-organizational perspective to (domestic) agencies operating in complex (trans-national) environments.

Chapter 6

Conclusion

6.1 INTRODUCTION

This dissertation has studied how domestic agencies and the officials representing them are influenced by and deal with the increasingly complex transnational environments in which they have come to operate. To do so, the following research question was formulated: “*How are domestic agencies influenced by transnational networks and how do these agencies internally structure and coordinate transnational network activities?*”. To answer this question, a first step was to study these networks through the lens of network analysis, assessing (1) how network relationships affect the rate by which regulatory agencies adopt transnational (enforcement) standards (chapter two) and (2) how regulatory agencies select partners in forming transnational agreements (chapter three). As a second step, qualitative data was used to study how domestic officials and agencies cope with the decision-making uncertainties underlying collaborative choices (chapter four) and the way in which domestic agencies internally structure and coordinate the transnational network behaviour of their officials (chapter five). Below, the main conclusions of these four studies are drawn up and discussion is provided on how they complement each other. In addition, the main theoretical, methodological, and practical implications of this thesis are drawn out. After that, some limitations of the presented analyses are noted and future lines of research are suggested.

6.2 MAIN FINDINGS AND CONTRIBUTIONS

Network Dynamics and Transnational Regulation

The first empirical chapter of this thesis assessed the applicability of a network-analytical perspective to study how transnational regulatory standards and principles spread across jurisdictions. In particular, this chapter found that the adoption behaviour of domestic agencies follows that of direct network partners, pointing to mechanisms such as learning and emulation to play an important role in the diffusion of soft law standards. Given the increasing importance of these soft law standards in transnational regulation (Farrell & Newman 2016; Efrat & Newman 2018), understanding the dynamics by which they spread across jurisdictions is crucially important. Particularly in the absence of formal enforcement authority at the transnational level (Sabel & Zeitlin 2010), alternative modes of coordination need to be sought to solve transnational collective action problems and *transgovernmental* networks have been ascribed an important role in this regard (see Jordana 2017). However, as the analysis of this chapter demonstrates, network structures are likely an important moderator to the way in which such a role is fulfilled. In

other words, the spread of information or peer influences are channeled through specific networked patterns of interaction and, depending on their place within an overall network structure, domestic agencies are exposed to such (network) influences differently. In understanding how regulatory and enforcement standards spread across jurisdiction, the embeddedness of agencies in transnational patterns of communication with other agencies (reference groups/cliقة-like structures) is thus crucial to consider.

The third chapter applied a similar network-analytical approach to explaining patterns in the partner selection choices of regulatory agencies in forming transnational (information exchange) agreements. It provided clear evidence for the presence of network effects in the formation of such bilateral agreements over time. Most prominently, the formation of such agreements is driven by *triadic closure*: the number of shared partners that two agencies have influences the likelihood that they will also form a bilateral agreement amongst themselves. This finding is consistent with the theoretical line of reasoning that agencies use their existing network relationships as information signals to guide future partner selection choices (see Gulati & Gargiulo 1999), although status-driven or reputational concerns played less of a role. As a general conclusion, however, this chapter demonstrates that decision-making about transnational agreements does not occur in isolation, but network dynamics are important for how globalizing administrative patterns form and develop (see Stone & Ladi 2015). Rather than merely looking at domestic (Bach & Newman 2014) or (general) sectoral (Van Boetzelaer & Princen 2012) factors to explain transnational collaboration, structural network patterns and relational interdependence should be taken into account as well.

Overall, mapping out the information-exchange agreements between regulatory agencies enabled this thesis to pin down what globalizing administrative patterns actually look like, rather than merely describing networks in the metaphorical sense (see Isett et al. 2011). Furthermore, rather than doing so cross-sectionally, the collection of longitudinal data helped to analyze how these patterns develop over time. Such an approach thus allows one to formulate and test more precise theoretical expectations regarding the effects of transnational networks on agency behaviour and decision-making. This is important because even though scholars frequently point to network effects in studying processes of regulatory harmonization (Raustiala, 2002; Bach & Newman, 2010) or other organizational outcomes, these theoretical intuitions are rarely explicated by rigorous empirical analysis. This dissertation then provides a better basis for theorizing about the kind of network effects to expect when analyzing how transnational relationships between regulatory

agencies from various jurisdictions form and develop. Moreover, by linking these network-structural patterns to established theoretical mechanisms of diffusion (see Gilardi 2012), we also gain a better understanding of *how* such network effects occur.

Transnational Networks and Administrative Behaviour

The fourth and fifth chapters of this thesis shifted the focus from the network-level to lower levels of analysis, by looking at the intra-organizational dimension of domestic actors operating in transnational networks. This focus was concerned with how domestic officials cope with the increasingly complex and uncertain environments in which they have come to operate, and how their collective transnational network activities are *internally* structured and coordinated.

Chapter four zoomed in on informal patterns of interaction surrounding transnational networks, and centered on the decision-making uncertainty underlying the selection of transnational network partners for close communication and information exchange. To assess how agencies and the officials representing them can cope with such uncertainties, contingency factors at different levels of analysis were explored. In particular, the analysis of this chapter demonstrated how institutionalized settings help domestic officials to simplify decision-making and minimize uncertainty regarding collaborative choices (see also Leifeld & Schneider 2012), but the degree to which they do so depends crucially on a number of specific characteristics, such as network size, frequency of meeting, and decision rules. Moreover, by demonstrating that organizational characteristics, such as the existence explicit boundary-spanning units, and individual characteristics, such as international experience of domestic officials, can fulfill a similar role, this chapter developed a theoretical model incorporating cross-level factors important to consider for the uncertainties involved in collaborating transnationally. Such a theoretical model, helps to think more clearly about the decision-making problems that confront an increasingly large number of public and regulatory officials that have come to operate outside the boundaries of domestic bureaucratic structures (see Stone & Ladi 2015; Knill & Bauer 2018), while also providing ideas on how such problems may be solved.

The fifth chapter of this thesis builds on these insights, but notes the challenging realization that it is typically *multiple* officials that *simultaneously* represent the agency in networked environments. Through the concepts of boundary-spanning and organizational structure, this chapter then explicitly analysed how the collective activities of these individuals are internally structured and coordinated as to fulfil organizational-level goals and strategies. In particular, this chapter argued that structural design choices help domestic agencies to better adjust to the demands of

the complex and heterogeneous transnational environments in which they increasingly operate, but also noted that these structural design choices call up several trade-offs regarding the core functions of boundary-spanning, i.e. information-processing and external representation. In particular, the role of specialized network-coordinators within the organization was highlighted. By acting as a linking pin between technical experts and those with formal authority to make decisions, they help agencies to reconcile the “cognitively unavoidable” need for specialization and decentralization when working within complex environments (i.e. differentiation), with the integrative need to keep public agencies and their operations accountable. However, in terms of information-processing and external representation, several risks of relying on such formal coordinators were also noted, particularly given the vast communication and information streams that converge at their positions.

Overall, providing an intra-organizational dimension to domestic agencies participating in transnational networks allowed for a shift of attention to the internal problems of management and coordination that complex and changing transnational environments potentially create for domestic agencies. This dimension is often overlooked by scholars studying the effects transnational governance on domestic (regulatory) agencies, as their primary focus is often on the principal-agent relationships between domestic agencies and political actors (see Bach et al. 2016) or the administrative structures of central government in general (see Laegreid et al. 2004). Moreover, although much of the literature on networks in public management has sought to articulate effective management and leadership within networks (Ansell & Gash 2008; McGuire & Silvia, 2010), it has had little to say about the internal coordination problems these forms of collaboration call up for participating organizations. By shifting the level of analysis to the sub-unit level of organizations, this thesis has provided more of an idea of what agencies experience as they prepare to work with and within networks, and what consequences external requirements of changing environments have for the organization’s internal functioning and operations (see McGuire & Agranoff 2010). Moreover, these empirical chapters also provide pointers on how domestic agencies (can) cope with the increasingly complex environments in which they have come to operate.

6.3 DISCUSSION

On the whole, this thesis combined different analytical foci to study transnational networks and their effects on domestic agencies and officials. While the first part of the dissertation provided a network-analytical perspective to globalizing administra-

tive patterns and how they potentially affect domestic agencies, the second part of this thesis zoomed in on how domestic agencies internally coordinate transnational network behaviour, as to cope with the uncertainties of the increasingly complex environment in which they have come to operate.

Important to consider in this regard is that the network-analytical chapters argued that due to a lack of information about the (1) implications of adopting transnational standards and (2) the capabilities or trustworthiness of potential partners, network relationships likely have an important effect on agency behaviour and decision-making. The qualitative part of this thesis, however, demonstrated that acquiring and processing such information is likely a function of organizational- and individual-level characteristics as well. When relating this back to main research question of this thesis, what follows is that the effects of transnational networks on domestic agencies are likely moderated by the way in which transnational network activities are structured and coordinated *inside* these agencies. In that sense, the findings of the qualitative part of this thesis complement the findings of the network-analytical part. Several aspects of this complementarity are noted in particular.

A first consideration is that based on chapters 4 and 5, one can reason that domestic agencies have different capacities and resources for (transnational) networking. This also means that they are differentially susceptible to the influences flowing from network relationships. After all, not all agencies will be equally reliant on the information signals provided by network partners on the implications of standard adoption (Chapter 2) or the trustworthiness of potential collaborators (Chapter 3). Information-processing is likely a function of the way in which boundary-spanning activities are organized, as well as the experience and expertise of organizational members. This also means that domestic agencies have different capacities for strategic behaviour within transnational networks and will experience different levels of uncertainty when engaging in transnational networked environments. Based on the organizational- and individual-level characteristics identified in Chapter 4, moderating hypotheses can thus be expected regarding the effects of transnational networks on domestic agencies. The assumption that actors make strategic decisions within a system of opportunities and constraints provided by their networked environments (see Mizruchi 1994), should be qualified by the consideration that domestic agencies likely differ in the extent to which they can interpret these opportunities or constraints and use it as a guide to their behaviour.

Secondly, Chapter 4 noted how domestic officials establish and maintain a wide variety of (informal) network relationships on behalf of the agency. This empirical

reality contrasts with the modeled account of the network-analytical chapters in this thesis, in which a network structure was derived by focusing on a single-type tie at the agency-level (see Shipilov 2012). Moreover, while Chapter 3 demonstrated how for the more formalized, structural relationships at the agency-level triadic closure proved an important driver of their formation, Chapter 4 - studying more informal patterns of interaction - departed more from the *direct* information signals provided by others within the institutionalized settings of transnational collaboration. In assessing the effects of network structure on agency behaviour and decision-making, the kind of ties under consideration and the context under which they are formed then seem particularly important to consider.

To clarify, the formalized agreements studied in Chapter 3 are likely more visible to others within the network, meaning that they can more credibly provide information signals about potential partners. In other words, in deciding on inter-agency agreement formation, domestic agencies can more accurately judge who their indirect partners are and can more plausibly make an assessment of their trustworthiness given the existing structure of relationships. This makes triadic closure such an important mechanism for explaining the formation of such agreements, as it provides information on actors who are otherwise hard to reach or engage with directly. Within institutionalized settings, however, such information signals based on indirect ties are much less needed, given that, through co-participation within a particular group, actors and their preferences often present themselves more directly (see Chapter 4). The dense interaction patterns between a relatively small group of actors that such institutionalized settings typically facilitate, decrease the utility of specific network positions such as centrality or brokerage. This also means that in studying such institutionalized settings, network-structural factors are likely to play a less important role in explaining collaboration patterns, i.e. actors are much better able to judge the preferences and trustworthiness of actors based on direct interaction in face-to-face meetings.

Thirdly, when looking at a particular network, we should consider that the interests of actors within a network are not solely defined in terms of the membership of that network. Chapter 4 demonstrated how agencies prioritize particular networks, distributing their limited time and resources across a wide variety of transnational policy venues. Moreover, Chapter 5 noted how transnational networking typically occurs within the shadow of domestic bureaucracy (see also McGuire & Agranoff 2010), making vertical accountability toward domestic supervisors or political principals a relevant consideration for the study of transnational network behaviour as well. This also means that in looking at the effects of transnational networks

on domestic agencies, it should be considered how important the operations of a particular network are to that agency, which is likely based on the policy preferences formulated in a national context. The higher the stakes and implications of adopting a particular standard for domestic stakeholders, for instance, the less likely agencies are to simply rely on information signals provided by their network partners. In these circumstances, we can more explicitly expect domestic actors to resist processes of diffusion (see Chapter 2) or try to force their preferences onto others within the network (see Bach & Newman 2010). Network prioritization thus arguably moderates the effects that transnational networks are likely to have on agency decision-making, as well as the way in which agencies behave in these networks.

Overall, these considerations put pressure on the simplifying assumptions underlying network models, particularly in terms of viewing agencies as unitary actors pursuing (mostly) rational strategies that maintain a single-type tie within a clearly defined network. There is a tension here between the simplification needed for network modeling and the complex reality of administrative behaviour (see Emirbayer & Goodwin 1994). These considerations are similar to those of Scharpf (1990; 1991; 1994) on the empirical usefulness of game theory and particularly relate to the conditions under which the simplifying assumptions needed for such modeling are plausible, and when they are not. The quantitative and qualitative parts of this thesis are then complementary in the sense that the latter can provide guidance on the conditions under which the assumptions of the former are more likely to hold. In that sense, they help to strike a balance in finding theoretical assumptions that have an adequate range of explanation, while still providing some degree of descriptive accuracy (see Sartori 1970; Bendor 1988).

Still, we should note that the function of simplifying assumptions is that they make complex communication patterns between a diverse array of actors tractable (see Maoz 2012). Similar to other types of models, their strength primarily lies in providing *precise* predictions about the behaviour of complex actors in complex networked contexts (Page 2018). In that sense, formal modeling thus has an important role in deepening our knowledge of how increasingly complex (policy and administrative) networks may function, as they are otherwise too complex to fruitfully study (see Lubell et al. 2012; Berardo & Lubell 2019). Critically analyzing the simplifying assumptions of these models as suggested above, is then primarily helpful in gaining a more sophisticated interpretation of the research findings based on these models. In particular, comparing the plausibility of modeling assumptions to the descriptive reality of the empirical context in which they are applied, can help to make better

sense of anomalous research findings, as well as a better diagnosis of misspecified models or over-attribution of outcomes to network-like factors (cf. Scharpf 1994). Herein lies the complementary nature of different kinds of studies, based on different kinds of methodological designs.

6.4 THEORETICAL IMPLICATIONS

The above-provided discussion of findings has several implications. Firstly, at the theoretical level, the findings of this thesis require us to take structural network properties more seriously when studying globalizing administrative patterns and their effects on domestic actors. As markets (have) become increasingly internationalized, the functioning of domestic actors has likely become interdependent with that of foreign counterparts (see Farrell & Newman 2016). This also means that their actions and decision-making cannot be studied in isolation, but that scholars should more explicitly account for the way in which agencies are embedded in transnational networks of foreign regulators and transnational institutions. Moreover, given that this embeddedness takes a particular form or structure (see Uzzi 1996), network-structural variables should take a central place in modelling how transnational networks develop, as well as what their effects are likely to be. Important to emphasize is that doing so requires more effort than simply looking at the direct connectedness of agencies to foreign counterparts. As this thesis demonstrates, the structure of indirect relationships surrounding actors' network positions is crucial to consider (see also Maoz et al. 2007; Cranmer & Desmarais 2016), as it gives substance to the idea of embeddedness and the way in which trust and norms of cooperative behaviour emerge in the context of transnational collaboration (see Van de Ven 1976; Obstfeld 2005; Kinne 2013).

The literature studying domestic actors in transnational administrative networks (Bach et al. 2016; Mastenbroek & Martinsen 2018) should thus extend their models by not only including domestic or sectoral factors (see Bach & Neman 2010; Van Boetzelaer & Princen 2012), but also explicitly incorporating network-structural factors. Rather than assuming agency decision-making to occur in isolation, such network-structural factors do more justice to the interdependence characterizing transnational collaboration patterns and the uncertainties underlying them. Moreover, such structural patterns have relevance for the potential role of transnational networks as regulatory intermediary (see Abott et al. 2017; Jordana 2017), as it influences the way in which these intermediaries can facilitate coordinative activities and help to disseminate soft law standards across jurisdictions. In particular, as

Chapter 2 demonstrates, the relational structures that exist within these networks are likely to moderate the effects that these intermediaries have and can help scholars to think more clearly about the differing degrees to which domestic agencies are susceptible to transnational collaborative initiatives (see also Feiock & Scholz 2010).

Secondly, the findings of this research require scholars studying transnational collaboration to take more seriously what the implications are of making decisions under conditions of uncertainty. The role of network relationships is somewhat paradoxical in this regard: on the one hand such network relationships help agencies to manage uncertainty, by providing them with access to necessary information and resources (Chapter 2 and 3). On the other hand, the increasing prevalence of these transnational networked relationships are itself a source of uncertainty, given the limited staff and resources with which agencies typically operate and the wide variety of working groups, committees, and collaborative partners with which they can potentially engage (Chapter 4 and 5). To manage this latter form of uncertainty, intra-organizational factors are crucial to consider as they largely determine the information-processing capabilities of the agency and the way in which the organizational core is buffered from outside disturbances (Thompson 1967). Coping with uncertainty has long been viewed by organizational theorists as “the essence of administrative process” (Ibid., 159) and is a crucial consideration for domestic agencies coping with complex transnational environments as well.

Theoretically, these considerations have important implications for the models currently used to theorize about globalizing administrative patterns and its implications (Bach et al. 2016). Particularly for the principal-agent or bureaucratic politics models that have been dominant in public administration scholarship, this thesis calls up a number of questions about the status of these models as an empirical theory (see also Waterman & Meier 2004). As Chapter 5 demonstrated, the amount of information flowing down from transnational arenas is vast and ambiguous and needs to be processed before it can inform decision-making. Moreover, the organizational structures and mechanisms in place to facilitate this process, likely direct attention to particular aspects of policy issues and result in a biased form of “uncertainty absorption” (see March & Simon, 1958; Egeberg 2012). In theoretically understanding the effects of transnational network on the operations and functioning of domestic actors, what P-A scholars perceive as manifestations of “shirking behaviour” or “institutional rivalry” and offer as evidence of a loss of political control (Newman 2008; Bach & Ruffing 2013; Bach et al. 2016), may in fact be an organization and its officials grappling with the complex transnational environment in which it has come to operate (see Pandey & Wright 2006). In that sense, the uncertainty arising from

such complexity is crucial to consider when studying the behaviour and interests of domestic “agents” in relation to processes of internationalization.

Thirdly, the different analytical foci of this thesis point to the importance of considering cross-level effects when trying to understand the way in which globalizing administrative patterns develop. Importantly, these patterns are built up from the interpersonal interactions between domestic officials representing the particular subunits of different governments (see Keohane & Nye 1974; Pawlak 2009). These individuals are embedded within a particular organizational structure and the organization itself is typically embedded by a broader political-institutional structure (see Eberlein & Newman 2008; Yesilkagit 2011). Changes at one of these levels likely has consequence for the other levels as well, meaning that questions about globalizing administrative patterns are inevitably also questions with a cross-level nature. For instance, changes in principal-agent relationships at the national level, potentially influence structural design choices within agencies (e.g. centralizing tendency), which impedes the behaviour of domestic officials operating in a particular transnational network. Conversely, the adoption of formalized agreements or standards at the transnational level that subsequently affect domestic political-institutional structures, may be the result of micro-level interactions between domestic officials, growing out of the social or personal relationships that they maintain.

A core message of this thesis is then that focussing on either micro- or macro-levels of analysis in studying globalizing administrative patterns is likely to lead to incomplete understandings at either level (Hitt et al. 2007; Moynihan 2018). Instead, theorizing should explicitly focus on macro-micro and micro-macro links and the empirical chapters of this thesis point to potential mechanisms or bridging assumptions connecting these levels (see Hedström & Ylikoski 2010; Raub et al. 2011). For instance, in terms of macro-micro links, note that the overall structure of transnational networks (Chapter 2 and 3) or institutionalized platforms or meeting places (Chapter 4) provide opportunities and constraints for domestic agencies when engaging in transnational collaboration, delineating possible courses of action. However, what specific actions domestic actors then take, is likely a result of the coordinative structures or organizational capacities that domestic actors have in place or the decision rules growing out of the inevitable bounded rationality of individual actors (see Chapters 4 and 5). To then go back to the macro-level, the eventual decision taken by the agency about standard adoption or partner selection subsequently affects and interacts with decisions of other actors, for instance giving rise to network effects such as tipping points or lock-in in the context of processes of regulatory harmonization (see Raustiala 2002). In studying globalizing administra-

tive patterns as they continue to develop, scholars are thus encouraged to explicitly characterize the level of analysis at which their theorizing occurs (e.g., individual-, organizational-, or network-level), as well as to think about the likely implications of findings for lower or higher levels (see also Jilke et al. 2019).

6.5 METHODOLOGICAL IMPLICATIONS

Methodologically, the analyses of this thesis also have several implications, particularly regarding the appropriate ways to study how complex transnational patterns of interaction develop and what their consequence are (see Maoz 2012; Scott & Ulibarri 2019). Most importantly, the (relational) interdependence underlying transnational forms of collaboration call for additional methodological requirements that are often not met by current studies looking at globalizing administrative patterns through a network-analytical perspective (e.g. Bach & Newman 2010; Maggetti & Gilardi 2011; 2014). Traditional network-analytical techniques, assuming independent observations and using cross-sectional data, are unable to track the dynamic and interdependent nature of networked patterns of collaboration. Particularly in answering explanatory research questions, merely providing network descriptive properties and inferring a causal argument based on regression-type modelling can be problematic (see Steglich et al. 2010).

In that sense, this thesis underlines recent calls in public administration research to “take network analysis more seriously” (Scott & Ulibarri 2019). Piecing out what mechanisms drive the interdependence between network structure and actor characteristics (selection or influence), is one of the core analytical challenges of social science research (see Steglich et al. 2010) and is relevant for the study of transnational networks and domestic actors as well. As this thesis shows, networks evolve dynamically over time, and in assessing the effects of transnational networks on participating actors, analysis should account for the continuously changing network context in which (actor) decisions are made. Each tie change modifies the state of the network, and later changes build on/are reliant on this new state (Snijders & Pickup 2018). To account for these processes of network and behavioural co-evolution, simulation based procedures provide the most reliable way to parameter estimation (see Snijders et al. 2010; Snijders & Steglich 2015), and its analytical leverage has also been demonstrated in the course of this thesis.

However, as the discussion on the complementary nature of the different chapters of this thesis already noted, the analytical leverage of qualitative data should also

be emphasized. As globalizing administrative patterns continue to develop, new forms of collaboration will emerge and complex contexts will continue to embed the behaviour of administrative officials (see O'Toole 2014). In studying these new forms of collaboration, the open-ended scope of qualitative methods then allow for particular contingencies to emerge, providing a better understanding of how existing theoretical models should be used when applied to the context of transnational collaboration, as well as how the findings of these models should be interpreted. Through the use of qualitative methods and in-depth case studies, (theoretical) ideas can be verified, new puzzles can be identified, and theoretical models can be further specified (see Ylikoski 2018). The crucial point here is to strike a balance between “dirty hands” and “clean models” (Hirsch et al. 1987) and qualitative data can provide clues about what this balance should look like. Although from a modelling perspective it makes sense to start with simple assumptions, qualitative research can help to elucidate when these assumptions become problematic and the introduction of more complex assumptions is warranted (see Lindenberg 1992; Raub et al. 2011).

6.6 PRACTICAL IMPLICATIONS

The findings of this thesis also have several practical implications. Firstly, the core focus on decision-making uncertainty in light of globalizing administrative patterns, also means that resourceful agencies are most likely to best cope with the accompanying complexity of these developments. *They* have the capacity to best process the vast amounts of information flowing from transnational policy arenas, deploy sufficient staff in the wide variety of transnational policy setting to keep track of what is going on, and accordingly influence transnational decision-making in a to them favourable direction (see also Drezner 2013). Complexity creates a larger scope for strategic behaviour, and the big and resourceful agencies are more likely to profit in this regard. As globalizing administrative patterns continue to develop (see Stone & Ladi 2015), the practical implications of these observations are thus that agencies from powerful countries are likely to become more powerful over time. Their capacity for information-processing allows them to keep track of what is going on in transnational policy settings and adjust their strategies, while smaller agencies are likely to be overwhelmed by ongoing developments.

These insights have implications for policy-makers at both transnational and national levels. At the transnational-level, the potential purpose of meeting platforms and institutionalized settings at the transnational level becomes more clear. In particular, such institutionalized settings can create the advantages of small-group

environments by facilitating regular meetings and taking care of according administrative requirements (Alter & Meunier 2009). This allows domestic actors to mitigate the uncertainties and costs implicit to transnational collaboration, enabling information exchange, negotiations about standard adoption, and the development of norms of cooperation and trust between actors that are otherwise geographically dispersed. Although the degree to which institutional settings fulfil such a function likely depends on a number of characteristics (see Chapter 4), opportunities for domestic actors to meet and exchange information, helps them to make more informed decisions about transnational policy solutions and their potential implications. This arguably decreases the role of power dynamics and information asymmetries within transnational networked forms of collaboration.

At the domestic-level, the findings of this thesis are also useful, in the sense that they can help agencies to think more clearly about their internal structures, particularly in terms of how it gives the officials that represent them transnationally the necessary capacity to operate collaboratively (see also McGuire & Silvia 2010). For instance, setting up specific boundary-spanning units or roles helps agencies to more effectively process information to inform decision-making and avoid information overload (Chapter 5), while explicit team structures help domestic officials to prepare international meetings by allowing for the pooling of expertise and network capabilities (Chapter 4). However, caution is also advised, given that the structural design choices that help agencies to cope with the complex environments of transnational collaboration, potentially hamper their accountability within a national context. For agencies involved in transnational collaboration, the consideration that they network “in the shadow of (domestic) bureaucracy” provides them with a constant balancing act when thinking about how to set up their transnational activities and operations.

6.7 LIMITATIONS

Besides these implications, it should be noted that this dissertation also has several limitations. First, the analyses in the different empirical chapters focus on one specific regulatory sector, namely financial sector regulation. Although the choice for this prototypical complex research context has merits, particularly as a basis for analytic or theoretical inference (see Chapter 1), several cautionary notes should be made. For one, the quantitative studies focus on transnational collaboration between securities regulators, which is only one of the many regulatory sectors in which such transnational collaboration occurs. Moreover, within this field it

primarily focuses on standards referring to enforcement cooperation. Although this thesis provides a useful plausibility probe for assessing the leverage of network-analytical explanations, transferring the argument to more stringent standards or other regulatory sectors with different characteristics and idiosyncrasies should be done with caution. Similarly, the status of much of the qualitative evidence is limited to the Dutch research context, focusing on its national financial regulators and ministry officials. Although the studied cases contribute to a more general theoretical understanding of how domestic agencies internally structure and coordinate transnational network activities, it should be noted that the gathered evidence potentially emphasizes contingencies particular to those specific research settings.

Secondly, in terms of the causal arguments of the first two empirical chapters, note that the forms of longitudinal network analysis presented in these chapters do not provide evidence for causality in the counterfactual sense of the word. A crucial challenge for causal inference in the context of network analysis, is that there always exists the possibility that connected actors exhibit similar kinds of behaviour not because they influence each other (causality), but because actors that are similar tend to form ties (homophily) (see Elwert & Winship 2014). This is especially problematic when the causes for homophily are unobserved (see Shalizi & Thomas 2011). The longitudinal aspects of our network studies *do* allow for an argument regarding temporal order, i.e. establishing whether first the network relationships change and then behaviour changes, or vice versa. (see Snijders & Pickup 2017), which partly helps in separating selection and influence effects. However, in the absence of counterfactual or more direct forms of evidence about what drives the behaviour of network participants, the possibility should always be considered that network effects are *epiphenomenal* to some underlying causal force or alternative explanation not considered in the theoretical models.

Thirdly, another limitation to consider is that in empirically studying network relationships, the analysis has not really looked at the various types of network relationships that can exist between agencies. To simplify the analysis and derive a straightforward network structure, it was assumed that agencies maintain single-type ties, with dichotomous values signifying the existence or absence of relationships. However, as the qualitative chapters of this dissertation demonstrate, the network relationships between actors may vary widely in terms of the type of contact, the frequency of interaction, and the strength of relationships. In understanding the effects of transnational networks on domestic actors, the characteristics of the ties that make up the network are likely to have important implications. Network members play multiple roles and are thus likely to be embedded by different types

of relationships (see Shipilov & Li 2012), which is not accounted for in the network-analytical chapters of this thesis. In addition, in conceptualizing the network, membership was primarily defined by only looking at interactions between similar kinds of actors, i.e. regulators and ministry officials. In that sense, the studied patterns of interaction are primarily transgovernmental ones (i.e. between like sub-state actors), rather than more general transnational ones, in which non-governmental and private actors such as business and industry stakeholders are also included (i.e. the political economy view) (see Eilstrup-Sangiovanni 2017).

Fourthly, with regard to the evidence status of the qualitative data of this thesis, it should be noted that the conducted interviews rely on the subjective impressions of interview respondents. Parts of these problems are tackled by interviewing several respondents from the same organizations, allowing for more valid conclusions about said organization. In other words, speaking with multiple respondents and asking about similar processes helps to verify provided accounts and gives a more balanced representation of the phenomenon of interest (Eisenhardt & Graebner, 2007). However, it should be noted that when respondents talk about the way in which they collaborate in transnational environments, this collaboration is not actually observed. Instead, the qualitative chapters rely on the ex-post rationalized accounts of these instances of collaboration and the way in which they are prepared within the organization. Social desirability may be at work here, in which respondents are concerned with impression management to portray themselves and their organizations as capable and professional (Leech et al. 2002). This potentially leads them to give a more calculated and strategic account of the way in which they behave in transnational settings, as well as how their agencies internally coordinate transnational network behaviour. Although the qualitative data are not used as direct evidence for some general theoretical claim, but rather as a basis for further theorizing, these considerations should be noted nonetheless.

6.8 FUTURE LINES OF RESEARCH

From these limitations and the earlier provided theoretical discussion, several future lines of research emerge. First, given that the forms of collaboration studied in the empirical chapters are typical for other kinds of collaborative settings as well (see Yang & Maxwell 2011; Efrat & Newman 2018), we can reasonably expect the network dynamics found in this thesis to be relevant for other fields of public administration research. Therefore, scholars are encouraged to assess the generalizability of findings, beyond the context of transnational collaboration between securities or

financial sector regulators. Comparing different research contexts gives us a better idea of how network effects vary across research settings and what particular contingencies potentially influence inter-agency agreement formation. For instance, comparing the findings of the quantitative chapters on regulatory agencies to the way in which collaboration agreements between executive agencies or ministerial departments form and develop is potentially interesting given the different forms of interdependence or political salience that characterize these types of collaboration (Egeberg & Trondal 2009). Moreover, for the qualitative chapters, further comparative designs are also encouraged to ensure that officials operating in different political-institutional contexts are studied and new potential contingencies, for instance at the country- or cultural-level, may emerge. All in all, such an agenda helps assess generalizability of findings toward other regulatory sectors and kinds of organizations/agencies, and provides lines for further theorizing, particularly regarding role of context in the applicability of the generated theoretical insights (see O'Toole & Meier 2015).

Secondly, investigating *multiplex* relationships in the study of transnational administrative networks is an important line of future inquiry. Multiplexity refers to the extent to which two actors are linked together by more than one (type of) relationship (Ferriani et al. 2013). From the qualitative chapters, we learned that many types of cross-national relationships can exist between regulatory agencies, from formalized agreements or general network membership, to co-participation in specific working groups or commissions, and personal interactions between regulatory officials. The co-existence of these different types of relationships implies that the existence of one may drive the emergence of others (Lomi & Pattison 2006; Shipilov & Li 2012). Looking at the content of ties, rather than merely studying the structure formed by them, is then a crucial research agenda for scholars studying globalizing administrative patterns from a network-analytical perspective. The relationship between social and economic ties has long been studied by organizational theorists (Granovetter 1985; Uzzi 1996) and also holds promise for bringing together scholars studying inter-agency collaboration from a structural and behavioural perspective (see Bach et al. 2016). Theorizing and analyzing such relationships can help to answer important questions regarding the role of social dynamics in explaining structural-institutional forms and vice versa. Interesting to consider in this regard, are the potential overlapping ties in upper echelons (Haunschild & Beckman 1998) or the way in which formal ties are intertwined with personal relationships (Uzzi 1996). However, note that the analysis of multiplex relationships also brings potential additional methodological challenges, for instance in terms of data collection

requirements (see Henry et al. 2012) or modelling considerations (see Skvoretz & Agneessens 2007).

Third, scholars are encouraged to more explicitly consider the time dimension in how transnational networks evolve and what their effects are. The analyses of the second and third chapters demonstrate the importance of longitudinal designs in understanding processes of regulatory harmonization and the network effects that drive them. For the purposes of these chapters, a longitudinal design primarily helped to establish temporal order and in that way enabled a better distinction between selection and influence effects (Steglich et al. 2010). However, given the findings of these studies, in which the parameter values differed between periods of analysis, the time dimension of these networks also seems to be a promising avenue for future research. Time heterogeneity is not merely a modeling consideration, but an intrinsically interesting phenomenon in itself (see Lospinoso et al. 2011). Explicit theorizing should thus occur on how exogenous shocks or factors (e.g., financial crises, institutional changes) influence the existence, strength, and directions of network effects over time. Comparing network dynamics in the early stages of a network to the dynamics of later stages or *across* various stages of institutionalization may be promising agendas for future research, especially when looking at the current (institutionalized) nature of transnational collaboration (see Eberlein & Newman 2008; Saz-Carranza et al. 2016). In addition, before/after situations regarding exogenous shocks relevant to public administration research, such as changes in network funding (i.e. resource munificence) or explicit cutbacks (see Turrini et al. 2010), may also be relevant to consider.

Fourth, the behavioural implications of operating under conditions of high uncertainty should be studied further and seem particularly relevant for the complex context of transnational collaboration (see Hamilton & Lubell 2018). A core insight from scholars studying individual decision-making, is that such uncertainty typically leads to selective information-process and the use decision-making heuristics (see Simon 1985; Jones 2001; Vis 2019). This analytical focus on the role of heuristics and biases in human judgment and decision-making has increasingly gained ground in public administration research (see Grimmelikhuijsen et al. 2016) and can be used as inspiration for studying individual behaviour in the context of complex transnational environments as well, for instance when studying collaborative choices. A first step is then to describe what exactly these heuristics are and how they are used in a transnational context (see Walgrave & Dejaeghere 2017). After that, more specific theorizing can proceed to identify the specific conditions under which these heuristics are (more) likely to occur. A particularly important agenda regarding this

latter point, is to look at the institutional and organizational settings in which officials operate (see Bendor 2010). As demonstrated in Chapter 4, the characteristics of these settings may help individual decision-makers to cope with complex environments and mitigate decision-making problems. In looking at behavioural dynamics in the context of complex transnational environments, scholars should thus not only rely on applying psychological knowledge to public administration research, but also theorize at a higher level, focusing on the organizational or institutional solutions that help individual decision-makers to better deal with complexity and potentially mitigate identified decision-making biases and heuristics.

Lastly, in trying to understand globalizing administrative patterns and their effects on domestic agencies, we should think more clearly about the potential accountability issues involved (see Yesilkagit 2016). The weak presence of citizen participation in such networks, as well as a lack of visibility and uncoupling from the democratic circuit, potentially raises a number of challenges for the operation of these networks (see Papadopolous 2007; Van Osch 2017). However, given the extensive chains of delegation that exist for domestic agencies operating in transnational settings, strict top-down accountability solutions are potentially problematic and hamper these agencies' capacity to operate effectively in complex networked environments (see Chapter 5). In thinking about what a system of "checks and balances" in the context of transnational collaboration may look like (Slaughter, 2004: 29), future lines of research are encouraged to also explore bottom-up forms of accountability, which more explicitly emphasize norms of professionalization and expertise, as well as more symbolic forms of representation (see Eisner et al 1996; Groeneveld 2016; Meier 2019).

6.9 CONCLUSION

Given the increasing prevalence of transnational networks in various regulatory and policy sectors (see Newman & Zaring 2013; Efrat and Newman 2018), this dissertation provides a basis for further theorizing about ongoing and future developments in the fields of regulatory governance and public administration. Given that these networked forms of collaboration are expected to play an important role in pressing transnational policy problems, such as global warming, refugee crises, financial meltdowns, or terrorist activities, the effective functioning of such networks is crucial. However, besides looking at the ways in which these networks can be effective, we should also think more clearly about the effects these networks may have on domestic bureaucratic structures, and the way in which they increasingly challenge

domestic agencies and departments to operate in relational modes. On the one hand, this is a management issue, requiring solutions about how to effectively guide and control network behaviour and manage increasingly complex information flows. On the other hand, this is a political issue, raising concerns about steering and controlling domestic officials operating outside the confines of domestic bureaucratic structures. In thinking about how transnational networks affect domestic actors and agencies, this balancing act between effectiveness and accountability is a core challenge for both research and practice.

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Appendices

APPENDIX A - INTERVIEW GUIDE (CHAPTERS 4 & 5)

Note: The interview guide below was translated from Dutch. Also, in practice, the interview guide taken to the actual interview was specified further depending on the particular characteristics of the respondent (i.e. organization, function). Still, the sequence of questions as described below was always the blueprint, as to ensure the basic areas of interest were covered.

1. **General Introduction:** Explaining the goals of the research and what will be discussed (in general lines) during the interview. Procedures on anonymization and data protection (transcript/recording).
2. **Walkthrough of activities and setup of organizational unit.**
 - a. Role and relation of the unit to the broader organization.
 - b. Specific tasks of respondent within the unit/organization.
3. **Walkthrough international platforms with which the unit is involved**
 - a. Who typically participates on behalf of the unit?
 - b. International activities respondent. Involved in what ways?
4. **Specific regulatory standards/dossiers currently relevant:**
 - a. Specific dossiers with which respondents is involved
 - b. Identify suitable examples to which to return
5. **Walkthrough of how international meetings are typically prepared:**
 - a. Structure of preparation, determining positions, finding coalition partners
 - b. Coordinating with other units
 - c. Respondents own role + examples.
6. **Walkthrough of reporting on international meetings/activities:**
 - a. Reporting to supervisors? In what ways?
 - b. Keeping a log? Communicating activities (to whom)?
7. **Coordination with other (national) agencies/ministries**
 - a. Ways of convening, contact. Speaking with one voice?
 - b. Examples good or bad. Own involvement?

8. **International negotiations/decision-making: ways of influence?**
 - a. Different policy instruments/strategies of influence
 - b. Probing for examples/own experiences.
9. **Comparing different types of fora/platforms (European/Global)**
 - a. Nature of negotiations? Different strategies required?
 - b. Probing for examples/own experiences.
10. **Level of contact with foreign regulators/officials. Role of informal network?**
 - a. Meeting the same people? Different per country?
 - b. Determining who is an appropriate partner?
 - c. Role of informal network/social dynamics.
11. **Wrap-up and debriefing**
 - a. Additions? Returning to particular questions.
 - b. Debriefing and next steps.

APPENDIX B - GOODNESS OF FIT STATISTICS (CHAPTER 3)

Goodness of Fit checks whether the RSiena model sufficiently reproduces the characteristics of the observed network. Good fit is established by simulating auxiliary statistics and assessing whether the average values of these auxiliary are close enough to the values observed in the data. This fit is visualized below in which the goals is to have the observed values within the confidence bands of the simulated values. The tested auxiliary statistics are In-/Outdegree distributions and triad census distribution. Note that higher p-values indicate better fit. For more information, see Schweinberger (2012).

FIGURE A1 GOF In-/Outdegree Distribution Analysis Period 1999-2008

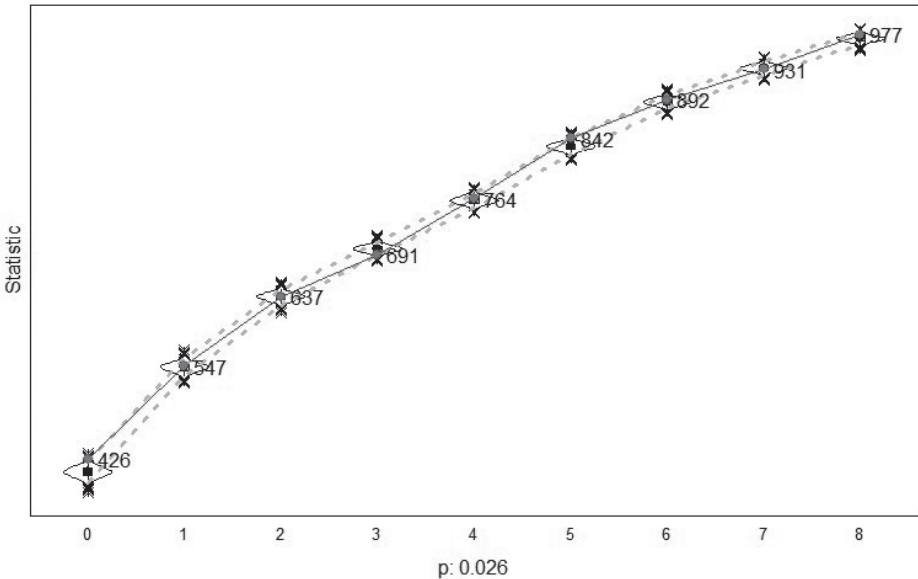


FIGURE A2 GOF Triad Census Distribution Analysis Period 1999-2008

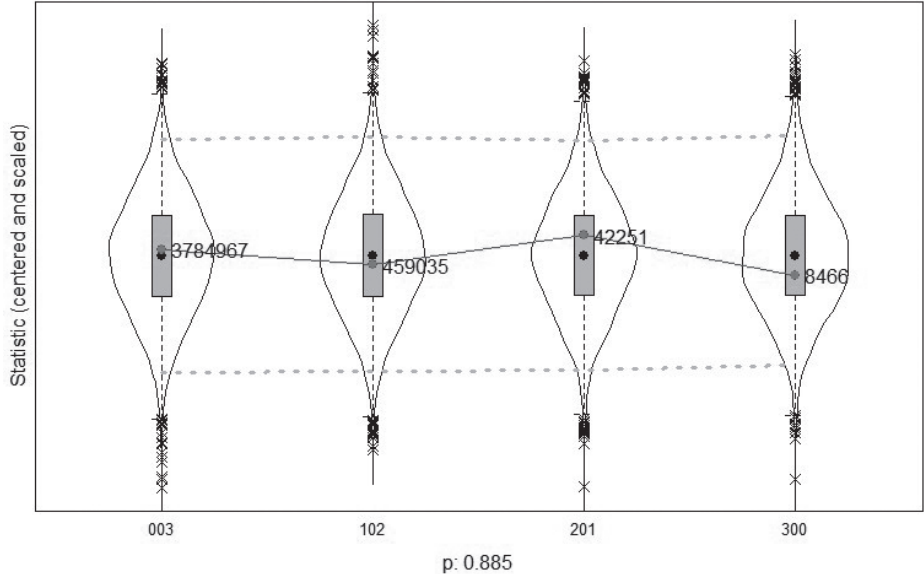


FIGURE A3 GOF In-/Outdegree Distribution Analysis Period 2008-2017

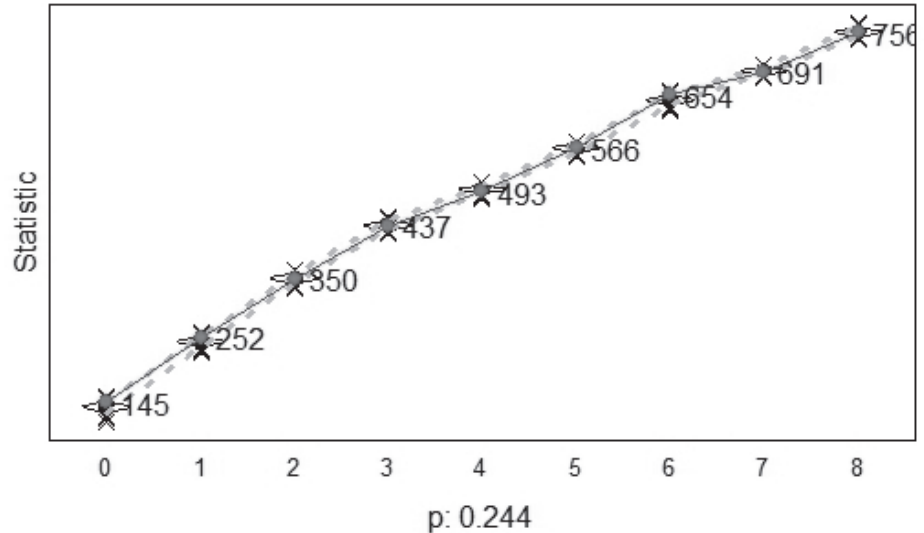
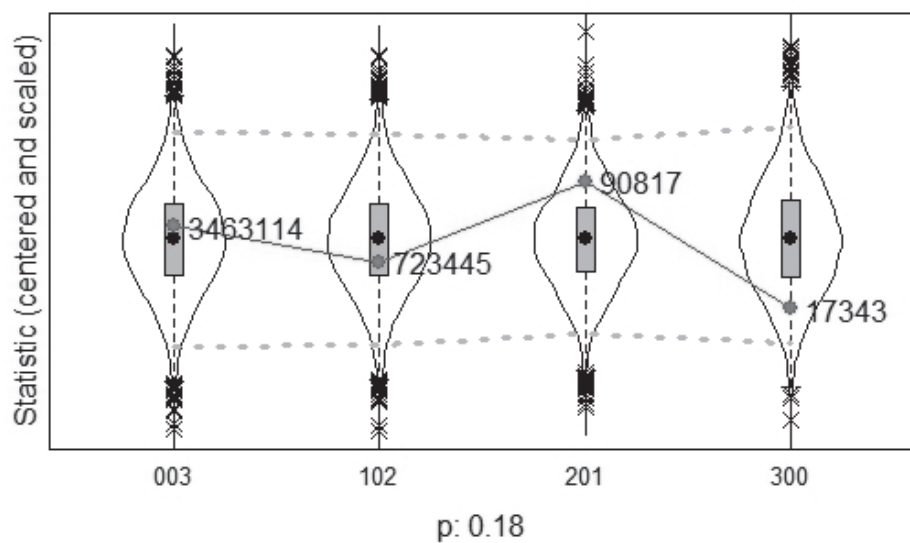


FIGURE A4 GOF Triad Census Distribution Analysis Period 2008-2017



Dutch Summary

DUTCH SUMMARY

Transnationale Netwerken en Nationale Agentschappen: Grip op Patronen van Globaliserend Bestuur

Introductie en Onderzoeksvraag

Doordat markten in toenemende mate zijn geïnternationaliseerd, opereren (sub-)nationale toezichthouders steeds vaker in een internationale omgeving. Hier werken ze samen met collega-toezichthouders en beleidsmakers uit andere landen, vaak door deel te nemen aan een van de talloze samenwerkingsverbanden, werkgroepen, commissies, en *task forces* waar het internationale beleidsveld vandaag de dag uit bestaat. Binnen deze vormen van *netwerksamenwerking* wisselen toezichthouders onderling informatie uit en onderhandelen ze over internationale standaarden en richtlijnen om het toezicht op geïnternationaliseerde markten vorm te geven. De implicaties van transnationale netwerksamenwerking voor het functioneren van *nationale* toezichthouders staan in deze dissertatie centraal en worden op twee niveaus bestudeerd.

Allereerst wordt er vanuit een *netwerk-analytisch perspectief* gekeken naar de specifieke vormen van internationale samenwerking en hun uitwerking op het gedrag en besluitvorming van nationale toezichthouders. In het bijzonder wordt hierbij de nadruk gelegd op het in kaart brengen van *netwerkstructuren* om beter te kunnen begrijpen hoe nationale toezichthouders zijn ingebed in internationale samenwerkingsvormen. Anders dan het beschrijven van netwerken als *metaforen*, staat deze focus op netwerkstructuren dit onderzoek toe om een concretere invulling te geven aan *hoe* transnationale netwerken een effect hebben op nationale toezichthouders. Vanuit een netwerk-analytisch perspectief is het immers mogelijk om variatie in netwerkstructuren te beschrijven en verwachtingen te formuleren ten aanzien van hoe nationale agentschappen op verschillende wijze door deze structuren worden beïnvloed.

Daarnaast wordt er in deze dissertatie expliciet ingezoomd op wat er *intern* gebeurt bij nationale agentschappen wanneer zij in toenemende mate betrokken raken bij verschillende internationale beleidsnetwerken. Het groot aantal medewerkers dat namens nationale toezichthouders internationaal actief is, werpt namelijk een aantal belangrijke vraagstukken op ten aanzien van de interne aansturing van deze medewerkers en het coördineren van hun gezamenlijke activiteiten. Enerzijds brengt het opereren in een complexe omgeving aanzienlijke onzekerheid met zich mee en moeten nationale toezichthouders hun organisatieprocessen hier op

aanpassen. Anderzijds wordt de (semi-)publieke context van toezicht gekenmerkt door een noodzaak tot verantwoording. De organisatieveranderingen die nodig zijn om effectief te opereren in een complexe internationale omgeving zijn hierbij niet altijd dezelfde als degenen die nodig zijn om verantwoording af te blijven leggen in een nationale context.

Deze twee analyseniveaus zijn verwerkt in de volgende onderzoeksvraag: *“Hoe worden nationale agentschappen beïnvloed door transnationale netwerken en hoe structureren en coördineren deze agentschappen [intern] hun transnationale netwerkactiviteiten?”*. Deze onderzoeksvraag geeft een overkoepelende structuur aan de analyse die is opgebroken in vier empirische hoofdstukken. De eerste twee empirische hoofdstukken zijn hierbij gebaseerd op het netwerk-analytische perspectief en de laatste twee empirische hoofdstukken hanteren een intra-organisatoneel perspectief. Voordat de resultaten van deze hoofdstukken worden beschreven, zijn hieronder eerst de onderzoeksmethoden uiteengezet die nodig zijn voor de invulling van de analyses aan de hand van de verschillende perspectieven. De samenvatting wordt afgesloten met een algemene conclusie waarin een aantal bredere overwegingen en theoretische implicaties van het onderzoek worden meegegeven.

Methoden van Onderzoek

Om focus aan te brengen, bestudeert deze dissertatie de onderzoeksvraag in een specifieke onderzoekscontext. Deze context wordt gegeven door het beleid rond toezicht op de financiële sector, waar onder andere banken, verzekeraars, en de effectenhandel onder vallen. De keuze voor deze context is ingegeven door de overweging dat dat er binnen toezicht op de financiële sector internationaal gezien een grote verscheidenheid aan actoren en instituties actief is en er tevens een groot volume aan regels, richtlijnen, en internationale overeenkomsten bestaat. Dit garandeert dat netwerksamenwerking en het omgaan met complexiteit een relevante overweging is voor de toezichthouders die in deze dissertatie bestudeerd worden. Op die manier staat de keuze voor deze onderzoekscontext toe om data te verzamelen over hoe toezichthouders omgaan met een complexe transnationale omgeving en kan de verzamelde data hierover gebruikt worden voor het ontwikkelen en uitwerken van theorie; de kerndoelstelling van deze dissertatie.

Wat betreft specifieke onderzoeksmethoden, gebruikt het eerste empirische deel van deze dissertatie statistische netwerkmodellen, te weten het Stochastische Actor-Georiënteerde Model. Dit type netwerkmodel is geschikt voor het expliciet modelleren van veranderingen in netwerken en gedrag en staat de onderzoeker toe hierover verklarende onderzoeksvragen te beantwoorden. Middels het verzamelen

van longitudinale data over de bilaterale verdragen tussen toezichthouders kan zo in kaart worden gebracht hoe internationale samenwerking zich door de tijd heen ontwikkelt en welke netwerkpatronen hierin te ontdekken zijn. Belangrijk om hierbij te benoemen is dat deze statistische netwerkmodellen beter rekening houden met de afhankelijkheid van observaties inherent aan netwerkdata dan dat traditionele netwerk analyse methoden dit doen.

Daarnaast gebruikt deze dissertatie kwalitatieve methoden om theoretisch verder invulling te geven aan wat er intern gebeurt bij nationale toezichthouders die in toenemende mate internationaal actief zijn. Aan de hand van 20 interviews met Nederlandse beleidsmakers en toezichthouders die betrokken zijn bij internationale samenwerking op het gebied van toezicht op de financiële sector is in kaart gebracht hoe zij opereren in een internationale omgeving, alsmede de manieren waarop de internationale activiteiten van hun organisaties intern worden gecoördineerd en aangestuurd. Belangrijk om hierbij te benoemen is dat de kwalitatieve data uit de interviews zijn gebruikt voor het *theorie-uitwerking*, waarbij bestaande concepten worden toegepast op een nieuwe onderzoekscontext om deze vervolgens verder uit te werken en over hun toepassing te theoretiseren.

Bevindingen

Netwerk-Analytisch Perspectief

In het eerste empirische hoofdstuk is gekeken naar de toepasbaarheid van een netwerk-analytisch perspectief op het vraagstuk hoe toezichtsstandaarden zich verspreiden over landen. De empirische puzzel hierbij is dat er veel variatie bestaat in de snelheid waarmee toezichthouders deze standaarden ondertekenen en implementeren, zeker ook omdat adoptie van deze standaarden vaak vrijwillig is. Aan de hand van een analyse van hoe een standaard van IOSCO rond informatie-uitwisseling zich de afgelopen decennia over landen heeft verspreid, laat dit hoofdstuk middels statistische netwerkmodellen zien dat standaardadoptie zich verspreidt langs de lijnen van het netwerk, hetgeen duidt op sociale diffusie. Met andere woorden, toezichthouders volgen het gedrag van hun directe netwerkpartners wanneer zij een keuze maken ten aanzien van de adoptie van standaarden. Dit is een belangrijke bevinding omdat er gezien de afwezigheid van een formele autoriteit op het internationale niveau die handhaving kan afdwingen, alternatieve manieren moeten worden gevonden om coördinatie en afstemming te bereiken. Netwerksamenwerking wordt hierbij vaak aangedragen als oplossing voor het probleem van collectieve actie dat internationale regulering en toezicht karakteriseert. Dit hoofdstuk laat zien dat netwerksamenwerking inderdaad deze potentie heeft, maar dat er goed gekeken

moet worden naar de precieze structuur van relaties waar het netwerk uit bestaat. Informatie en invloed verspreiden zich namelijk langs de lijnen van het netwerk en, afhankelijk van hun plek in dit netwerk, zijn toezichthouders hier dus in meer of mindere mate gevoelig voor. Als we beter willen begrijpen hoe toezichtsstandaarden zich verspreiden over landen, is het daarom van cruciaal belang om concreet te zijn over hoe nationale toezichthouders zijn ingebed in bredere transnationale communicatiepatronen. Netwerkanalyse is hierbij een belangrijk instrument om deze patronen in kaart te brengen.

Het tweede empirische hoofdstuk hanteert eveneens netwerk-analytische methoden en focust zich op de vraag hoe internationale netwerken van toezichthouders zich ontwikkelen door de tijd heen. In het bijzonder kijkt dit hoofdstuk naar de vraag wat de drijvende kracht is achter het besluit van twee toezichthouders om een onderling samenwerkingsverband aan te gaan. De formatie van bilaterale verdragen ten aanzien van informatie-uitwisseling wordt hierbij als afhankelijke variabele genomen en de analyse test verschillende hypothesen over of bestaande netwerkstructuren verklaren hoe deze verdragen zich ontwikkelen door de tijd heen. Op basis van een longitudinale analyse van bilaterale informatie-uitwisselingsverdragen tussen nationale toezichthouders op het gebied van effectenhandel, concludeert dit hoofdstuk dat het aangaan van zulke verdragen voornamelijk gedreven wordt door *triadic closure*: het aantal gedeelde partners dat twee agentschappen hebben is een belangrijke voorspeller voor de het onderling aangaan van een verdrag. Dit patroon is consistent met de theoretische redenering dat agentschappen de bestaande relaties in het netwerk gebruiken als informatiesignaal voor de betrouwbaarheid of competentie van potentiële partners. Hiermee wordt aangetoond dat besluitvorming rond bilaterale verdragen en internationale samenwerking niet los gezien kan worden van de bredere dynamiek van het netwerk. Netwerkeffecten spelen een belangrijke rol in hoe internationale patronen van samenwerking zich door de tijd heen ontwikkelen en moeten worden meegenomen in het verklaren van deze patronen.

Al met al, door informatie-uitwisselingsverdragen middels netwerk-analytische methoden te bestuderen is het eerste deel van deze dissertatie er beter in geslaagd om aan te tonen hoe patronen van globaliserend bestuur er daadwerkelijk uit zien, in plaats van het netwerk alleen als krachtige metafoor te gebruiken om deze patronen in abstractere zin te duiden. Dankzij deze benadering kan men preciezere verwachtingen formuleren en testen ten aanzien van *hoe* netwerken een effect hebben. Dit is een belangrijke stap omdat onderzoekers vaak wel wijzen op het belang van netwerkeffecten in beleids- en toezichtsharmonisering, maar deze theoretische intuïtie zelden expliciet testen middels rigoureu empirisch onderzoek. Aan de hand

van een netwerk-analytisch perspectief biedt deze dissertatie daarentegen een basis om concreter te theoretiseren over wat voor netwerkeffecten men kan verwachten bij de analyse van internationale patronen van samenwerking, alsmede aan aantal handvatten om deze effecten empirisch te toetsen.

Intra-Organisationeel Perspectief

Het vierde en vijfde hoofdstuk verleggen de focus van het netwerk naar lagere analyseniveaus. In deze hoofdstukken wordt een *intra-organisationeel perspectief* gehanteerd om beter te kijken naar hoe nationale toezichthouders en hun medewerkers omgaan met de steeds complexere internationale omgeving waarbinnen zij moeten opereren.

Hoofdstuk vier vertrekt hierbij vanuit de complexe patronen van informele communicatie die rond internationale samenwerking zijn ontstaan en welke uitdagingen dit oproept voor de toezichthouders en beleidsmedewerkers die hun organisatie internationaal vertegenwoordigen. Zij moeten zich door het steeds complexer wordende beleidsveld heen navigeren en moeten hierbij vaak zelf bepalen wat mogelijke geschikte samenwerkingspartners zijn voor (informele) informatie-uitwisseling en coalitievorming. De moeilijkheid hierbij is dat het inschatten van andermans capaciteiten, prioriteiten, en betrouwbaarheid lastig is, zeker in de context van internationale samenwerking waar het contact minder frequent is en communicatie vaak minder soepel verloopt. Hierdoor ontstaat besluitvormingsonzekerheid rond het kiezen van geschikte samenwerkingspartners en moeten toezichthouders manieren zoeken om met deze onzekerheid om te gaan. In lijn met recentere beleidsnetwerkliteratuur, wordt hierbij geconstateerd dat de institutionele setting van internationale samenwerking nationale ambtenaren helpt om besluitvorming rond samenwerkingspartners te simplificeren, maar dat de mate waarin dit gebeurt afhangt van een aantal specifieke karakteristieken, zoals netwerk grootte, ontmoetingsfrequentie, en bestaande besluitvormingsregels. Daarnaast laat de analyse van dit hoofdstuk zien dat karakteristieken van de organisatie, zoals expliciete boundary-spanning units, en het individu, zoals internationale ervaring, een zelfde rol kunnen vervullen in het verminderen van de onzekerheid rond internationale samenwerking. Op basis hiervan ontwikkelt dit hoofdstuk een theoretisch model met factoren op verschillende niveaus die een rol spelen in de mate van onzekerheid die nationale actoren waarschijnlijk ervaren in internationale samenwerking. Zo'n model is van belang omdat het ons beter laat nadenken over de problemen waarmee nationale toezichthouders geconfronteerd worden zodra ze buiten landsgrenzen opereren en geeft een idee van hoe deze problemen kunnen worden opgelost, zowel op institutioneel als organisationeel niveau.

Het vijfde hoofdstuk bouwt voort op deze inzichten, maar kijkt hierbij vooral naar de geconstateerde uitdaging dat het vaak meerdere medewerkers zijn die tegelijkertijd nationale toezichthouders vertegenwoordigen in verschillende netwerkomgevingen. Middels organisatietheoretische literatuur over boundary-spanning en organisatiestructuur, kijkt dit hoofdstuk expliciet naar hoe het collectieve gedrag van deze individuen *intern* wordt gecoördineerd. De analyse laat hierbij zien dat toezichthouders speciale netwerk coördinatoren aanstellen die functioneren als intern en extern aanspreekpunt voor de activiteiten rond een specifiek netwerk. Zij vormen een schakel tussen experts en besluitvormers op verschillende hiërarchische niveaus en spelen een belangrijke rol in de manier waarop de organisatie informatie verwerkt en hoe deze extern vertegenwoordigd wordt binnen de internationale vormen van samenwerking. In die zin helpen ze nationale agentschappen om de noodzaak tot specialisering en decentralisatie onder druk van de complexe omgevingen waarin ze opereren te verenigen met de noodzaak tot integratie om verantwoording te blijven afleggen in een nationale context. Deze oplossing levert echter ook weer haar eigen problemen op, bijvoorbeeld in de grote informatie- en communicatiestromen die bij deze coördinatoren samenkomen. Al met al, laat dit hoofdstuk zien dat bepaalde keuzes in de organisatiestructuur nationale toezichthouders toestaan beter om te gaan met een complexe internationale omgeving, maar dat diezelfde keuzes ook vragen oproepen ten aanzien van verantwoording in een nationale context.

Middels de concepten uit deze hoofdstukken legt het tweede deel van deze dissertatie dus meer de nadruk op de interne problemen die de toegenomen internationale samenwerking mogelijk oproepen voor nationale toezichthouders. Deze problemen worden vaak genegeerd doordat de bestaande literatuur vooral de focus heeft op principaal-agent relaties tussen toezichthouders en politieke actoren, of meer kijkt naar het effect van internationalisering op de centrale overheid als geheel. Internationalisering heeft echter grote gevolgen voor het intern functioneren van organisaties die om moeten gaan met toegenomen complexiteit van hun omgeving en een steeds uitgebreider takenpakket. Het intra-organisationale perspectief van deze hoofdstukken brengt de hieruit voortkomende problemen beter in beeld en geeft ook een idee van hoe nationale toezichthouders met deze problemen om kunnen gaan.

Algemene Conclusie

In dit proefschrift stond de volgende vraag centraal: *“Hoe worden nationale agentschappen beïnvloed door transnationale netwerken en hoe structureren en coördineren deze agentschappen [intern] hun transnationale netwerkactiviteiten?”*. Middels bovenstaande empirische hoofdstukken is deze hoofdvraag opgeknipt in kleinere deelvragen en

kunnen op basis van de bevindingen van deze hoofdstukken de algemene conclusies van deze dissertatie worden opgetekend.

Allereerst onderstrepen de bevindingen van dit proefschrift het belang van netwerkstructuren voor het begrijpen van hoe globaliserend bestuur zich ontwikkelt. De voortschrijdende internationalisering van markten maakt toezichthouders uit verschillende landen van elkaar afhankelijk en hun gedrag en besluitvorming kan daardoor niet los van elkaar worden gezien. De manier waarop nationale toezichthouders in internationale netwerken zijn ingebed, kan voor een groot deel verklaren hoe zij zich gedragen. Hierbij dient niet alleen gekeken te worden naar directe netwerkpartners in internationale samenwerking, maar laat deze dissertatie zien dat de structuur van indirecte relaties minstens net zo belangrijk is om mee te nemen. Netwerkanalyse speelt een cruciale rol in het analyseren van deze structuren, zeker wanneer het gaat om het beantwoorden van verklarende onderzoeksvragen ten aanzien van de effecten van transnationale netwerken op het functioneren van nationale toezichthouders. Deze methoden staan onderzoekers immers toe om concretere hypothesen te toetsen over hoe deze netwerken het gedrag en de besluitvorming van nationale toezichthouders beïnvloeden. Op die manier zijn netwerk-structurele variabelen een belangrijke toevoeging aan bestaande modellen die kijken naar de effecten van internationale samenwerking op nationale toezichthouders en geven ze theoretische intuïties over netwerkeffecten een concretere uitwerking.

Daarnaast laat dit proefschrift zien hoe besluitvorming onder omstandigheden van onzekerheid een centrale rol moet spelen wanneer we kijken naar nationale toezichthouders die opereren binnen een steeds complexere transnationale omgeving. Netwerkrelaties spelen hierin een ietwat paradoxale rol. Enerzijds staan deze relaties nationale toezichthouders toe onzekerheid te verminderen doordat ze toegang geven tot informatie over de betrouwbaarheid van potentiële samenwerkingspartners of de mogelijke implicaties van het implementeren van toezichtsstandaarden. Anderzijds brengen het toegenomen aantal netwerkrelaties ook complexiteit met zich mee, gegeven het groot aantal internationale werkgroepen, commissies, en *task forces* waarbinnen nationale toezichthouders hun weg moeten vinden. Zoals deze dissertatie aantoont, is het aanpassen van de interne organisatiestructuur en andere organisatieprocessen een belangrijke manier om met die hieruit voortkomende onzekerheid om te gaan. De mate waarin nationale toezichthouders slagen hierin de juiste keuzes te maken zal in grote lijnen bepalen of nationale toezichthouders overspoeld worden door de internationale ontwikkelingen die hun dagelijks werk in toenemende mate karakteriseren of dat ze de capaciteit hebben om strategisch op deze ontwikkelingen in te spelen.

Als laatste is het gegeven de bevindingen van dit proefschrift cruciaal om bij het bestuderen van patronen van internationale samenwerking *verschillende* analyseniveaus tegelijk in ogenschouw te nemen. Op het laagste niveau bestaan internationale vormen van samenwerking uit de persoonlijke interacties tussen individuele overheidsfunctionarissen. Deze functionarissen opereren echter vanuit de structuur van een organisatie die op haar beurt weer is ingebed in de politiek-institutionele structuur van een land. Veranderingen op een van deze niveaus heeft mogelijk implicaties voor de andere niveaus en deze dissertatie laat zien waarom het belangrijk is om concreter na te denken over hoe deze niveaus theoretisch met elkaar te verbinden zijn. Vragen over globaliserend bestuur zijn automatisch vragen die dwars door analyseniveaus heen snijden, hetgeen theoretiseren over patronen van internationale samenwerking complex maakt. Het enkel focussen op het micro-, meso-, of macroniveau in het theoretiseren over deze ontwikkelingen leidt echter tot een incompleet beeld.

Al met al geeft deze dissertatie een aantal handvatten om het toegenomen belang van internationale netwerken en de daaropvolgende implicaties beter te duiden. Aangezien deze netwerken een belangrijke rol spelen in het oplossen van de grensoverschrijdende problemen die we in steeds meer beleidsvelden terugvinden, is het essentieel om beter te begrijpen hoe ze functioneren. Daarnaast moeten we echter niet uit het oog verliezen wat de implicaties zijn van deze ontwikkelingen voor de nationale bureaucratische structuren waar vormen van transnationale netwerk-samenwerking vaak overheen worden gelegd. Nationale toezichthouders worden hierbij uitgedaagd om verschillende manieren van werken met elkaar te verenigen, waarbij de balans moet worden gezocht tussen het creëren van capaciteit om effectief te opereren in een steeds complexer wordende omgeving en de noodzaak tot voldoende verantwoording in een nationale context. Het zoeken van deze balans is een uitdaging voor zowel onderzoek als praktijk.

ABOUT THE AUTHOR

Machiel van der Heijden (Rotterdam, 1990) attended pre-university education at the Erasmiaans Gymnasium in Rotterdam, the Netherlands. He obtained a Bachelor's degree in Public Administration at Leiden University in 2011, from which he also received Master Degrees in Political Science and Public Administration (Research, *cum laude*) and in Cultural Anthropology and Development Sociology (*cum laude*) in 2014. After this, he worked as a lecturer at the Institute of Public Administration (Leiden University) where he also did his PhD-research from 2015 to 2019. Since October 2019 he works as an Assistant Professor at the Utrecht School of Governance (Utrecht University) where he continues to focus his research on networked patterns of collaboration in the public sector.

