Abstract:
In recent years, the establishment of European Regulatory Networks (ERNs), in which national regulatory authorities co-ordinate their activities in a non-hierarchical way, has been presented as a way to promote the uniform implementation of EU directives. In the academic literature, the effectiveness of these networks has been linked primarily to their institutional and organizational characteristics. By contrast, this paper argues that the level of co-ordination in ERNs crucially depends on the level of interdependence that exists between member state authorities in a given issue area. Drawing on a survey among national representatives in two ERNs and a set of in-depth interviews, it shows that both the uniformity of implementation between member states and the use of common purpose as a way to reach co-ordination in the network are strongly affected by the perceived level of interdependence.
1. Introduction: the quest for co-ordination in the EU

When it comes to implementing its laws and policies, the EU suffers from a ‘governance dilemma’ (Eberlein and Newman 2008). On the one hand, coherent and consistent implementation across all member states is needed for policies to be effective. On the other hand, member state governments have in many areas resisted shifts of authority and resources to create enforcement capacities at the EU-level. As a result, implementation of EU policies takes place largely by member state authorities. Even when the regulatory standards themselves are formulated and decided upon at the EU-level, their enforcement is done by authorities that belong to the administrative apparatus of each of the member states.

This asymmetry between rule formulation and rule enforcement leads to differences in implementation practices between member states. As Versluis (2007) has shown for two EU environmental directives, member states differ greatly in terms of the priority they give to the enforcement of specific directives, the instruments they use, and the approaches they take. This ties in with well-established insights from the literature on policy styles, which has shown that countries take different approaches to implementing legislation, for instance as regards the modes of interaction with regulated firms and the use (and severity) of penalties as an enforcement instrument (Van Waarden 1995).

For EU law and policies, these differences are often seen as problematic. Many policies require more or less consistent enforcement if they are to be effective. For instance, policies to reduce transboundary air pollution will not work if regulatory standards are not enforced across all (or at least the vast majority of) member states. Likewise, the day-to-day results of differences in implementation are visible in barriers to cross-border labour mobility and problems with law enforcement in border regions. But even in the absence of transboundary effects, differences in implementation run against the desire to establish some kind of minimum protection level across all member states and/or assure a ‘level playing field’ for firms operating in different member states.

In order to achieve this consistence in implementation in the absence of centralized EU-level enforcement, the European Commission has promoted the establishment of European Regulatory Networks (ERNs) (Coen and Thatcher 2008;
Dehouse 1997; Eberlein and Grande 2005; Eberlein and Newman 2008; Thatcher and Coen 2008). ERNs consist of national regulatory authorities (NRAs) from all member states. The idea behind forming a network of regulators is that it allows NRAs to co-ordinate their activities and thus arrive at a more consistent set of implementation practices. In doing so, ERNs rely on non-hierarchical forms of co-ordination, such as the exchange of best practices, and the formulation of common (yet formally non-binding) standards to guide implementation.

In the literature on EU governance, some have presented ERNs as the way out of the EU’s governance dilemma (e.g. Eberlein and Grande 2005: 100), while others have pointed at weaknesses in the networks’ structural set-up as an impediment to effective co-ordination (Coen and Thatcher 2008: 67-68). The debate about this has as yet been unresolved because of two weaknesses in the literature. First, no systematic research has been done into the extent to which ERNs actually lead to greater co-ordination. Most existing studies base their assessment on qualitative (and often anecdotal) case study evidence on the activities of specific ERNs. These activities, for instance the formulation of common requirements by participants in an ERN (Eberlein and Grande 2005: 100), are then used as indicators for co-ordination. However, these are only proxies. Activities in ERNs may be a preliminary step towards co-ordination, but they say little about the actual enforcement practices in member states. In the end, it is the actual co-ordination of these practices that is most relevant to the debate over ERNs.

Second, much of the existing literature has taken a limited approach to identifying the conditions under which ERNs lead to co-ordination, focusing mainly on factors that are related to the way the networks are organized. Much less attention has been paid to the conditions under which actors in a network have an incentive to co-operate. Yet, these incentives are likely to be a crucial background condition for the effectiveness of ERNs as a solution for the EU’s governance dilemma.

This paper seeks to address these weaknesses by examining systematically (1) to what extent ERNs lead to enhanced co-ordination of enforcement activities among member state authorities and (2) to what extent the incentives to co-ordinate among those authorities affect the degree of co-ordination achieved. This will be assessed by means of an internet survey among member state representatives in ERNs in two different policy
areas (financial regulation and environment). In each of these areas, two directives have been selected: one with a high and one with a low incentive to co-ordinate.

The remainder of the paper is structured as follows. In the next section, we will review the explanations offered in the existing literature for the level of co-ordination in ERNs. Then, we will introduce a theoretical framework for explaining co-ordination in networks that focuses on differences in interdependence between issues and issue areas as the primary determinant of the incentive to co-ordinate. In the fourth section, we will describe in greater detail the methodology used to select cases and to assess the levels of co-ordination and interdependence between NRAs in the networks. Subsequently, we present and discuss our empirical findings. Finally, we draw a number of conclusions and sketch the implications of our study both for the academic literature on ERNs and for the practice of ERNs in EU governance.

2. Explaining co-ordination in the literature on ERNs

Insofar as studies of ERNs discuss the factors that determine their effectiveness, they tend to focus on the institutional and organizational set-up of the network. These can be divided into factors that are internal and factors that are external to the network (cf. Eberlein and Grande 2005: 103 for this distinction).

As to the internal factors, several authors have stressed the importance of trust among the participants in a network as a precondition for successful co-ordination (Börzel and Heard-Lauréote 2009: 143; Eberlein and Grande 2005: 103). Only when participants trust each other will they be willing to engage in the exchange of information that underlies non-hierarchical co-ordination efforts. In addition, a degree of professional homogeneity among the participants in thought to facilitate co-ordination efforts, either because it leads to trust (Eberlein and Grande 2005: 103) or because it makes communication and co-ordination easier in itself (Eberlein and Newman 2008: 36).

The most important external factor that has been highlighted is independence, both of the network vis-à-vis the European Commission and of the NRAs participating in the network vis-à-vis their national governments (Coen and Thatcher 2008: 67; Eberlein and Grande 2005: 103-104; Eberlein and Newman 2008: 37). The argument behind this is
that ERNs can only facilitate co-ordination if they command sufficient institutional resources. Moreover, if the NRAs in the network are under direct control of their governments, decision-making is likely to revert to distributive conflicts between member states, which will hamper co-ordination efforts. As a result, authors have stressed the importance of the formal mandate granted to ERNs, as well as the de facto room for manoeuvre that ERNs and NRAs have to enter into mutual commitments.

Although these are plausible and important factors for understanding the functioning of ERNs, they all relate to characteristics of the actors in the network and the way their co-operation is organized. In that sense, they tend to emphasize the organizational aspects of ERNs, to the exclusion of contextual factors that may determine the likelihood of co-operation and co-ordination. A particularly promising potential explanatory factor in this regard is the (actual or perceived) interdependence between actors in a network.

Interdependence is important because it gives actors an incentive to invest time and energy in co-ordinating their practices with others. For every participant in an ERN, co-ordination entails potential costs, not only in the form of the time and energy devoted to the co-ordination process but also because existing practices and routines need to be changed. As a result of these changes, personnel needs to be retrained, computer systems need to be adapted and organizational formats need to be modified. Moreover, existing practices are often rooted in the normative assumptions and outlooks on the world of an NRA and its personnel. Hence, changing them may run into organizational resistance.

The main benefit to be derived from co-ordination in an ERN is increased homogeneity in implementation practices across member states. This, however, is not necessarily a benefit for the participating NRAs. When an NRA in one member state is not or only to a limited extent affected by the activities of an NRA in another member state, it makes little difference to that NRA whether implementation practices across the EU are similar or different. In that case, increased homogeneity may be a benefit to the European Commission (which seeks equal conditions across the EU) but not to the actors that need to change their practices in order to bring that equality about.

Only when the practices of NRAs affect each other (that is, when they are mutually interdependent), do NRAs themselves feel the consequences of differences in
implementation practices and do they reap the benefits of greater co-ordination. These benefits may form an incentive to engage in co-ordination with other NRAs that is absent when there are no interdependencies. As a result, we may expect co-ordination to be strong when interdependencies between NRAs in an ERN are greater.

This is a factor that is sometimes mentioned in the literature on ERNs but has not been systematically elaborated. For instance, Börzel and Heard-Lauréote (2009: 143) note that ‘actors need to recognize their interdependence’ if they are to accept common solutions. Yet, in the same paragraph they conclude that, in the end, the effectiveness of networks depends on the involvement of ‘actors that possess relevant resources and that have developed sufficient trust in their exchange relationship’. Likewise, Schout and Jordan (2005: 209), citing the work of Elinor Ostrom, state that a degree of (perceived) interdependence is a necessary precondition for effective co-ordination in networks. However, in their subsequent analysis they focus on the organizational difficulties that arise from complex issues spanning multiple sectors and levels of government, arguing that these circumstances require more active management strategies. The mediating factors that they discern in this regard include the organizational strength and capacities of the network itself and of the member state actors participating in it (see also Schout and Jordan 2008). In the end, therefore, their theoretical and empirical focus also lies with organizational factors rather than the external factors, such as interdependence, that may affect the feasibility of co-ordination in ERNs to begin with.

3. Interdependence and co-ordination

3.1 Co-ordination as a result and as a process

Before discussing the link between interdependence and co-ordination, it is important to specify what exactly we mean by ‘co-ordination’. The first crucial distinction in this regard is between co-ordination that is brought about by a central decision-maker (central co-ordination) and co-ordination that occurs among participants without central management (non-central co-ordination). Co-ordination in ERNs is of the latter, non-central type. Although the activities in the network may be facilitated by one actor, for
instance one of the participants acting as chair or a representative of the European Commission (Martens 2008), a defining characteristic of ERNs is the absence of formal hierarchy. There is no actor within the network that can direct the others to adopt certain practices. Hence, what is at stake is the occurrence of non-central co-ordination.

Non-central co-ordination can be defined both as a process (‘co-ordinating’) and as a result (‘is co-ordinated’). Chisholm (1989: 28), for example, defines co-ordination as ‘the harmonious combination of agents or functions toward the production of a result’ (a result-based definition) and as the act of ‘bring[ing] [things] into proper combined order as parts of a whole’ (a process-based definition). Each definitions sheds light on a different aspect of co-ordination that is relevant for the debate about ERNs. The end result (co-ordinated implementation of policies) is one of the official objectives of ERNs, while this result is supposed to be achieved by creating a process of co-ordination among the participants in the ERN. At the same time, the two need not always go together: co-ordinated results can be achieved without an actual co-ordination process taking place, while co-ordination processes can take place without leading to a co-ordinated result. Hence, both types of co-ordination are relevant for an understanding of co-ordination in ERNs.

Co-ordination as a result is achieved when the participants in a network adjust their activities to each other (cf. Lindblom 1965: 23; Rogers and Whetten 1982: 16). Paraphrasing Lindblom’s (1965: 23) definition, we can say that ERNs achieve co-ordination when the practical implementation practices of National Regulatory Authorities respond to or are adapted to each other, and are not merely randomly related. Co-ordination as a process is more difficult to capture in one definition, because it includes a wide range of activities, ‘rang[ing] from simple ad hoc decisions and actions at the dyad level to participation in formally organized councils’ (Rogers and Whetten 1982: 18).

On a more analytical level, two types of non-central co-ordination processes can be discerned: co-ordination through mutual adjustment and co-ordination through common purpose. Co-ordination through mutual adjustment refers to co-ordination in situations where participants do not share common objectives. Charles Lindblom (1965: 3) famously used the example of two crowds of pedestrians crossing the street from
different directions. Simply by observing each other, and adjusting their behaviour when they encounter someone coming from the other side, they avoid bumping into each other. In Lindblom’s terminology, the example of the pedestrians is a case of ‘adaptive adjustments’, where participants adjust their behaviour without communicating with the others. In addition, he discerns ‘manipulated adjustments’, where participants actively seek to obtain desired behaviour on the part of another participant, for instance by engaging in negotiations. This is what Fritz Scharpf (1988: 259), in his work on the joint-decision trap, described as a ‘bargaining style’ of decision-making.

Co-ordination through common purpose, by contrast, occurs ‘through agreed acceptance of rules of behaviour sufficient to specify how (...) each decision in a set is to be adjusted to each other’ (Lindblom 1965: 27). In this case, participants share some common objectives and/or criteria for reaching decisions that guides the co-ordination process. This is what Fritz Scharpf (1988: 258) called a ‘problem solving style’ of decision-making. A good example of this type of co-ordination can be found in the literature on epistemic communities, because epistemic communities are built on shared (professional) norms and understandings of reality, which lead the participants in them to advocate and adopt a joint course of action (Haas 1992).

3.2 Interdependence and non-central co-ordination

In the minds of many politicians, policy-makers and citizens, ‘co-ordination’ implies active management by a central decision-maker. By contrast, non-central modes of co-ordination are often thought to be ineffective and wasteful because of overlapping activities and haphazard co-ordination efforts. Nevertheless, a distinct strand in the literature on public administration and interorganizational relations has made a strong case for the effectiveness and flexibility of non-central co-ordination.

An early representative of this literature was Charles Lindblom (1959; 1965), who argued that the cognitive and organizational demands posed by the task of co-ordinating complex policies are too much for a central decision-maker to bear. According to him, the ideal of a ‘rational-comprehensive’ co-ordinator who oversees all activities and chooses the most efficient solution is illusory. Worse still, when this ideal is pursued after
all, it will inevitably lead to distorted outcomes because the decision-maker will tend to take into account only part of the available information and only part of all relevant objectives that need to be attained. Against this synaptic ideal of central co-ordination, Lindblom placed a practice in which multiple organizations take care of smaller, less complicated tasks, and co-ordinate among each other by adjusting their activities when confronted with the impact of other organizations on their task domain.

In a study of the San Francisco Bay Area transport system, Donald Chisholm (1989) showed how this might work in practice. The Bay Area’s transport system was extremely fragmented and spread out over various jurisdictions with competing interests. Nevertheless, transport organizations in the area succeeded in building a well-functioning overall transport system by co-ordinating their activities among themselves. According to Chisholm, they did so because they shared a clear set of interests. Because transport systems are interdependent (for instance, a bus operator benefits if the departure times of its buses are adjusted to the departure times of connecting trains and vice versa), transport operators will seek to co-ordinate their activities where necessary. No central co-ordination was needed to achieve this.

Chisholm’s analysis points towards the importance of interdependence as a precondition for non-central co-ordination. Only because the transport operators were dependent on each other, did they go to the trouble of adjusting their behaviour in order to co-ordinate their activities. As was shown above, Chisholm’s analysis points towards the importance of interdependence in non-central co-ordination. Chisholm (1989: 42) defines interdependence as ‘a condition where two (or more) organizations require each other, are dependent each upon the other’, which means that their ‘behavior is affected by and in turn affects the behaviors of those involved in the relationship’. Interdependence may take three forms (Ibid.: 58-59):

- Natural interdependence occurs when organizations have no control over the way in which their activities affect each other. This was the case in the Bay Area transport system, where customers would create interdependencies by using combinations of different modes of transport.
- Voluntary interdependence is created by organizations themselves, when they ‘enter into arrangements to realize some array of mutual benefits’ (Ibid.).
example are two municipalities that decide to buy a fire engine together. From that moment on, they are dependent on each other for the use of the fire engine.

- Artificial interdependence occurs when another actor forces organizations to work together. An example of this is a central government that requires local governments to co-ordinate some type of service they deliver.

These forms of interdependence can be seen as three stages in a continuum ranging from natural to artificial interdependence. Incentives to co-ordinate spontaneously are strongest when organizations are subject to natural interdependence, while they are weakest when the organizations are forced to work together by an outside party without any concrete benefits to be reaped. In terms of co-ordination as a result, this means that organizations will more strongly adjust their behaviours to each other when their interdependence is closer to the ‘natural interdependence’ pole of the continuum. Moreover, the process of co-ordination then is more likely to take place through common purpose rather than mutual adjustment.

ERNs can exhibit each of these types of interdependence. Natural interdependence occurs when NRAs are affected by the activities of other NRAs without any deliberate act of linkage, for instance when strict enforcement in one member state leads to shifts in activities to member states with laxer enforcement regimes. Interdependence is artificial when the Commission stimulates the creation of an ERN where the NRAs feel little influence of NRAs from other member states. Differences in interdependence do not only exist between networks but also between issues dealt with in the same network. Most networks cover more than one EU directive or regulation. Insofar as those directives and regulations cover different issues with different characteristics, the type of interdependence varies between issues in the same network.

In either case, the two basic hypotheses remain the same: the stronger the level of interdependence between NRAs, the more likely it is that:

1. co-ordination as an end result will be achieved, and
2. co-ordination will be achieved through common purpose.

We will now turn to an empirical examination of this hypothesis.
4. Assessing interdependence and co-ordination

4.1 Selection of networks and directives

To test these hypotheses, we have selected two ERNs in different policy areas and within each of those ERNs one directive for which the level of interdependence between member state authorities is high and one for which it is low. This design is important for two reasons. First, many ERNs are concerned with the implementation of more than one directive. Levels of interdependence and co-ordination may differ between those directives. As a result, one cannot assume that a network as a whole shows a certain level of interdependence or co-ordination but one has to assess these variables at the level of individual directives that fall under a ERN’s remit. Second, analysing two directives within the same network allows us to control for a number of organizational factors that may affect the level of co-ordination. One may assume that the organizational factors mentioned in the literature (such as the de facto independence of the network, the level of trust between and the professional background of the participants) are the same for all directives covered by a ERN. After all, it is the same NRAs within the same ERN that discuss both directives. As a result, any differences found between directives within the same ERN are more likely to be the result of differences in interdependence and not of differences in organizational factors. At the same time, by comparing two networks in different policy areas, we are able to assess whether the relationship between interdependence and co-ordination holds in different contexts and whether specific levels of interdependence lead to specific levels in co-ordination in each of these contexts.

Both the choice of ERNs and the choice of directives was based on a document analysis and a set of pilot interviews with officials from seven Dutch organizations that were active in different (types of) ERN. In each of these seven organizations we spoke to a key official who was experienced with the practical implementation of EU law and/or represented the organization in a ERN. In the end, two ERNs were selected: IMPEL (the European Network for the Implementation and Enforcement of Environmental Law) and CESR (the Committee of European Securities Regulators). These are networks that are active in two of the most important policy areas in the EU: the environment and financial...
market regulation. In both areas member states have delegated significant powers to EU institutions. At the same time, they have remained responsible for the implementation and execution of EU regulations and have resisted and constrained centralization of more powers to the EU-level.

To control for the effects of the type of EU legislation on the level of co-ordination, five criteria were taken into account when selecting the directives within the two ERNs. First, only directives were selected (and not regulations) to rule out an effect of the type of legal instrument on the level of co-ordination. Second, all directives generated clear inspection and/or enforcement tasks for NRAs. Third, all directives were based on minimum harmonization, rather than maximum or complete harmonization. Fourth, the directives exhibited similar levels of detail. And fifth, the directives touched upon only one issue areas, thus excluding directives that spanned several issue areas. In addition to these criteria, and crucial to our design the directives within each of the two networks differed in the level of interdependence between member states they entailed.

On the basis of these criteria, the following directives were selected for IMPEL:

- The Integrated Pollution Prevention and Control (IPPC) Directive (EU 2008) requires member states to introduce a system of permits for industrial and agricultural activities with a high (cross-border) pollution potential and specifies the conditions under which a permit can be issued.

The two directives selected for CESR were:

- The Market in Financial Instruments and Investment Services Directive (MiFID) (EU 2004) protects investors and safeguards market integrity by establishing requirements governing the activities of authorized intermediaries and promoting fair, transparent, efficient and integrated financial markets.

Both the pilot interviews and the documents analysed showed that these directives differed in the level of interdependence they implied, while being sufficiently similar in
terms of the ‘control variables’ outlined above. Table 1 shows the scores of these four directives on each of our selection criteria.

<table>
<thead>
<tr>
<th></th>
<th>IMPEL</th>
<th>CESR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IPPC</td>
<td>LoW</td>
</tr>
<tr>
<td>Inspection and enforcement tasks</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Minimum/maximum harmonization</td>
<td>Minimum harmonization</td>
<td>Minimum harmonization</td>
</tr>
<tr>
<td>Level of detail</td>
<td>Medium</td>
<td>Medium/high</td>
</tr>
<tr>
<td>Number of issue areas</td>
<td>One</td>
<td>One</td>
</tr>
<tr>
<td>Level of interdependence</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>

Table 1. The selection of directives

4.2 Operationalization, survey construction and interviews

The levels of interdependence and co-ordination for each directive were assessed through an online survey. This survey was sent to all 102 representatives for the 27 member states in the two selected ERNs (56 in CESR and 46 in IMPEL). The survey was completed in full by a total of 59 respondents, 29 from CESR and 30 from IMPEL, which makes for a response rate of 57%. In addition, 29 respondents partially filled out the survey (21 for CESR and 8 for IMPEL), but these responses have not been included in our analysis.

Respondents filled out the same set of questions for each of the two directives in their network. For each directive, they were first asked to respond to fourteen statements on the level of uniformity in the practical implementation of the directive. For each statement, respondents could indicate whether they agreed on a five-point scale from 1 (‘I strongly disagree’) to 5 (‘I strongly agree’). This measured the level of co-ordination as a result. Then, they were given eight statements on the process of reaching co-ordination, which measured the co-ordination method that was used for the co-ordinating the directive. Finally, the respondents were presented with six statements on the level of interdependence between member state authorities when it came to implementing the directive. The exact wording of the statements has been reproduced in Annex I to III.
the analysis, the survey statements for every directive were subsequently combined in order to create three scales, one for each of the variables in our hypotheses. Reliability analyses indicate that the homogeneity of the different variables was sufficiently high to form these three new scales.

Unfortunately it was not possible to use existing tested measurement methods. Therefore, the measurement instruments were partly developed specifically for this study, based on literature and previous experiences. As a result, special attention had to be paid to reliability and validity by testing the variables with our pilot interviewees before conducting the survey. Furthermore, clear instructions were provided in the digital survey and multiple indicators were used for every dimension to make sure the study would produce reliable and valid results. In addition, reliability analyses were conducted on all the scaled questions, to see if they were sufficiently correlated with each other (Van der Velde et al. 2004: 143). Although the results of these analyses were satisfactory, it is important to note that the topic of this study is relatively complex for a survey. Interviewees indicated they found it difficult to compare the directives and assess the level of uniformity of the inspection and enforcement of these directives.

To explain and illustrate the quantitative data and the possible relation between interdependence and co-ordination we also used qualitative data (cf. Suvarierol 2007: 60). This enabled us to explore the mechanisms underlying the patterns found in the quantitative analysis. The necessary qualitative data were gathered by means of oral open-ended in-depth interviews with the Dutch national coordinators of IMPEL and CESR, with the Dutch experts of the different Directives and with the coordinators for CESR and IMPEL in two other Member States (one West-European and one East-European). Given the limitations of this sample, the results of the interviews will only be used to illustrate the results of the qualitative analysis and generate further hypotheses, not to test our own hypothesis.
5. Results: non-central co-ordination and interdependence

5.1 A quantitative assessment of interdependence and co-ordination

To begin with, we checked the assumption regarding the differences in interdependence that underlay our selection of directives. Figure 1 shows the scores for the four directives and the average score for the two networks on this variable.

![Figure 1: Levels of interdependence for the two networks and four directives](image)

As Figure 1 shows, respondents confirmed the expected differences between directives within the two networks. Within CESR the perceived interdependence is higher for MAD than for MiFID, while within IMPEL the IPPC directive scores higher than the LoW directive. Paired samples t-tests show that both differences are statistically significant at the 0.01-level (see Tables 2 and 3 below).

Figure 2 gives the scores for the networks and directives on the level of uniform enforcement among member state authorities.

![Figure 2: Levels of uniform enforcement for the two networks and four directives](image)
The differences between the directives are in the expected direction. According to the respondents, enforcement of MAD is more uniform than that of MiFID, and the same is true for the IPPC directive in comparison with the LoW directive. Both differences are significant at the 0.01-level.

The same patterns are found when we look at the co-ordination method. Figure 3 shows the scores for the directives on this variable, ranging from 1 (mutual adjustment as the dominant mode of co-ordination) to 5 (common purpose as the dominant mode of co-ordination).

Figure 3: Co-ordination methods used in the two networks and four directives

Again, MAD and the IPPC directive score highest, indicating that they rely more on common purpose than on mutual adjustment. By contrast, MiFID and the LoW directive score lower. As for the other two variables, the differences within networks are significant at the 0.01-level. Tables 2 and 3 give the full details for each network.

<table>
<thead>
<tr>
<th>IMPEL</th>
<th>IPPC</th>
<th>Landfill</th>
<th>Significant?</th>
</tr>
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<tbody>
<tr>
<td>Mean level of interdependence</td>
<td>$M=3.81, SD=0.78, n=30$</td>
<td>$M=2.89, SD=0.76, n=29$</td>
<td>$t(28)=3.83, p &lt; .01$</td>
</tr>
<tr>
<td>Mean level of uniformity in the practical implementation</td>
<td>$M=3.22, SD=0.38, n=31$</td>
<td>$M=2.79, SD=0.45, n=29$</td>
<td>$t(28)=4.31, p &lt; .01$</td>
</tr>
<tr>
<td>Mean score on co-ordination method used</td>
<td>$M=3.83, SD=0.69, n=30$</td>
<td>$M=2.77, SD=1.15, n=26$</td>
<td>$t(25)=3.60, p &lt; .01$</td>
</tr>
</tbody>
</table>

Table 2: mean scores per IMPEL directive
The fact that both the level of interdependence and the level of co-ordination differ significantly and in the expected directions within each network, is an indication that higher levels of interdependence indeed lead to higher levels of co-ordination. A further test can be done by directly correlating the individual respondents’ scores on the interdependence and co-ordination variables for each directive. As Table 4 shows, the level of interdependence is significantly correlated with both the level of uniformity and the co-ordination method used (p<.05 for all correlations and directives).

As a final test, a correlation analysis was conducted using the data from all respondents about all four directives. This confirms the results of the analyses above: there is a strong positive correlation between the level of interdependence and the level of co-ordination as an outcome (r(128)=0.72, p<.05) as well as a positive correlation between the level of interdependence and the co-ordination method used (r(125)=0.83, p<.01).

<table>
<thead>
<tr>
<th>CESR</th>
<th>A/MIFID</th>
<th>B/MAD</th>
<th>Significant?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean level of</td>
<td>M=2.79, SD=0.95,</td>
<td>M=4.06, SD=0.67,</td>
<td>t(34)=-5.272, p&lt;.01</td>
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<tr>
<td>interdependence</td>
<td>n=35</td>
<td>n=35</td>
<td></td>
</tr>
<tr>
<td>Mean level of</td>
<td>M=2.52, SD=1.12,</td>
<td>M=3.85, SD=0.87,</td>
<td>t(37)=-4.93, p&lt;.01</td>
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<td>uniformity in</td>
<td>n=38</td>
<td>n=38</td>
<td></td>
</tr>
<tr>
<td>the practical</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>implementation</td>
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<tr>
<td>Mean score on</td>
<td>M=3.05, SD=1.43,</td>
<td>M=4.32, SD=0.58,</td>
<td>t(35)=-5.02, p&lt;.01</td>
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<td>co-ordination</td>
<td>n=36</td>
<td>n=36</td>
<td></td>
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<tr>
<td>method used</td>
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<td>Table 3: mean scores per CESR directive</td>
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5.2 Looking beyond the data

The survey results suggest that there is a link between the level of interdependence on the one hand and both the uniformity of enforcement and the use of co-ordination through common purpose on the other. This conclusion is supported by the interviewees. We asked them qualitatively to assess the level of interdependence, the level of uniformity and the co-ordination method used within their ERNs for the selected directives. Their answers correspond with the results above. For example, one interviewee answered, when asked about interdependence concerning the Landfill of Waste directive: ‘You see, the problem is solved when the landfill crosses the border to our neighbors. So I don’t care what our Bulgarian colleagues do.’ However, concerning IPPC another interviewee said: ‘It’s impossible to cope with polluting substances on your own, they don’t stop at borders, we simply need each other in the EU to be able to protect the environment.’

Another interviewee explained to us the process of reaching a decision on MiFID: ‘An example is the practical application of transparency provisions on exemption. The first wants this, the second that, the third something different. You know, there is no real consensus on this topic, so we just have to negotiate, there is no other option.’ This description differs from the description of decision-making on MAD: ‘We always try to find consensus. That makes a decision so much more powerful.’ This, too, points at a link between interdependence and co-ordination in the two networks.

The interviewees also gave clues as to the explanations for the differences found in co-ordination. Various explanations were put forward. Some respondents thought it had something to do with the priorities of the European Commission. As one interviewee from CESR said:

‘It is clear that market abuse is a hot-topic in Brussels. Especially these days, with the crisis and stuff. The Commission really wants to harmonize supervision. So we have a kind of stick or carrot to do so. Maybe this is not the case with MiFID? That might explain these differences?’

However, as another interviewee from CESR suggested, timing might also explain part of the differences between the directives.
‘Supervision in the daily practice of market abuse is indeed more consistent, but I think that can be explained by the fact that this directive has a longer CESR history. That means we had more time to discuss the way we supervise the market on market abuse.’

Overall, however, most respondents pointed at the different need or incentives to coordinate as a reason for the differences between the directives on non-central co-ordination. Said a CESR interviewee:

‘And talking about MAD, you can be quite dependent on your next-door neighbors, that is where cross-border platforms operate and cross-border market abuse is the easiest, so you need to stay in touch with them and that makes it a lot easier to close a deal to supervise and sanction using the same criteria. MIFID doesn’t have this clear cross-border focus, I don’t need to call our neighbors on a daily basis. That does make a difference.’

Another interviewee observed with regard to MiFID:

‘When I don’t need my counterparts, why should I want to be cooperative? I can better aim at my own interests and see how much I can get.’

Similar remarks were made about the environmental directives that IMPEL deals with, as exemplified by the following quote on the IPPC directive:

‘The environment doesn’t stop at the borders. Every action leads to another action. With bargaining you might achieve more for yourself, but how about the environment as a whole? Do we all benefit? Somehow, we are all one chain, and we stay strong as long as we look for consensus.’

In a similar vein, interviewees commented:

‘The understanding that the chain is only as strong as its weakest link, that we can’t function on our own, that we all benefit from consistent inspection and enforcement, that makes formulating best practices so much easier.’

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1 It should be noted that this explanation is not supported by the quantitative data. Although MAD is a bit older than MiFID (2003 versus 2004), the LoW directive is much older than the IPPC Directive (1999 and 2008, respectively). Still, the level of co-ordination is higher for the IPPC than for the LoW directive.
'I think it’s rather stupid to be uncooperative and stubborn, when you depend on the others for your own functioning. You need them, so it’s not a good idea to pursue only your own goals.'

And with regard to CESR:

‘It’s rather self-evident that the countries with a autarkic market are not trying their hardest to come up with a consensus. They rather put their national interests first and see what they can achieve.’

This is further evidence that the differences between the co-ordination of the directives are linked to differences in the level of interdependence. In addition, the interviews give insights into the mechanisms linking interdependence and co-ordination. Most interviewees explained the influence of interdependence on non-central co-ordination by pointing at the role of informal relations and the reduction of uncertainty as factors that come into existence as a reaction to high interdependence and that stimulate co-ordination. An interviewee from IMPEL explained:

‘Because we are dependent on our counterparts, we pay a lot of attention to education and training of colleagues who are lagging behind. This results in strong informal ties between individuals and that makes it a lot easier to close the deal or to gear all activities to one another.’

An interviewee who was active in CESR described a similar process:

‘I always drink something with the guys from the countries whose market participants are active on my platform; those are the ones that need to do their job to protect my citizens. So I like to informally check if everything is ok. Same for the Italians and Spaniards, they always find each other. Those kinds of things make co-ordination easier. You know the others personally. You have special ties.

Most deals are closed there. You support me, I support you.’

Not only do informal relations and uncertainty reduction play a role in co-ordination as an outcome, they also make sure NRAs use a cooperative attitude to reach an agreement. After all, informal relations, which develop in cases of high interdependence, make it easier to find consensus because participants already know and understand each other. Moreover, uncertainty, which develops in cases of high dependency, is an incentive to
look for consensus because participants in a network do not want to upset the persons they are dependent on. This is illustrated by a quote from an interviewee from IMPEL:

‘For me, it’s easier to put my own interests aside, when I know and understand the other party. For my friends, I’m willing to take a loss from time to time. When you see your colleagues as such, you have to agree with me that consensus is found in no time.’

6. Conclusions

This paper has sought to analyse systematically the relationship between the level of interdependence in a European regulatory network and the level of co-ordination achieved in that network. The results of our survey among national representatives in CESR and IMPEL shows that there is indeed such a relationship. In each of the two networks, a higher level of interdependence leads to a significantly higher level of uniformity in the implementation of a directive. Moreover, a higher level of interdependence leads to a greater reliance on common purpose, rather than mutual adjustment, as a co-ordination method. Both results were supported by the qualitative interviews conducted with participants in both networks. As a result, our analysis indicates that interdependence is a precondition for non-central co-ordination in ERNs.

At the same time, our results also show that the level of interdependence is not the only relevant factor in explaining levels of co-ordination. Although the differences in levels of interdependence within the two networks were fairly similar (see Figure 1 above), the variation in the level of uniformity was higher in CESR than in IMPEL, while on average co-ordination through common purpose was more prevalent in CESR than in IMPEL. This suggests that other factors, for instance relating to the institutional set-up and organizational characteristics of the two networks, also play a role. Overall, however, the effects of interdependence seem to dominate, because the directive with the highest level of interdependence in one network always scores (a lot) higher on the level of co-ordination than the directive with the lowest level of interdependence in the other network.
These results have a number of implications, both theoretically and practically. First, our results show that interdependence is a crucial variable in understanding co-ordination in networks. Most of the existing literature on ERNs (as well as the literature on epistemic communities) focuses on institutional and organizational variables. Although these variables are likely to exert an influence in their own right, they operate within a context that is determined by the level of interdependence among participants in the network.

Second, these results indicate that network governance is no panacea for co-ordination problems. Although ERNs, and ‘new modes of governance’ in general, have often been touted as effective ways to achieve co-ordination in a fragmented administrative system, our analysis shows that they can only achieve that purpose if they operate in a context of high interdependence. When levels of interdependence are low, their effectiveness in terms of co-ordinating behaviour will be much lower.

Third, and related to the previous conclusion, our results raise doubts about the general applicability of network solutions in European governance. ERNs have been designed on purpose by the Commission to promote uniform implementation across member states. In doing so, the Commission has created and/or supported the formation of networks in a wide range of issue areas. Our analysis suggests that a more custom-tailored approach would be appropriate, or at least that the objectives of network creation should vary between issue areas. Where interdependencies are high, networks may indeed provide an effective means of co-ordinating activities. By contrast, where they are low vast differences in implementation practices are likely to remain despite the existence of a European network.
References


Annex I:

1. Securities regulators across the EU are totally different organizations.
2. Securities regulators across the EU have similar formal supervisory powers.
3. Securities regulators across the EU have similar priorities.
4. Securities regulators/environmental authorities across the EU are equally active in inspecting and enforcing this directive.
5. Securities regulators/environmental authorities/environmental authorities across the EU are equally strict in inspecting and enforcing this directive.
6. Securities regulators/environmental authorities across the EU have totally different levels of autonomy to inspect and enforce this directive.
7. Securities regulators/environmental authorities across the EU inspect roughly the same number of cases per year.
8. The amount of time that securities regulators/environmental authorities spend on the inspection of a case differs across the EU.
9. The inspection plans used by securities regulators/environmental authorities across the EU are similar.
10. Securities regulators/environmental authorities across the EU use similar inspection tools.
11. Securities regulators/environmental authorities across the EU use different criteria to decide when to use sanctioning tools in response to non-compliances.
12. The decisions on the use of enforcement tools are made on the same hierarchical level within the securities regulators/environmental authorities across the EU.
13. Securities regulators/environmental authorities across the EU use similar sanctioning instruments.
14. The amount of time that it takes securities regulators/environmental authorities to impose a sanction differs across the EU

Annex II:

1. To reach a decision on the inspection and enforcement of this directive, we had to negotiate with each other during CESR/IMPEL meetings.

2. We often exchanged favors during CESR/IMPEL decision making on this directive.

3. We never manipulated or used strategic calculation during CESR/IMPEL decision making on this directive.

4. Decisions on the inspection and enforcement of this directive were made by (near) consensus or large majorities of securities regulators/environmental authorities in CESR/IMPEL.

5. The feeling that we have a shared responsibility for the single market for financial services helped in the CESR/IMPEL decision making on this directive.

6. During CESR/IMPEL decision making on this directive, we often referred to common goals and problems.

7. We already agreed on ways to coordinate supervision and enforcement of this directive, before the CESR/IMPEL meetings took place.

8. We worked with rules of behavior during CESR/IMPEL meetings on this directive.
Annex III:

1. Coordination of supervision and enforcement of this directive is an initiative of the European Commission

2. Consistent enforcement and supervision of this directive by securities regulators/environmental authorities across the EU is necessary for the task fulfillment of my own organization

3. Consistent enforcement and supervision of this directive by securities regulators/environmental authorities across the EU leads to advantages and benefits for my own organization

4. Without individual advantages my organization would not participate in CESR/IMPEL

5. My own organization is not dependent on the way other securities regulators/environmental authorities across the EU inspect and enforce this directive.

6. Consistent enforcement and supervision of this directive by securities regulators/environmental authorities across the EU sometimes leads to disadvantages for my own organization