

# **How Networks Among Frontline Offices Influence Regulatory Enforcement: Diffusion and Justification of Interpretation of Risk**

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## **ABSTRACT**

Street-level interpretation and enforcement are critical to defining the meaning of law. To understand street-level regulatory decisions, prior studies have highlighted internal office conditions, neglecting the influence that peer offices can have. This study examines the role of horizontal, inter-office interaction among frontline offices and illustrates how and under what conditions it shapes the meaning of law. Drawing on qualitative and quantitative data on Japan’s Soil Contamination Countermeasures Act, this study reveals that inter-office interaction occurs within fixed groups and comes to shape shared interpretations of law that regulators believe are legally valid. This implies that under legal ambiguity, inter-office interactions develop institutionalized notions of appropriateness and reinforce the perception of legal consistency, which bolster the legitimacy of enforcement. While peer-office networks encourage convergence on the interpretation of law, because of their clustered structure, legal meanings develop differently across various groups.

**Keywords:** environmental regulation, interpretation of law, networks among frontline offices, regulatory enforcement, street-level bureaucracy

## 1. Introduction

In regulatory systems across the world, street-level officials are challenged with handling ambiguity of law, yet maintaining the legitimacy of enforcement actions. Some regulations are broadly worded, laced with words like “reasonable” or “risk.” (Kagan 1994). Even though central governments issue guidelines and rules, such instructions are not comprehensive enough to cover the full range of situations that street-level officers encounter (Mascini & Van Wijk 2009; Rutz *et al.* 2017). Legal ambiguity intensifies when frontline offices under a decentralized system enforce a new regulatory program or face unprecedented cases (Parker 2006). Without established practices, precedents, and top-down rules, the ambiguity of law and “substantial discretion in...execution in the course of their work” (Lipsky 1980, p. 3) leave much interpretation to field actors. Their judgments’ consequences are far-reaching, not only for the effectiveness of regulation but also for regulated entities’ willingness to comply with and trust in governments (Bardach & Kagan 1982; Epp *et al.* 2014). Research shows that state-based regulators are not always perceived as legitimate, and compliance depends on recipients’ perception of legitimacy of the regulatory regime and its decision-making (Braithwaite *et al.* 1994; Tyler 1990, 1997). Since regulation requires behavioral changes by recipients, their belief that frontline offices are correctly interpreting the law and the deference of regulated entities to regulatory authority is critical for successful regulatory implementation (Black 2008).

How do frontline offices manage ambiguity of law, and how do they demonstrate their regulatory decisions’ legitimacy? Literature concerning regulation and street-level bureaucracy has analyzed the mechanism and process of exercising frontline discretion, within which the dominant theme has been an internal, micro-level focus: a single office’s

institutional, social, and political factors (e.g., Gunningham 1987; Kagan 1994; May & Winter 2007) and individual officers' role perceptions and value systems (Carter 2017; Maynard-Moody & Musheno 2003; Oberfield 2014).

An important but often unnoticed aspect is that frontline offices are woven into peer-office networks and leverage knowledge learned from peer offices to resolve interpretive challenges (Binz-Scharf *et al.* 2012; Foldy & Buckley 2010; Füglistner 2012; Goldman & Foldy 2015; Grattet & Jenness 2005). Regulatory governance does not operate or develop exclusively within a single office but through formal or informal interorganizational relationships (Levi-Faur 2011). Here, neoinstitutional organizational studies offer a useful theoretical framework and show how organizations collectively construct the meaning of law. A rich tradition of work argues that organizations faced with ambiguity conform to the norms and cognitive frameworks shared by others operating in the same interorganizational field (i.e., social spaces including similar organizations and affiliated entities). In pursuit of legitimacy, organizations adopt peer organizations' practices and thus incorporate collective understandings of what is believed to be appropriate, legitimate behavior (DiMaggio & Powell 1983).

By incorporating neoinstitutional organizational sociology insights into the socio-legal studies of regulation and street-level bureaucracy, this study focuses on horizontal interactions among frontline offices, arguing that peer-office interactions are influential in constructing the meaning of law. Through direct communication opportunities like meetings and phone calls, regulators transcend jurisdictions and discuss, consult, and refer to each other. Such interactions eventually develop "meso-level schemas," or shared interpretations of law they believe are legally valid and appropriate. Meso-level schemas signify that social interaction constructs the meaning of law and the appropriateness

framework, and such institutionalization occur not only within a single office but across offices. Besides functioning as institutionalized norms, meso-level schemas facilitate similar enforcement decisions, which bolsters enforcement legitimacy by showing consistency of law across jurisdictions. However, the clustered network structure simultaneously allows different meso-level schemas to develop in various peer groups, keeping regulatory decisions fragmented in the country overall.

The Japanese Soil Contamination Countermeasures Act (SCCA) provides an ideal arena for understanding the management of ambiguous law and quest for legitimacy because of the following: (1) this newly amended statute regulates soils at construction sites deemed at “risk of being contaminated” but ambiguously states what constitutes “risk”; (2) high compliance cost can easily cause businesses to doubt regulators’ interpretation of “risk”; and (3) frontline offices operate under a decentralized system, without specific instructions from the central government. Thus, the Japanese case represents a situation where frontline offices enforce an ambiguous law under a decentralized regulatory system with high pressure for demonstrating legitimacy, which can be observed in different regulatory contexts (e.g., Füglistner 2012; Grattet & Jenness 2005).

This study uses a mixed-methods approach, drawing on in-depth interviews with regulators and other relevant players, a nationwide survey of every frontline office, and a two-week frontline observation at an office. Fieldwork was conducted from 2013-2015, when frontline offices were intensely engaged in finding the “right” interpretation of law. This research uses qualitative data to a great extent: it first explores the process of street-level legal interpretation and generates grounded hypotheses, then examines the hypotheses with quantitative data, and finally returns to qualitative data to deepen the

meso-level schemas analysis. This move between qualitative and quantitative data allows multiple investigation perspectives: while survey analysis reveals the roles of inter-office interactions in regulatory enforcement, qualitative analysis offers more nuanced understandings of how frontline offices try to demonstrate legitimacy and how meso-level schemas operate in such efforts.

## **2. Street-level Regulatory Decisions, Peer-Office Interactions, and Meso-Level Schemas**

Literature has widely acknowledged that street-level interpretation and enforcement are critical in defining the meaning of law, given the indeterminacy of law and inevitable discretion granted at the ground level. In examining street-level regulatory decisions, research has traditionally analyzed regulatory agencies' internal factors, focusing on either individual regulators or offices in differing organizational, political, and cultural conditions, categorized here as the local, micro-level focus. Kagan (1994), for instance, identifies organizational factors, including an agency's task and political environments. Other internal factors include an agency's size and resources, management system, interactions with regulated entities, and leaders' capacities and attitudes (e.g., Gunningham 1987; Hirata 2014; Hutter 1989; Kagan 1994; Lo & Fryxell 2003; May & Winter 2007; Nielsen 2007; Pires 2011; Van Rooij & Lo 2010). Studies of street-level bureaucracy have highlighted individual bureaucrats' characteristics such as officers' background, training, and evaluations of target populations, as well as their value systems, moralities, and identities (Maynard-Moody & Musheno 2003; Oberfield 2014; Watkins-Hayes 2009; Zacka 2017). Although some research has examined national legal design (Jewell 2007), most emphasizes micro-level, individual factors to understand how law is

interpreted and why street-level enforcement varies.

However, the construction of legal meaning is not limited to the micro- or macro-level (Figure 1). Scattered empirical research portrays frontline offices as horizontal networks with peer offices and leveraging interactions to manage challenges, such as legal ambiguity. For instance, communications between peer offices help shape local police's operational hate crime definition in California (Grattet & Jenness 2005), while housing agencies in the northern United States collaborate to write standards to implement ambiguous directives (Goldman & Foldy 2015). Likewise, administrators in US government crime laboratories contact peers in different jurisdictions to tackle uncertainty in rule interpretation (Binz-Scharf *et al.* 2012). In Switzerland, peer-office interactions, including meetings between local-level offices, can affect how health care policies and implementation practices spread (Füglister 2012).

<< Insert Figure 1 >>

To examine how frontline offices manage ambiguity of law through inter-organizational interactions, and especially to underscore how they collectively construct the meaning of law, neoinstitutional organizational theory is useful. From this perspective, organizations observe institutionalization and diffusion of organizational structures and practice to alleviate local legitimacy concerns (DiMaggio & Powell 1983; Meyer & Rowan 1977). Organizations are embedded in an organizational field where common systems of meaning, values, and norms are shared among peer organizations and are affected by what is deemed appropriate in the field. Neoinstitutional organizational theory predicts that organizations in the same field achieve similarity in structures and practices,

or institutional isomorphism. This is particularly evident when organizations face uncertainty, such as ambiguous law. So far, neoinstitutional empirical studies have focused on regulated businesses and how legal meaning is shaped through interorganizational dynamics in compliance efforts (Edelman *et al.* 1999; Edelman 2016; Talesh 2009).

By incorporating neoinstitutional insights to studies of regulation and street-level bureaucracy, this study explores the mechanism of inter-office meaning-making on the *regulating* side—how regulatory offices interact and collectively construct the meaning of law. My fieldwork illustrates that, to clarify the meaning of the “risk of being contaminated,” frontline regulators contact peer regulators in different jurisdictions, discuss possible interpretations, and thus develop shared understandings of what are legally valid interpretations of “risk” for SCCA enforcement. This article refers to such collective interpretations as *meso-level schemas*. Schemas are the norms, collective beliefs, and shared knowledge that people develop when operating within a particular social setting (Sandfort 2000). They are not formally stated prescriptions but arise from collective, daily experiences as taken-for-granted knowledge. Schemas constitute social structures that people simultaneously create and are embedded in, along with resources (Giddens 1984; Sewell 1992). While schemas can include various levels of shared notions and beliefs (Sewell 1992), in the interorganizational context, meso-level schemas represent shared legal interpretations that identify the “risk” deserving an enforcement action, supported by shared understandings of regulated businesses, the law, and regulators’ role perception. Meso-level schemas guide what is believed to be appropriate interpretation while providing vocabulary and underlying logic to justify enforcement (in)actions. The term “meso-level” highlights that the interpretation of law evolves in

frontline office networks—the space between micro-level, individual offices and the macro-level, statewide system.

Meso-level schemas do not develop independently; they require real people and interaction to generate, communicate, and adopt them. Thus, their development rests on personal relationships regulators have developed, fostered by peer-office networks. Face-to-face opportunities like meetings are particularly important in communications beyond organizational boundaries (Binz-Scharf *et al.* 2012; Füglistner 2012; Papadopoulos 2018). Through these, officers can not only share practices and knowledge but also develop peer networks they can utilize when confronting later challenges.

Communication of legal interpretation through inter-office interactions is characterized by several unique aspects. First, sharing legal interpretations requires frequent communication for contextual details. Additionally, frequent interactions occur between a limited number of members (Granovetter 1973), and frontline officials prefer to seek advice in a closed group because of ramification concerns (Binz-Scharf *et al.* 2012). Need for frequent interaction, limited membership, and officials' preference for closed groups suggest that meso-level schemas are likely to develop within clusters where regular inter-office interactions occur only within a group. This would allow diverse meso-level schemas to evolve, encouraging the development of silos corresponding to certain legal interpretations based on group boundaries.

That social interactions lead to shared understandings of law is certainly not a new insight (e.g., Black 1997; Fineman 1998; Kagan 1978; Sandfort 2000). Instead, building on the neoinstitutional perspective, this study seeks to consider the mechanisms of how frontline offices come to develop shared legal interpretations *beyond organizational boundaries* while searching for legitimacy of their interpretations. Indeed, as I explain



later, inter-office communications are systematically structured and constrained by frontline practicability. The choices of which offices to contact are consistent, and only low-cost communication opportunities can lead to regular peer-office interactions, resulting in meso-level schemas.

### **2.1. Meso-level schemas and legitimacy**

Meso-level schemas are driven by regulators' concerns about legitimacy of legal interpretation—whether businesses defer to their interpretation of “risk.” It should be noted, however, that meso-level schemas are what *regulators believe* businesses perceive as legitimate and do not guarantee that regulated businesses actually perceive legitimacy. As neoinstitutional theory suggests, organizations focus on conforming to institutionalized practices but are less attentive to whether such practices actually promote original goals. Meso-level schemas are mere constructions by frontline offices to alleviate their legitimacy concerns and might have limited impact on businesses' actual recognitions. Indeed, given this study's scope, whether businesses perceive meso-level schemas to be legitimate is unknown. Rather, it focuses on the regulators' approach of seeking legitimacy.

Meso-level schemas are attractive sources of legitimacy for regulators for two reasons. First, as neoinstitutional insights emphasize, meso-level schemas gain legitimacy through institutionalization. Second, applying the neoinstitutional perspective in regulatory offices adds another source of legitimacy: the perception of consistency in legal interpretation and application. Interpreting a regulation in a consistent manner can demonstrate the fairness and legitimacy of regulatory decisions (Ho 2017; Organisation for Economic Co-operation and Development [OECD] 2014; Rutz *et al.* 2017).

Inconsistency and related perceptions of arbitrariness in frontline decisions can invite resistance, criticism, legal challenges, and even erode trust in government (Bardach & Kagan 1982). Frontline regulators consider consistency an important reason for enforcement, and legal ambiguity arouses their fairness and reliability concerns (Raaphorst 2018). By providing shared interpretations about what “risk” deserves enforcement, meso-level schemas support consistent decision-making across offices, which plausibly improves legitimacy perceptions among the regulated community. Therefore, from regulators’ perspectives, these schemas represent legitimacy because they conform to institutionalized notions and demonstrate legal consistency across jurisdictions.

### **3. Setting the Scene**

#### **3.1. Challenges of Enforcing the Soil Contamination Control Act**

In response to growing concern over unrecognized soil contamination, the SCCA was amended in 2010 to tighten control.<sup>1</sup> Now, businesses planning large-scale construction (more than 3000 m<sup>2</sup> [ca. 0.74 acre]) must undergo regulatory review that may require soil examination by an Investigation Order if regulators deem site soils at “risk of being contaminated” (SCCA §4).

The SCCA poses three challenges to frontline offices. First, as the phrase “risk of being contaminated” suggests, the criteria for issuing an Investigation Order are ambiguous. Only 2.7% (21 out of 790 pages) of the Ministry of Environment’s instructions address these criteria, and the guidelines are in general language, lacking numerical standards. Considering the case variety, regulators feel both the statute and instructions are overly general (“You don’t see clear-cut criteria from the statute...We

grope around to learn when to apply it” [i33]<sup>2</sup>). The lack of precedents adds an additional layer of ambiguity (i3, i4, i6, i16). Second, since an Investigation Order intends to identify soil contamination, frontline offices do not know whether or to what extent the soil in question is contaminated when issuing an Order, although regulators must show why a particular case warrants one. Third, an Investigation Order imposes significant costs on the recipient business. Mandatory soil investigation costs an average of 3.7 million Japanese yen (approximately 37,000 USD) (Geo-Environmental Protection Center 2013) and, more importantly, renders the construction schedule delayed and unpredictable. Soil investigation includes a thorough examination of land use history by reviewing any relevant documents like facility organization plans, piping arrangement diagrams, and toxic substance lists. Soil excavation follows. Although the average duration is four months, it may change because of uncertainty of the existence and degree of contamination. The delay and unpredictability of scheduling means considerable financial costs.

### **3.2. Japanese Frontline Environmental Offices**

SCCA implementation and enforcement is entrusted to 47 prefectures (provincial local governments) and 111 municipalities. Under a decentralized legal system, the Ministry of Environment neither enforces the law nor directs specific rule application. A Water and Soil Office inside the prefectural or municipal Department of Environment is responsible for interpreting, implementing, and enforcing the SCCA—the frontline office this article refers to. According to my survey, Water and Soil Offices have on average 4.8 frontline regulators and one office leader, and 2.4 of them are in charge of the SCCA. Like other countries (Rutz *et al.* 2017), they work as a team: regulators jointly deliberate rule

application, inspect the sites, and reach collective judgment.

Japan's Water and Soil Offices exhibit the following classic characteristics of street-level bureaucracy. (1) Wide discretion: While enforcement decisions need to be approved by supervisors such as the department head, frontline regulators have wide discretion regarding legal interpretation and rule applications. (2) Limited resources: With the small number of regulators, the office's functions range from permit issuance and application reviews to periodic inspection and enforcement of the SCCA and all other water- and soil-related laws and local ordinances. Usually, SCCA regulators implement other policies concurrently. (3) Implementation dilemma: The offices face conflicting demands from policy rules, regulated businesses, and citizens. Protection of human health and the environment is their policy priority, but unreasonable enforcement impedes regulated businesses' cooperation, which is vital for identifying and reducing environmental risks. Frontline offices' core tension is to uncover unidentified soil contamination while simultaneously making businesses accept enforcement.

#### **4. Methodology**

This study followed a sequential mixed-methods design (Teddlie & Tashakkori 2009). First, qualitative data was collected to explore how frontline offices contact peers at the interorganizational level in response to legal ambiguity and how this process encourages both similar legal interpretations within groups and various interpretations across groups. Then, quantitative data was collected to examine legal interpretation convergence and divergence. To draw conclusions, the study integrated both data types, heavily utilizing qualitative data to provide a nuanced description of the process. By using the inductive-deductive research cycle, this paper leverages the combined strength of quantitative and

qualitative data and seeks to provide a stronger understanding of the inter-office construction of law.

#### **4.1. In-depth interviews and frontline observation**

I conducted 36 semi-structured, one- to two-hour interviews with 49 participants, including SCCA regulators in 16 offices (33 interviews, n=41), the Ministry of Environment (one interview, n=1), and two regulated companies (two interviews, n=7). Participating frontline offices varied regarding key demographic characteristics including office size (prefectural and municipal), industrialization (urban and countryside), and enforcement stringency (offices that had and had not issued Investigation Orders). Each interview was taped and transcribed, with relevant portions translated from Japanese to English by the author. While I asked about organizational resources, enforcement activities, and any citizen or third-party involvement, the interviews focused on hard cases and how regulators handled these, paying close attention to interpretive strategies, value systems, and what regulators tried to achieve and avoid. Regulators frequently referred to legal ambiguity and inter-office communications, on which I asked them to elaborate. The interviews ended with participants completing a background sheet covering personal characteristics such as gender, age, and career length (Table 1, left column).

<< Insert Table 1 >>

Additionally, I had the opportunity to observe a Water and Soil Office for two weeks, which gave me a deeper understanding of the office environment. I spent entire days with regulators (typically from 8:30 a.m. to 8 p.m.) and studied how they worked. I also

attended a two-hour, annual peer-office meeting with offices from neighboring jurisdictions.

Qualitative data analysis proceeded from coding to developing conceptual categories based on the codes and then to defining the conceptual categories and clarifying their links (Charmaz 2006; Lofland & Lofland 2006). To control potential bias in interview analysis, I performed “member checks,” asking several regulators to assess the plausibility of my categories, interpretations, and conclusions (Morrill & Fine 1997). For reliable findings, data was triangulated by including other sources, including interviews with regulated entities, the Ministry of Environment, and organizational documentation.

#### **4.2. Mail survey**

After interviews, to confirm the relationship between inter-office interaction and enforcement, I conducted a national mail survey of all 158 SCCA frontline offices in February 2015. Response rate was 86.1% (N=136). The response rate was high partially because preceding interviews informed the design of a questionnaire that interested regulators.<sup>3</sup> The questionnaire included organizational resources and workloads, intra-office/inter-office consultation, task environment perception, and respondents’ demographics. One questionnaire was sent to one office, asking a SCCA regulator to answer. It is likely their answers were reviewed by supervisors, since such practice wherein regulators write a draft to be checked by their supervisors is typical for Japanese public offices. There were no obvious systematic differences between responding and non-responding offices based on office size, caseload, and enforcement stringency. Table 1(right column) shows the survey respondents’ demographics.

## **5. Peer-Office Groups: Facilitating Yet Clustering Inter-Office Interaction**

The empirical data illustrates that, when uncertainty about an interpretation's legality exists after intra-office discussion, frontline regulators commonly contact peer offices. In my survey, 74.3% of offices said they had conferred with peer offices regarding interpretive difficulties during the 2014 fiscal year. Interview data supports this sequence:

When we are still unsure how to interpret the statutes in a particular case, even after having team discussion and checking the guidelines, we call our peer offices to see what they did in similar cases. [i4]

The data suggests an interplay between standard intra-office deliberative mechanisms and inter-office networks. Particularly, they show that inter-office interactions are a supplementary but significant tool regulators rely on after failing to resolve legal ambiguity locally.

Face-to-face meetings are vital for facilitating cross-organizational interactions. Regulators repeatedly referred to peer-office meetings, annually held to discuss water and soil policy implementation. My survey shows that meetings are geographically based, membership offices are fixed, and the average number of members is 7.7 offices. The peer-office meeting is a long-standing practice, and no interviewee knew when, why, or how the meetings originally began. My survey also reveals that not every office has such opportunities: 55.9% of offices have a regular peer-office meeting, and 11 meeting bodies exist nationwide.

Regulators regularly highlighted meetings as not only places for face-to-face discussion but also for their role in building relationships with peer regulators that facilitate later inter-office interaction, especially involving complex, intangible

information like legal interpretation. Offices belonging to a peer-meeting group are more likely to communicate with peer offices: 81.6% of frontline offices with group membership spontaneously contacted peer offices, compared with 65% of those without (Table 2).

<< Insert Table 2 >>

While peer-office meetings facilitate inter-office communication, they also help mark group boundaries. After being asked why his office did not contact beyond the group, a regulator responded: “It’s too much...if we contacted offices beyond the group, we would need to contact too many offices. That’s a lot of work” [i31]. The survey consistently shows that offices with group membership contacted peers *within* their meeting groups at a rate of 89%, suggesting inter-office communication is not random but clustered. The above excerpt also indicates that the number of peer offices to communicate with is limited. Inter-office interaction is expensive for case-laden, resource-limited offices in terms of the additional time and work consultation requires. Group membership offers convenient, strong ties with peer offices that enable complex, intangible knowledge exchange but can lead to redundant and clustered networks as communication beyond the group is limited.

In sum, my empirical data demonstrates that (1) low-cost, face-to-face communication opportunities like peer-office meetings facilitate inter-office interactions, mediated by regulators’ interpersonal relationships, but (2) simultaneously, such interaction rarely occurs beyond them. Although acknowledging some exceptions, group membership will be used as a proxy for inter-office interaction in the following



quantitative analysis.<sup>4</sup>

## **6. How Inter-Office Interaction Leads to Consistent Enforcement**

### **6.1. Hypothesis**

Meso-level schemas, the shared interpretations of the “risk of being contaminated,” take root in the potentially confrontational street-level environment where businesses might challenge regulatory enforcement. From the neoinstitutional perspective, under ambiguity of law, organizational attempts to demonstrate legitimacy often take shape via isomorphism. Additionally, meso-level schemas can reinforce legitimacy by presenting a commitment to, or perhaps the existence of, legal consistency. Furthermore, previous empirical studies suggest peer consultation is conducive to consistent decision-making not only among individual inspectors (Ho 2017; Johnson 1998; Kaufman 1960) but also among offices (Carter 2017; Füglistner 2012; Noonan *et al.* 2009). Based on theoretical and empirical accounts, it is predicted that offices with group membership will converge in interpretation of the “risk of being contaminated” and therefore use a similar degree of enforcement stringency.

*Hypothesis 1:* Peer-office interaction promotes enforcement consistency among group members.

### **6.2. Quantitative analysis**

If offices with group membership show convergence in interpretation of the “risk of being contaminated,” they will apply the Investigation Order Clause similarly and therefore will vary less in Investigation Order frequency than those without group membership. Hypothesis 1 is examined by investigating whether *the variance* in the

Investigation Order rate<sup>5</sup> within a peer-meeting group has *decreased* since the first year of implementation. This is done by comparing offices with group membership to those without. Of course, enforcement consistency can be rigorously examined only with identical cases reviewed by different offices, which is feasible under experimental conditions but not in real cases. Nevertheless, consistency can be inferred by small variances (e.g., Scott 2010), which is sufficient because Investigation Order rates reflect each office's interpretation of what "risk" deserves an Investigation Order, and the variances in such rates within a group suggest whether offices in that group have similar interpretations.

To simultaneously capture the variance and avoid the outlier effect, the interquartile range (IQR)<sup>6</sup> is used to measure variability. A smaller IQR means higher consistency. The IQR of each peer-meeting group is calculated for each year. Then, the average of each group's IQR is taken to generate the IQR of offices with group membership; these values are compared with those of offices without them. The chronological change is examined to show whether group membership encourages consistent enforcement of the ambiguous statute.

<< Insert Figure 2 >>

Figure 2 shows the changes in enforcement variances from 2010, the first year of implementation, to 2015 for offices with group membership and those without. Offices with group membership show a marked decline in variance within the groups; the variance decreases by 51% in 2011 and 64% in 2015. However, for offices without group membership, their variance still hovers at the same level after six years of

implementation. This result supports Hypothesis 1, predicting that inter-office interaction is conducive to facilitating consistent enforcement. Although inter-office interaction does not always guarantee the same interpretation and enforcement decision, it still narrows the range of decision-making.

### **6.3. Qualitative analysis: Three convergence mechanisms**

How does inter-office interaction lead to such consistency? Interview analysis detects three mechanisms: (1) *anchoring mechanism*, (2) *imitation mechanism*, and (3) *learning mechanism*.

#### **6.3.1. Anchoring mechanism**

Examining peer offices' enforcement practices uncovers what degree of regulatory stringency is the norm, which indicates an appropriate enforcement stringency ("We contact peer offices to check trends" [i47]). Regulators are keen to know how frequently peer offices issue Investigation Orders. In other words, frontline offices try to avoid interpretation that deviates from those of their peers. This is due to three interwoven motivations: (1) the belief that a deviation invites doubts from regulated entities ("Many companies have sites across jurisdictions...if differences in interpretation appear too substantial to accept, regulated entities would start to refuse to comply" [i55]); (2) a concern regarding legal consistency ("It's unfair that only our office is too strict, given that the statute is the same nationwide" [i46]); and (3) regulators' desire for psychological reassurance ("According to the guideline, it looks like we need to issue an Investigation Order in this case, but am I making the right decision? I sometimes feel anxious...When you learn that your office's decision to issue the Order is similar to what peer offices are doing, it's reassuring" [i3]). Peer offices' enforcement practice can function as an anchor

under conditions of legal ambiguity. Interpretation that does not deviate from that of peer offices comes to be seen as an endorsement of “correct” construction.

### ***6.3.2. Imitation mechanism***

The second mechanism, imitation, emerges when the anchoring mechanism goes further, as the following excerpt shows:

A high school building was going to be demolished. Every high school has a science lab with toxic materials, you know. Toxic materials such as benzene and heavy metals must have been used and disposed of out there. The thing is, we have no record. They didn't register any kind of forms [that show the school used toxic materials]...So, we called the prefectural office to learn whether they have had a case of demolition of a high school building. They haven't, so I asked if they would issue an Investigation Order in this case. They were doubtful about issuing an Order unless the school acknowledged they used toxic materials...So, we don't think we will issue the Order in this case. [i7]

This municipal regulator continues: “If [the prefectural office] wouldn't issue an Order, we won't either.” This respondent confirms that his office relies on the prefectural office for interpretation and enforcement decisions. Interviewees frequently reported that municipal offices tend to follow their prefectural counterparts. From the municipal offices' view, the prefectural offices are better equipped to enforce the statute. They have more regulators (i13, i30), have experienced more cases of a wider variety (i13, i28, i33), and presumably have rich intra-office discussions (i14). Such offices' legal interpretations are deemed reliable and professional and models for other offices to imitate.

### 6.3.3. *Learning mechanism*

Inter-office interaction provides a learning opportunity for under-experienced offices, which also facilitates consistency across offices. The following excerpt illustrates how a regulator at a countryside prefectural office contacted his counterpart in an urban prefecture and adopted their SCCA interpretation.

I am the only SCCA regulator in our office, while Prefecture F has four regulators exclusively working on the SCCA. They are knowledgeable and have more experience...[When I called Prefecture F when I was unsure how to interpret the statute, Prefecture F] told me their understanding of why the case at hand would not be the target of an Investigation Order. *I was convinced*. That made a lot of sense” [i14] (emphasis added).

Similar to the imitation mechanism, large offices play an important role in developing meso-level schemas. Interpretations by such offices are considered legally sound, suggesting it will not lose a lawsuit even if challenged. In this regard, meso-level schema can develop not only in a horizontal manner but also in a hierarchical one—from better-resourced offices to their under-resourced counterparts.

The above three mechanisms can be understood as specific practices showing how isomorphic processes occur at the SCCA front lines. Mimetic isomorphism and normative isomorphism are particularly relevant.<sup>7</sup> Mimetic isomorphism is evident when frontline offices harmonize their interpretation to avoid deviation or when offices imitate peer offices’ enforcement decisions. Normative isomorphism is found in the imitation mechanism and the learning mechanism, where well-resourced offices act as implementation professionals. Regardless of whether the actual mechanisms are

examples of mimetic isomorphism, normative isomorphism, or a combination, “risk” interpretation evolves into a meso-level schema through these mechanisms and becomes legitimate, which eventually promotes similar enforcement decisions among group members.

## **7. Different Groups Develop Different Interpretations of “Risk”**

### **7.1. Qualitative analysis: Three meso-level schemas**

Inter-office interaction can encourage or discourage enforcement because meso-level schemas can go either way. Given the clustered structure of inter-office networks, various groups are expected to develop differing meso-level schemas, resulting in different enforcement stringency.

Predictably, interview analysis reveals three types of meso-level schemas from three peer-office groups. Each has its own beliefs concerning what constitutes legitimate interpretations, elaborating what the “risk of being contaminated” means and whether to enforce the law. The disparities reflect regulators’ different understandings of law, regulated entities, and role perception.

#### ***7.1.1 The northern schema: Regulatory watchdog***

The meso-level schema observed at a northern group (Group 3) equates the “risk of being contaminated” with any soil contamination possibility. In practice, when regulators find official records of use, storage, or production of substances listed as Designated Toxic Substances (SCCA §2), they deem the proposed site at “risk of being contaminated” and issue an Investigation Order. One of the Group 3 offices explained:

It’s just a risk. It doesn’t require proving contamination exists. A possibility of contamination suffices...Once there’s a construction plan and a record showing the

use of a Designated Toxic Substance, we'll issue an Order. [i1]

This understanding of risk can be shared with peer offices. One regulator said:

I received an inquiry from an office [in the same group], and they asked us about when to issue an Investigation Order. I told them that we can issue the Order if we have a record of the Designated Toxic Substances. [i9]

Offices with the northern schema are watchful of regulated entities. They believe businesses try to avoid regulatory costs and sometimes try to shape legal interpretation in their favor or even conceal disadvantageous facts. They suppose such responses might be intentional (i45) or might result from lack of legal capability (i1). Regulators using this schema acknowledge that persuasion is important and effective (i9), but they remain vigilant against possible evasion and regulatory dodging.

Under the northern schema, the regulatory statute is positively accepted as a means for achieving public goals (i.e., soil contamination identification). While interacting with regulated entities, regulators emphasize “the aim of the law—why the SCCA was made and why soil investigation is required. It’s important to explain these basics and convince regulated businesses to follow them” [i16].

Regulators following this schema see their role as protecting human health and the environment. They emphasize their function as enforcers: “We frequently find ourselves in a difficult position where we need to tell regulated entities to satisfy pretty demanding requirements. It can be tough, but we’ve got to tell them this without being swayed by sympathy...we need to enforce the legal requirements. Otherwise, the environment cannot be protected” [i45].

### ***7.1.2. The eastern schema: Legal defensiveness***

Unlike the northern schema, the meso-level schema found in an eastern group identifies the “risk of being contaminated” only when soil contamination is almost certain. In practice, the schema requires not only official records of use, storage, or production of the Designated Toxic Substances but additional evidence showing solid likelihood of soil contamination. To avoid losing a lawsuit, offices operating under this schema read regulatory statutes in a defensive, cautious manner, resulting in restrained enforcement.

A notable example is gas stations. Since gasoline might contain a Designated Toxic Substance (benzene), gas stations are one of the most frequent sources of soil contamination, alongside industrial plants, research institutes, and cleaning factories (Ministry of Land, Infrastructure, Transport, and Tourism, Land and Water Resources Bureau 2008). This allows frontline offices to assert the “risk of being contaminated,” which some do: The Group 3 (northern schema) offices find gas station sites deserving Investigation Orders (“Gasoline contains benzene, and a gas station is a place to store such a substance. We issue an Order to them” [i9]). However, offices following the eastern schema (Group 7) exhibit a more conservative interpretation and require further facts like fire department records on gasoline spills to presume the “risk of being contaminated”:

A gas station is regulated by the Fire Service Law, and it’s supposed to operate accordingly. Can we assess such a gas station as presenting soil contamination risk? Unless soil contamination is clear with fire department records on gasoline spills, our office doesn’t issue the Order to gas stations. [i28]



The eastern schema regards law as a set of rigorous rules imposing weighty burdens on regulated entities; therefore, the law should not be enforced unless the need is very clear (“We shouldn’t issue an Investigation Order unnecessarily” [i12].). This understanding starkly differs from the northern schema, which views law as comprising policy goals regulators must pursue, with less attention to compliance cost or the possibility that an Investigation Order would eventually discover no contamination.

Conceptualizing law as a rigorous rule is closely tied to these regulators’ role perception as flawless officers who should never err in applying the law and who should be immune to businesses’ challenges (“An Investigation Order adversely affects businesses, so we must show a solid reason why we issue it. If our reasoning is incorrect, we’re in trouble” [i3].). Here, regulated entities are described as potential threats to enforcement legality. To decrease “incorrect” interpretation, this schema represents a more cautious, pro-business interpretation of “risk” and results in restrained enforcement with fewer Investigation Orders.

### ***7.1.3. The southern schema: Self-regulation and volunteerism***

The third schema found in a southern group (Group 8) approaches risk evaluation differently by allowing regulated businesses to interpret the “risk of being contaminated” for themselves. However, regulators hint at the possibility of issuing an Investigation Order to nudge businesses toward conducting voluntary soil investigations. This approach is similar to “bargaining in the shadow of the law” (Mnookin & Kornhauser 1979)—implying legal sanctions to elicit voluntary action. This schema is practically attractive because regulators can sidestep both the sensitive enforcement decision as well as cumbersome administrative procedures. A regulator related how the southern schema is employed during interaction with regulated entities:

If you [regulated businesses] don't know whether your site contains the "risk of being contaminated," you're not sure when you can start construction because you might receive an Investigation Order later that disrupts the original schedule. We don't communicate our enforcement decision before receiving a regulatory review application. You first have to submit the application...and see how it goes. You might receive an Investigation Order, and worse, identify soil contamination, which would be a huge blow to your bottom line. When we explain such review process, [regulated businesses] usually decide it'd be better to voluntarily conduct soil investigation before the application to avoid uncertainty. [i17]

Rather than viewing regulated businesses as amoral calculators (Kagan & Scholz 1984) (northern schema) or potential threats to enforcement legality (eastern schema), the southern schema perceives businesses as inclined to be compliant, yet sensitive to uncertainty. By hinting at possible financial loss, the southern schema tries to achieve "passive" voluntary compliance behavior.

For the southern schema, law is understood as a statement of policy goals but saddled with cumbersome processes. While it attaches importance to the policy goal—the necessity of soil investigation—which differentiates it from the eastern schema, regulators explicitly acknowledge that mobilizing the law does not fit into frontline practicability (i5, i17).

Regulators' interpretation of risk corresponds to that of the northern schema but has been left untouched because no prior decisions exist ("All regulated entities have decided to conduct voluntary investigations so far...Unless regulated entities submit a certification showing no or already-resolved contamination, *I think* we'll issue an

Order” [i17] (emphasis added). Under the southern schema, the most appropriate option is to make regulated businesses take the risk seriously to encourage voluntary investigation.

## 7.2. Hypothesis and variables

The qualitative analysis proposes the second hypothesis:

*Hypothesis 2:* Different groups evolve different meso-level schemas, resulting in different degrees of enforcement stringency.

To examine Hypothesis 2, Poisson regression models include 11 dummy variables for 11 peer-office groups as independent variables (*Peer Meeting Group 1* to *Peer Meeting Group 11*).<sup>8</sup> The dependent variable is *Investigation Order*: the total number of Investigation Orders by each office for the first five years (2010-2014).<sup>9</sup>

Since the literature has shown that micro-level factors affect enforcement stringency, a series of control variables are extracted from my survey. For individual offices’ political, social, and environmental conditions, the control variables include *Caseload*, *Prefecture*, *Urban/Rural*, *Local Political Situation*, and *Information Disclosure*. *Information Disclosure Requests* are indicators of public pressure for strict enforcement. *Number of Cases* is also controlled for, since more review cases may lead to more Investigation Orders. For regulators’ behaviors and assessments, the control variables include *Regulators’ Confidence in their Offices’ Expertise*, *Intra-office Consultation*, and *Adversarial Assessment of Regulated Entities* (see Appendix for control variables).

## 7.3. Quantitative analysis

Table 3 shows the results. Model 1 examines the control variables’ effects and finds

micro-level explanations for active enforcement, including bigger office size (*Prefecture*), Information Disclosure Requests, confidence in their office's expertise, frequent discussion with colleagues, and adversarial assessment of businesses. Conversely, frequent discussion with team leaders restrains enforcement. Model 2 displays the result of a simple analysis of Hypothesis 2, which is supported. Different groups have developed different enforcement stringencies. Model 3 demonstrates the result is robust—even with micro-level factors controlled, each group has its own tendency regarding enforcement stringency. While *Prefecture*, *Information Disclosure*, *Regulators' Confidence in their Offices' Expertise*, *Intra-office Consultation*, and *Adversarial Assessment of Regulated Entities* are still significant, group membership (a proxy for inter-office interactions) is also important for explaining enforcement varieties. Specifically, Groups 1 to 6 are more likely to issue Investigation Orders, and Groups 9 to 11 are less likely, compared to offices lacking such group membership.

As an additional test of Hypothesis 2, Figure 3 shows each group's Investigation Order rates (ANOVA < 0.001), demonstrating that different groups show different enforcement degrees. The boxes show the range from the 25<sup>th</sup> to 75<sup>th</sup> percentile, and the bold lines are the median. Offices with higher Investigation Order rates tend to show wider variance. This is reasonable because, while cases involving the “risk of being contaminated” do not occur regularly, the overall cases always include sites that clearly do not pose “risks”—such as farmland or mountain areas—and are therefore not Investigation Order targets even in offices with vigorous meso-level schemas. However, groups with lower Investigation Order rates show narrower variance, suggesting their meso-level schemas firmly discourage issuing Investigation Orders in any type of case.

<< Insert Table 3>>

<< Insert Figure 3>>

Along with qualitative analysis, the quantitative data shows offices belonging to various peer groups tend to enforce the statute differently, indicating that diverse meanings of law evolve among separate groups.

## **8. Conclusion**

When facing ambiguity, regulators seek guidance from colleagues and other reference groups (Hawkins 1984). This study demonstrates the significant role of horizontal, peer-office interaction in street-level construction of the meaning of law. Through face-to-face communication opportunities, frontline offices have informally formed clustered peer networks within which regulators confer, discuss, and learn across organizational boundaries. Such interorganizational interactions evolve shared interpretations of law that regulators believe are appropriate and legally valid, which I call *meso-level schemas*. Emerging from an environment steeped in the need to simultaneously protect the environment and prevent businesses' resistance, frontline offices see institutionalized convergence and consistency across jurisdictions as powerful strategies to signal their legal interpretation's legitimacy. While inter-office interaction encourages convergence in interpretation and enforcement within a group, because of its clustered structure, different groups have developed various meso-level schemas, resulting in diverse enforcement stringency. Inter-office interaction is conducive to diffusing a certain interpretation of law within groups but, simultaneously, keeps

regulatory decisions fragmented in the country overall.

This case study proposes the following conditions for frontline offices that may contribute to meso-level construction of legal interpretations: (1) facing legal ambiguity, like implementing a new regulation, (2) situated in a decentralized legal system, (3) strongly needing to demonstrate legitimacy to enforcement targets, (4) having low-cost, face-to-face communication opportunities, and (5) lack of other sources of legal meaning. The first three conditions prompt frontline offices to develop strategies for avoiding criticism and securing organizational stability. With the fourth condition, meso-level schemas are likely to develop when offices have low-cost communication opportunities including regular meetings; convenient strong ties established by such meetings enable case-laden, resource-limited frontline offices to interact cross-organizationally. As the fifth condition, this case study suggests the lack of other sources of legal meaning like legal professionals, social movements, political leadership, and court decisions (Grattet & Jenness 2005). The SCCA regulators did not have access to, or did not intend to access, lawyers because of the lack of access or a suspicion that lawyers could introduce adversarial bias and disrupt potentially consensual relationships (Mindes & Acock 1982). Since meso-level schemas function as only one source, legal meaning scarcity makes peer offices' role relatively significant.

More broadly, this study offers three major contributions to regulatory research. First, by drawing on neoinstitutional organizational theory, this study has (re)conceptualized street-level construction of law to be in part driven by inter-office interaction among frontline offices. While the dominant theme in previous scholarship has been the office-internal or top-down process of developing street-level understandings of law, I showed that law is understood through horizontal peer-office networks by developing shared

interpretations. This introduces a new perspective to understand street-level enforcement, frontline agencies' exercise of discretion, and the evolving process of the local-level meaning of law. Also, literature repeatedly shows that enforcement activities vary among offices, and this study points out that this variety could be partially attributed to embeddedness in different peer-office networks.

Second, this study highlights the consistency of law as a regulators' strategy to improve legitimacy perceived by the regulated community. Frontline regulators are not always conceived *a priori* as the ultimate and legitimate rule-appliers, especially when rules are ambiguous and their application brings high compliance cost. Regulators acknowledge that regulated entities have a "desire not to be suckered" (Kahn 1996) and care about fair enforcement (Thornton *et al.* 2005). Although consistency is challenging juxtaposed with other principles like responsiveness and effectiveness (e.g., Johnson 1998), consistent rule application is an effective way for frontline regulators to demonstrate fair, reliable, and legitimate interpretation of law (Howe *et al.* 2013). This study shows that meso-level schemas contain legitimacy not only from institutionalization but also from the perception of legal consistency. Consistent enforcement reassures regulators that they are not making mistakes as well as signals to businesses that enforcement is legitimate.

Third, methodologically, this study demonstrates an approach that synthesizes qualitative and quantitative data analysis, providing multiple perspectives to better understand whether and how meso-level schemas develop and influence frontline legal interpretation. The mixed-methods approach was effective, especially for examining the interpretation of law, which is intangible, tacit, and difficult to quantify.

The limitations of this research could be addressed through further studies and data.

First, meso-level schemas do not explain why a particular group adopts a particular legal interpretation. Meso-level schemas refer to the institutionalization of a particular understanding of law, but not why a particular interpretation—*regulatory watchdog* or *legal defensiveness* for instance—has been generated and accepted as a norm. Meso-level schemas thus make no statements about the advent of a particular legal interpretation; they work best with other accounts that address offices’ political, social, managerial, organizational, and economic environments. Second, because of the limited offices interviewed, this study does not reveal how many meso-level schemas have been developed across the country overall, leaving the possibility that groups with different enforcement rates actually interpret the statute similarly. Ideally, interviews with every group in the country are needed to minimize the variance rates’ potential weakness.

The study opens several avenues for future research. First, we should examine the proposed five conditions under which inter-office interaction plays a significant role in legal interpretation, in which we should pursue ways to theorize meso-level construction of law. This can be done by comparative case studies, including cases meeting only several conditions, like cases with less ambiguity but strong pressure from regulated businesses. Second, my qualitative data generates a hypothesis that larger offices guided small, less-experienced offices. Future research may examine meso-level schemas’ vertical development hypothesis.

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<sup>1</sup> The SCCA was re-amended in 2019 after the completion of this study.

<sup>2</sup> The number in square brackets indicates the interviewee's identification number.

<sup>3</sup> Other reasons presumably include: (1) I promised to return the aggregated survey results if they answered, and (2) the questionnaire conveyed academic authenticity with the logo of my then-affiliated university (University of Tokyo, one of Japan's most prestigious universities).

<sup>4</sup> Even though this study uses group membership as a proxy for inter-office interaction, this does not exclude the recognition that offices without group membership have inter-office interactions, nor does it claim that every office with group membership contacts peer offices. Indeed, the interview data includes an office without membership that has contacted other offices, and two offices with group membership who said they did not need to contact any peer offices. Nevertheless, as shown by the quantitative and qualitative data, overall, group membership is more likely to involve inter-office interaction. Therefore, it is reasonable to use group membership as a proxy of inter-office interactions.

<sup>5</sup> Calculated by dividing the number of Orders by the number of cases.

<sup>6</sup> IQR equals the difference between the 75th and 25th percentiles of the Investigation Order rates.

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<sup>7</sup> Coercive isomorphism is not relevant here since there are no hierarchical or coercive relationships between frontline offices, and Ministry of Environment does not direct specific legal interpretations.

<sup>8</sup> Offices without group membership is the reference category.

<sup>9</sup> Based on the SCCA (2010-2014) Enforcement Statistics issued by Ministry of Environment. To fit better with Poisson regression models, the total number of Investigation Orders is used with the number of cases controlled.

**Table 1.** Respondent Demographics (Interviews and Survey)

	<b>Interviews (n=41)</b>	<b>Nationwide Survey (n=136)</b>
<b>Gender</b>	Male: 37 (90%) Female: 4 (10%)	Male: 108 (79.4%) Female: 17 (12.5%) No-response: 11 (8%)
<b>Age</b>	mean: 36.9 SD: 11.1	mean: 35.7 SD: 8.47
<b>Education</b>	B.A. 15 (36.6%) M.A. 17 (41.5%) Ph.D. 1 (2.4%) No-response: 8 (19.5%)	B.A. 75 (55.1%) M.A. 43 (31.6%) Ph.D. 0 (0%) Others 4 (2.9%) No-response: 14 (10.3%)
<b>Entire Career (year)</b>	mean: 13.2 SD: 7.8	mean: 11.4 SD: 8.9
<b>Career as SCCA Regulators (year)</b>	mean: 2.0 SD: 1.4	mean: 2.3 SD: 1.7



**Table 2.** Peer Group Membership and Inter-Office Interactions

	Conferred with Peer Offices	Did Not Confer with Peer Offices	Total
No Membership	39 (65.0%)	21 (35.0%)	60
Membership	62 (81.6%)	14 (18.4%)	76
Total	101 (74.3%)	35 (25.7%)	136

 $(\chi^2 < 0.05)$

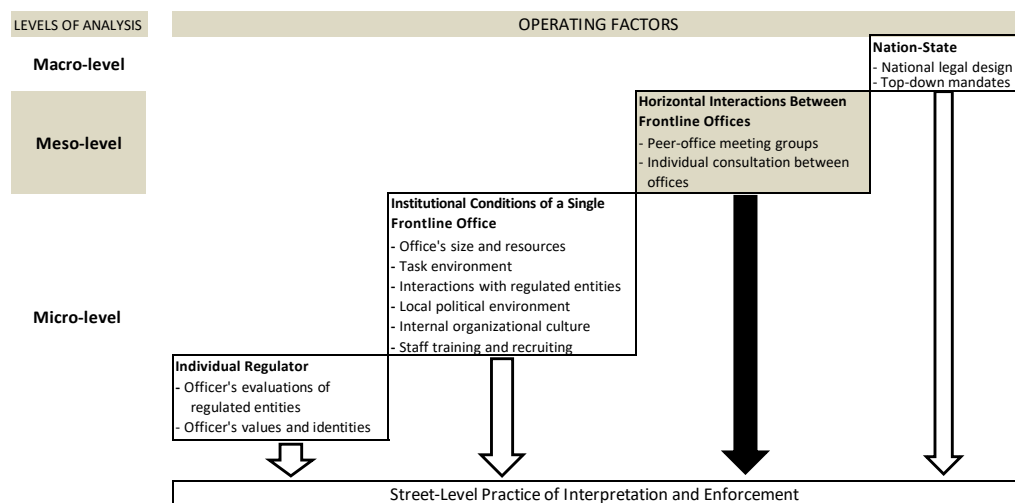
**Table 3.** Investigation Order Predictors

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
<i>Independent Variables</i>			
<b>Peer Meeting Group 1</b>		1.11*** (0.12)	1.33*** (0.17)
<b>Peer Meeting Group 2</b>		0.31* (0.14)	0.78 *** (0.23)
<b>Peer Meeting Group 3</b>		0.60*** (0.13)	0.96*** (0.15)
<b>Peer Meeting Group 4</b>		-0.21 (0.21)	0.74 ** (0.25)
<b>Peer Meeting Group 5</b>		1.08*** (0.13)	1.02*** (0.16)
<b>Peer Meeting Group 6</b>		0.86*** (0.15)	0.61*** (0.18)
<b>Peer Meeting Group 7</b>		-0.08 (0.23)	0.16 (0.26)
<b>Peer Meeting Group 8</b>		-0.07 (0.18)	-0.25 (0.21)
<b>Peer Meeting Group 9</b>		-0.51** (0.18)	-0.77*** (0.20)
<b>Peer Meeting Group 10</b>		-0.42 (0.34)	-0.70* (0.35)
<b>Peer Meeting Group 11</b>		-1.52** (0.50)	-1.32 * (0.59)
<i>Control Variables</i>			
<b>Caseload</b>	-0.0001 (0.0009)		-0.0010 (0.0009)
<b>Prefecture</b>	0.68*** (0.12)		0.70*** (0.16)
<b>Urban/Rural</b>	0.001 <sup>†</sup> (0.0005)		-0.0008 (0.0007)
<b>Local Politics Situation</b>	0.28 (0.35)		0.67 (0.43)

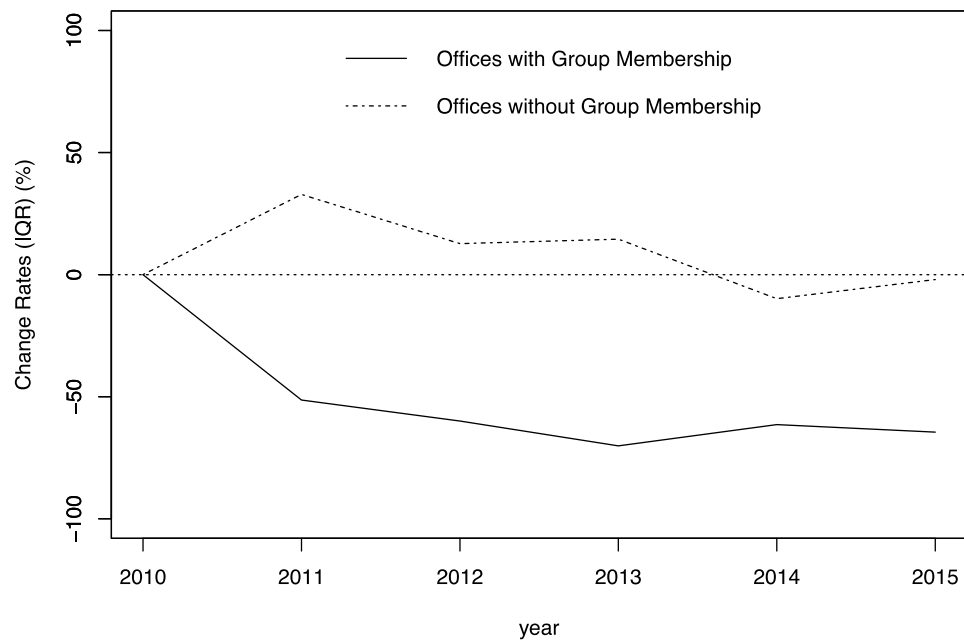
<b>Information Disclosure</b>	0.35*** (0.09)		0.53*** (0.10)
<b>Number of Cases</b>	0.00005 (0.00009)		0.0001 (0.00009)
<b>Confidence in Expertise</b>	0.21 *** (0.04)		0.25*** (0.05)
<b>Intra-Office Consultation</b>	0.09* (0.04)		0.01 (0.04)
<b>: Colleagues</b>	-0.06 (0.04)		-0.17 *** (0.04)
<b>: Predecessor</b>	-0.12** (0.04)		-0.16 *** (0.05)
<b>: Team Leader</b>	-0.07 <sup>†</sup> (0.04)		0.05 (0.04)
<b>Adversarial Assessment of Regulated Entities</b>	0.11* (0.05)		0.13 * (0.05)
<b>Intercepts</b>	0.32 (0.35)	1.52*** (0.06)	0.16 (0.41)
<b>N</b>	119	134	119
<b>AIC</b>	1233	1554.5	1061

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , <sup>†</sup> $p < 0.1$ . SE in parentheses.

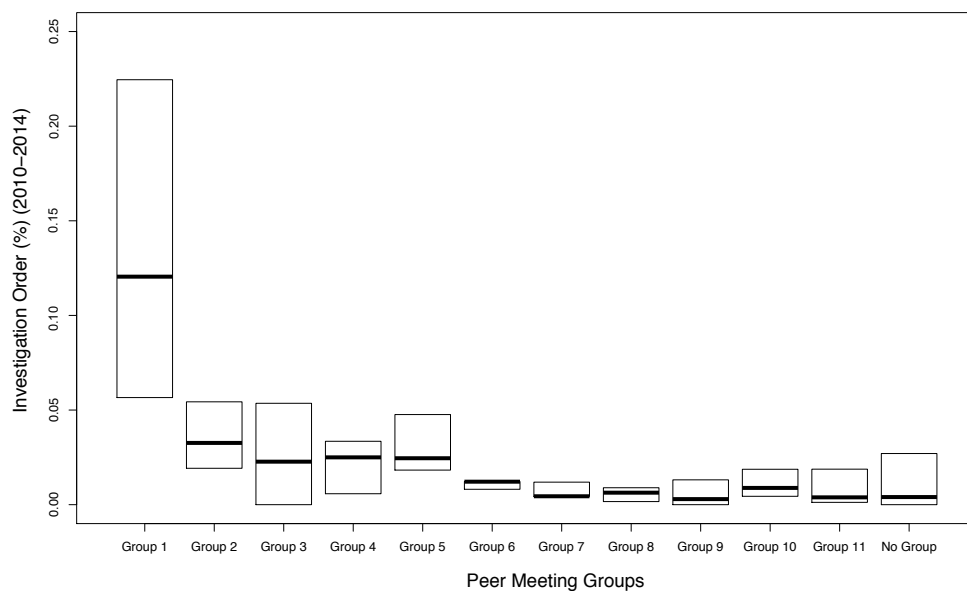
**Figure 1.** Meso-level Analysis of Street-level Implementation and Enforcement



**Figure 2.** Changes in Enforcement Variances: Offices With and Without Group Membership



**Figure 3.** Different Enforcement Stringency Among Peer Office Meeting Groups



The boxes show the range from the 25th to 75th percentile, and the bold lines are the median.

## Appendix: Control Variables Description

<i><b>Control Variables</b></i>	<i><b>Description</b></i>
<i>Caseload</i>	Number of cases divided by number of regulators.
<i>Prefecture</i>	1 for prefectural office; 0 for municipal office.
<i>Urban/Rural</i>	Inverse of the percentage of workers in agriculture, fishing, and forestry to total workers (the National Census 2010).
<i>Local Political Situation</i>	Percentage of Liberal Democratic Party (LDP) members in the local assembly. The LDP has been in power in national politics nearly continuously since 1955 and is the majority party in many local assemblies. Since the LDP is a conservative, pro-business party, it is expected that a local government with more local assembly LDP members would issue fewer Investigation Orders.
<i>Information Disclosure</i>	1 if an office received an Information Disclosure Request regarding the SCCA during the fiscal year of the survey; 0 otherwise.
<i>Number of Cases</i>	Total number of cases from 2010 to 2014.
<i>Regulators' Confidence in their Offices' Expertise</i>	Measured by two questions: "My office has adequate legal expertise for enforcing the regulation," and "My office has adequate technical expertise for enforcing the regulation." Coded from 1 (not at all) to 7 (very much). Cronbach's $\alpha=0.88$ .
<i>Intra-office Consultation</i>	Measured by the question "Imagine a case where the statute and guideline are ambiguous and do not specify clear-cut enforcement standards (e.g., regarding an Investigation Order). Do you discuss how to handle such cases with the following people? If so, how often? (Colleague, predecessor, team leader, department head.)" Coded from 1 (do not discuss) to 6 (always discuss).
<i>Adversarial Assessment of Regulated Entities</i>	Measured by the question, "Regulated businesses protest against enforcement when the enforcement appears unreasonable to them." Coded from 1 (untrue) to 5 (true).

