Routledge
Taylor & Francis Group

ARTICLE

Administrative coordination capacity; does the wickedness of policy areas matter?

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ABSTRACT

Based on a survey of civil servants in the Norwegian central government, this article describes perceptions of coordination capacity and examines to what degree the variations in perceived coordinating capacity can be explained by structural and cultural features. In particular, it focuses on the significance of wicked policy areas. Overall the coordination capacity is weaker in wicked policy areas than in other policy areas. Controlling for other features the coordination capacity is primarily related to cultural factors, such as mutual trust, level of conflict, and identification with the central government. Some structural features, such as administrative level, also have an effect.

Introduction

Governments across the world are struggling to deal with 'wicked policy problems', such as climate change, immigration, and crime (Head, 2018). The question of how to address 'wicked problems' has been around since Rittel and Webber (1973) published their seminal article and the debate on this issue has now moved beyond the different dimensions that they defined 40 years ago. Brian Head (2018) argues for closer links between the wicked problems literature and policy studies, while the focus in this article is on structural and institutional types of theories. Accordingly, it is natural to focus on the New Public Management (NPM) reform wave, with its emphasis on structural vertical and horizontal specialization, resulting in fragmented government apparatuses, thus aggravating the wicked issues problems and the related post-NPM reforms trying to cope with this fragmentation (Pollitt & Bouckaert, 2017).

Wicked problems pose highly complex and ambiguous policy planning and development challenges and also raise implementation and service-delivery problems that cannot be solved within a single sector or administrative level. By definition, a wicked problem has no optimal solution, but more or better collaboration and coordination between different actors, organizations and levels are often seen as a key precondition for governments to address complex governance challenges and hence as a way forward (Head & Alford, 2015; Lægreid & Rykkja, 2015). In addition, they are often highly contested and debated policy areas, characterized by disagreements on the definition of problems and solutions and multiple actor negotiation processes, which may result in

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more or less ambiguous compromises (Cyert & March, 1963; March & Olsen, 1983; Wilson, 1989). This alludes not only to structural design problems, but to institutional or cultural aspects of legitimacy.

This article investigates coordination capacity in the Norwegian central government apparatus with a special focus on the areas of climate change, immigration, and the police. We examine what characterizes government coordination capacity within these policy areas and how one can explain them. The dependent variable is therefore civil servants' perceptions of coordination capacity in their own field of work. The article underscores the relevance of structural features for coordination capacity as well as governance legitimacy by examining the effect of identity, levels of conflict and trust relations on coordination arrangements. So the core argument is that the dynamic relationship between structural and institutional factors determine the coordination capacity, which adds cultural factors to the equation. Following from this, we expect that structural and institutional contextual features at country- and sector-level affect coordination practices and explains variations in perceived coordination capacity.

The article contributes predominantly to the conceptual and policy domain literature on wicked problems. It aims at reducing a research gap in the literature by focusing on coordination as one core dimension of wicked problems. It has both a descriptive aim at mapping the perceived coordination capacity and explanatory ambition by examining the variation in coordination capacity from a structural and a cultural-institutional perspective.

The main research questions posed are:

- How do civil servants perceive the overall coordination capacity?
- Are perceived coordination capacity different in the wicked policy areas of climate change, immigration and policy compared to other policy areas?
- To what degree can structural and cultural features explain the variation in perceptions of overall coordinating capacity?

Our data are taken from a survey of civil servants in the Norwegian ministries and central agencies conducted in 2016.

We will start by clarifying our core concepts and our theoretical approach. Second, we will give an outline of the Norwegian context. Third, we will describe our methods and data sources. Fourth, we will present our empirical findings. Fifth, we will discuss the findings in relation to the theoretically derived expectations. Finally, we will sum up the main findings and draw some conclusions.

Conceptual clarification, theoretical perspectives and variables

Coordination and coordination capacity

The literature of coordination and integration in public administration and public policies is growing and different concepts and terms have been used. One can distinguish between governance centered approaches focusing on policy processes and implementation, and government-centered approaches focusing on coordination and the institutional and organizational dimensions (Tosun & Lang, 2017; Trein, Meyer, & Magetti, 2018). This article leans more toward the second approach. Coordination can be defined as the

purposeful alignment of units, roles, tasks and efforts in order to achieve a predefined goal (Bouckaert, Peters, & Verhoest, 2010). Coordination is about adjusting the actions and decisions of interdependent actors to achieve specified goals (Koop & Lodge, 2014). Thus, we regard coordination both as a process and as an output.

Administrative coordination capacity is basically about mediating and bringing different administrative units and dispersed actors to work together in order to achieve joint actions (Governance Report, 2014). It is about aligning organizations from different backgrounds under often tricky conditions (Lodge & Wegrich, 2014). It applies to the competencies of 'boundary spanning' capacities and the ability to bring different expertises together (Christensen & Lægreid, 2011; Hood & Lodge, 2006). Thus, it is not only about vertical coordination by hierarchy but also about facilitating horizontal coordination across policy areas and organizations at the same administrative level. Attempts to improve the coordination capacity is a recurring theme in contemporary administrative reforms (Lægreid, Sarapuu, Rykkja, & Randma-Liiv, 2016; Wegrich & Stimac, 2014).

Choosing between different means of coordination entails prioritization, but each means carries different risks, such as increasing complexity and hybridity. Wicked problems involve a risk of 'coordination underlap' (Koop & Lodge, 2014) – i.e. when a particular policy issue falls between the boundaries of different government organizations it can become a responsibility of none. Or it might involve 'coordination overlap', when a policy issue is of relevance to several different organizations and all of them want to be involved in policy making. The three selected policy areas represent different mixtures of 'overlap' and 'underlap' (Wegrich & Stimac, 2014).

Coordination is often considered as a workable solution to wicked problems and a potent remedy for a lack of capacity and legitimacy in the public sector (Head & Alford, 2015; Lægreid & Rykkja, 2015; Lægreid, Sarapuu, Rykkja, & Randma-Liiv, 2014). Such problems intensify the need for contingent coordination, collaborative governance and network approaches (Ansell & Gash, 2008; Kettl, 2003). Climate change, crime and immigration are typical examples of wicked issues. These issues demand interconnected administrative responses.

Explanatory perspectives – structural and cultural features

We apply both a structural-instrumental perspective and a cultural-institutional perspective to understand the variations in perceived coordination capacity. According to the *structural-instrumental perspective*, decision-making processes in public organizations are either the result of strong hierarchical steering or of negotiations among top political and administrative leaders (March & Olsen, 1983). The formal structure of public organizations will channel and influence the models of thought and the actual decision-making behavior of civil servants (Egeberg, 2012; Simon, 1957).

Luther Gulick (1937) stressed the dynamic relationship between specialization and coordination: the more specialization there is in a public organization, the greater the pressure for increased coordination or vice versa. The challenges of 'coordination by organization', his main type, are also qualitatively different depending on whether the structural specialization is based on purpose, process, clientele or geography (Egeberg, 2012).

This perspective offers insights into variations in how coordination is experienced in different policy areas and among officials performing different tasks, in different

positions, and at different administrative levels and in different coordination arrangements. The argument is that these diverse formal features affect how internally or externally directed their work is, how technical or non-technical their tasks are, the number and type of stakeholders they have contact with, etc.

The *cultural-institutional* perspective views the development of a public organization as based on historical traditions, path-dependency and informal norms and values (Krasner, 1988; Selznick, 1957). Actors will think and act according to a logic of appropriateness, not primarily one of consequence (March, 1994). Coordination in a cultural sense might mean developing a common culture, so that civil servants and their leaders share informal norms and values, which may, in turn, facilitate actual coordination (March & Olsen, 1989). This way of thinking is reflected in the concept of 'value-based management' (Halligan, 2007). NPM meant increased structural fragmentation, but also cultural fragmentation, and a challenge for leaders under the post-NPM reforms has been to bring public organizations culturally back together again (Gregory, 2003).

There is a dynamic relationship between the structural and cultural factors concerning coordination (Christensen & Lægreid, 2008). The ideal, seen from a leadership point of view, is that coordination is improved by reinforcing the effects of structure and culture (Christensen & Peters, 1999), meaning that the leaders, either hierarchically or through negotiations, are able to use cultural norms and values as an 'institutional glue'. But, the effects of structure and culture could also be loosely coupled or pointing in different directions, like when professional cultures in civil service are undermining the political and administrative leadership and their goals and actions (Peters, 2015).

Independent variables and expectations based on the perspectives

Based on the *structural-instrumental perspective*, five different explanatory variables are applied. First, we distinguish between *policy areas* according to their degree of wickedness. We address the fields of climate, immigration and the police as examples of wicked policy areas in contrast with other policy areas. Levin, Cashore, and Bernstein (2012) see *climate change* as a 'super wicked' problem. There is no strong central authority coordinating efforts to combat climate change. Climate change policies are characterized by conflicting objectives and means-end thinking in adaptation and mitigation, not to mention the effects of structural and policy instruments. The issue transcends structural and functional boundaries and administrative and organizational levels and policy areas, creating a crucial need for coordination across levels and sectors and between actors (Jagers & Stripple, 2003; Rykkja, Neby, & Hope, 2014). Some researchers highlight the network characteristics of the climate policy field, where policymakers, stakeholders, regulatory bodies, civil society and academic communities interact in an unusually complex manner (Sygna, O'Brien, & Wolf, 2013).

The issue of *immigration* is also extremely politically salient, reflecting global shifts in conflict patterns and in economic and political conditions as well as in the attention of the media and various stakeholders (Gievers & Lueddtke, 2005). It is cross-sectoral, with links to welfare policy, foreign policy, healthcare, education, housing policy, security and more, and involves public authorities at the local, national and international levels. The tension between societal considerations and individual cases is important and involves decision-making on different levels and in

different policy areas that balances discretion related to rules and laws. This policy area is also very sensitive to crises and sudden events threatening international regimes and challenging domestic coordination, as experienced with the 2015 refugee crisis in Europe (Myrberg, 2018).

Police disregards sector challenges, and police work demands involvement and collaboration of many different sectors and policy areas: the immigration and integration authorities, the military, the customs authorities, local emergency units, the court system, the correctional services, the justice authorities, child protection authorities, health and welfare authorities as well as civil society organizations. A core challenge for coordinating the police is how to balance partly conflicting values such as purposefulness, resilience, fairness and efficiency, combining cultural and structural measures.

The three policy areas face both internal and external coordination challenges. All three policy areas involve key coordination challenges – horizontally, among ministries or central agencies, and vertically, between ministries and central agencies, central and local government, and national bodies and supranational bodies as well as with civil society.

But there are also significant variations between the three different policy areas regarding the degree and scope of wickedness, which might lead to problems when putting them into one category. There might be variations related to complexity, uncertainty and ambiguity, and also to the regulative, normative and cognitive features of the policy fields (Scott, 2013). Climate change is by some considered an ultimate wicked problem field (Pollitt, 2016).

More specifically, the wicked policy fields include civil servants in the Ministry of Climate and Environment, the immigration, integration and police departments in the Ministry of Justice and Public Security, the Norwegian Environmental Agency, the Directorate of Integration and Diversity, the Norwegian Directorate of Immigration and the Police Agency. One expectation is that civil servants in these ministries and agencies will perceive coordination capacity as worse than civil servants in other parts of the central government, owing to the constraints imposed by the principle of ministerial responsibility. We expect horizontal coordination and coordination across administrative levels to be especially problematic, based on problems with capacity, span of control and excess slack (Cyert & March, 1963; Gulick, 1937).

Another contrasting expectation is that these ministries and central agencies have been assigned coordination responsibilities that straddle policy areas and administrative levels, and additional resources, which works in practice and gives them better coordination capacity than the regular line ministries and agencies. These features could be furthered by policy saliency and attention (Wilson, 1989). A third possibility is that the principle of ministerial responsibility and the cross-boundary coordination assignments will counteract one another in practice and result in no significant variation between the different policy areas.

Second, we distinguish between *administrative levels*. Here the expectation is that the coordination capacity will be perceived as more positive in ministries than in central agencies. This is due to the strength of the principle of ministerial responsibility and available resources for coordination by hierarchy, which will favor ministries

(Christensen & Lægreid, 2008). Especially we expect that this will be the case when it comes to coordination capacity within own policy field.

Third, we examine the effects of *tasks*. The expectation is that civil servants who have coordination as their main task or who work with tasks and matters that require collaboration across administrative levels and ministerial areas will face more coordination problems than other civil servants, especially when it comes to transboundary coordination. This may reflect capacity problems and problems of control (Gulick, 1937).

Fourth, we expect participating in *network arrangements* to make a difference. Inter-organizational groups, forums and boards are coordination arrangements that are supposed to enhance coordination capacity and the expectation is that civil servants participating in such units will report better coordination capacity than other civil servants.

Finally, we expect variations according to *position* in the hierarchy. Leaders have more responsibility for organizing and furthering coordination and they are therefore likely to see coordination differently to executive officers lower down in the hierarchy (Egeberg, 2012). This leads to a general expectation that leaders will score highest in their positive evaluation of a broad range of coordination forms but also have a relatively high score on particularly demanding types of coordination.

According to the *cultural perspective*, we use three different sets of cultural variables to explain variety in civil servants' experience of coordination. First, a central precondition for working together in the civil service is *mutual trust*, so in this case we aim to find out whether civil servants think the level of mutual trust between the ministry and subordinate agencies is high or not. Our expectation is that a high level of mutual trust will enhance coordination capacity (Rhodes 1996). The second variable is whether the civil servants' tasks and areas of responsibility are characterized by a high or low level of *conflict* (Wilson, 1989). The expectation here is that a high level of conflict will make coordination more difficult and challenging. The third variable is *identity* (Selznick, 1957). The expectation here is that civil servants scoring high on identification with the public administration as a whole will perceive higher coordination capacity than those who mainly identify with their own department or ministry.

Context

Norway is a unitary state with a decentralized political and administrative system. It has a large public sector and the level of mutual trust between central actors and public-sector organizations is generally high. Compared to many other countries the coordination capacity is high in Norway, both regarding coordination quality and coordination outcome (Governance Report, 2014). This is especially the case when it comes to internal vertical coordination within own policy area, while horizontal coordination across policy area and also across administrative levels are more challenging (Christensen & Lægreid, 2019; Lægreid et al., 2016).

Two governance doctrines are central. First, the principle of *ministerial responsibility*, which tends to enhance vertical coordination within policy areas, but constrains horizontal coordination between them. It is very effective when the problem structure follows the organizational structure, but not so when it comes to wicked problems. Thus, problems of pillarization, departmentalization, tunnel vision, and silo attention

will be core challenges for handling wicked issues in the areas of climate, immigration and police (cf. Pollitt, 2003). Some ministries, such as the Ministry of Climate and Environment, which is broadly responsible for environmental questions and the Ministry of Justice and Public Security, which in 2016 had responsibility both for the police and for immigration and integration issues, have some coordination tasks across ministerial areas, but they struggle to fulfill their role as overarching ministries.

The second governance doctrine is *local self-government*. While this may enhance coordination within each local municipality, it risks producing multilevel coordination challenges between local and central government. There are elected bodies at both local and regional level and these are expected to make their own local policy without too much interference from central government. At the same time, they are, like regional/local branches of central agencies, also supposed to implement policies coming from central government.

In recent decades, two development features in the Norwegian central government have affected the coordination pattern. First, the 'NPM era' involved vertical specialization and the creation of more semi-independent agencies, but also increased horizontal specialization, leading to structural and cultural fragmentation (Pollitt & Bouckaert, 2017). Performance management was introduced, which mainly addressed vertical coordination within each ministerial area and did not have much to offer to enhance horizontal transboundary coordination. The result was often a mismatch between organizational structures and problem structures, which is typical for wicked problems.

Second, Norway's integration in the European Union through the Economic Area Agreement has increased the need for horizontal coordination and for a unified Norwegian position to be formulated on various policy issues. To facilitate this, 18 special overarching committees have been established covering both ministries and agencies and different policy sectors. The members of these committees are civil servants in the affected ministries and agencies.

The wicked area of climate change involves several policy areas with potentially conflicting goals, e.g. environmental and energy policy, transportation, infrastructure, agriculture, health, etc. This is evident in the Norwegian Climate Agreement, which received broad political support across established political dividing lines. In Norway, the coordination of immigration control and integration policy is a main challenge, which to a great extent has been allocated to different authorities and administrative levels (Christensen & Lægreid, 2009). The Norwegian police have been criticized for inadequate coordination between administrative levels, regional subdivisions and with other sectors, as shown during and after the terrorist crisis in 2011 (Christensen, Lægreid, & Rykkja, 2015). The ongoing Norwegian police reform focuses on structural arrangements through merging and centralization. However, decentralization might be necessary to enhance community policing, to maintain the civil character of the police and proximity to citizens.

In the climate field in Norway, the administrative bodies are not concentrated in the Ministry for Climate and Environment and the Environment Agency but fragmented and spread out across a wide range of quite diverse ministries and agencies (Neby & Zannakis, 2018). It is also a rather new policy area and more science-driven. In contrast, the police is a more mature, settled and old policy field and more administrative

concentrated and with stronger administrative culture. The field of immigration is characterized by a lot of reorganization (Christensen & Lægreid, 2009) and was also in the middle of an immigration crisis when the survey was conducted.

This context illustrates the special challenges that civil servants in Norwegian ministries and central agencies face when handling and assessing coordination issues. In the Norwegian case, a number of changes in government have made coordination more difficult and there is an increasing demand for both horizontal and multilevel coordination.

Methods

The empirical data in this article are based on a survey of Norwegian civil servants conducted in 2016. At the ministry level the total population of all civil servants in all ministries with at least 1 year tenure, from executive officers to top civil servants, were asked. In central agencies, a sample of every third civil servant with the same tenure, randomly selected, was included.[1] A total of 2322 employees in the ministries and 1931 in the central agencies answered the survey. The response rate was 60% in the ministries and 59% in the central agencies, which is overall in international comparison is a very high response rate.

The dependent variable

By coordination capacity, we mean the administrative capacity within the civil servants fields of work when it comes to get actors to collaborate and to cooperate (Lodge & Wegrich, 2014). It includes formal structural and procedural features of the administrative apparatus aiming at bringing together disparate organizations to engage in joint action.

Thus, our dependent variable regarding coordination capacity is based on the following questions:

> *How do you assess the administrative capacity of the public administration within your field of work regarding getting actors to collaborate and cooperate?*

The respondents were asked to choose between five options ranging from 'very good' to 'very poor" plus a 'don't know' category.

The independent variables

The structural variables include administrative level, policy area, position, network arrangements, and coordination and collaboration tasks.[2] Regarding *administrative level*, we distinguish dichotomously between ministries (= 2) and central agencies (= 1). *Position* varies on a five-point scale from low, meaning executive officers and advisors, to middle managers and top civil servants. *Policy field* denotes the transboundary wicked areas of immigration, climate change and the police as opposed to other policy areas which includes the rest of policy areas covered by

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[1]The codebook is available from Norwegian Centre for Research Data (NSD): http://www.nsd.uib.no/ polsys/ forvaltning/ sentraladm2016.html.
[2]For a specification of the independent variables, please see Appendix.

Norwegian central government. *Network arrangements* is an additive index of participation in external working and project groups, horizontal across policy area, and vertical both upwards to the international level and downwards to the local and regional level as well as participation in public commissions during the last year. The *coordination tasks* variable concerns whether coordination is a main task or not. *Transboundary collaboration* is operationalized on a scale where higher values indicate that civil servants work in areas or on issues that demand less collaboration across administrative levels and/or policy areas.

The cultural variables include the level of conflict, mutual trust relations and identification with central government. The *level of conflict* is operationalized with a five-point scale where civil servants assess their own field of work as characterized by a high or low degree of agreement (higher values imply more conflict). *Mutual trust* is based on a question where civil servants were asked to rate the level of mutual trust between the ministry and agency on a scale from very good to very poor. *Identification* is operationalized with a scale where civil servants rate their own affiliation and identification with the central government administration in general as strong or weak (higher values indicate lower identification).

We apply an 'ordinary least squares' (OLS) regression model to analyze the survey responses. Since the dependent variable has values on ordinal scale from 1 (very good) to 5 (very bad) we have performed an additional ordered logistic (OLOGIT) regression analyses to test the robustness of our OLS results. The different estimators essentially produce the same results. The same independent variables are significant, with coefficients pointing in the same direction, in the two analyses, except for main tasks and a transboundary collaboration which is significant at .05 level in the OLOGIT regression but slightly below .05 in the OLS regression. We have also checked for multicollinearity by gauging the variation inflation factor (VIF) values, which are all within an acceptable range (i.e. below 2). For ease of interpretation, we present the coefficients from the OLS regression in the article. The OLOGIT-results and VIF-values are included in the appendix.

Main results

Level of coordination capacity

Overall, perceptions of coordination capacity are rather mixed (Table 1). Only 54% report that it is good or very good in their own policy area. Table 1 also reveals, first, that overall coordination capacity is perceived as poorer in the selected wicked areas taken together than in other policy areas.

Second, Table 1 also shows that there are clear variations among the three selected policy areas that encompass the wicked issues category. Overall, coordination capacity is perceived as better in the climate area than in the areas of immigration and police, and about on the same level as for all the other policy areas. Assessments of coordination capacity are lower for the police than for immigration.

Table 1. Perceived coordination capacity by policy area. Individual responses by civil servants in ministries and central agencies. Percentage.

	Climate	Police	Immigration	Climate Police Immigration	Other policy areas	Total
Very good	9	6	6	7	11	10
Good	43	21	34	36	45	44
Neither good nor bad	39	52	43	42	34	35
Bad	8	19	14	12	9	9
Very bad	2	2	3	2	2	2
N = 100%	147	63	133	393	3018	3411

We have treated 'don't know' as 'missing' and performed list-wise deletion before calculating the descriptive statistics.

Variation in coordination capacity. multivariate analysis

Going back to the overall explanatory power of the independent variables, the most striking finding is the importance of cultural features (Table 2). When controlling for structural features; conflict, trust relations and identification show a systematic and strong correlation with perceived coordination capacity. A high level of mutual trust, a low level of conflict and a high level of identification with central government all seem to enhance positive perceptions of coordination capacity. The strongest factor is the level of conflicts on own policy area.

Table 2. Ordinary least squares regression analysis considering the standardized effects of structural and cultural features on coordination capacity.

	Coordination capacity Standardized beta/(se)
Structural features	
Administrative level	0.108***
	(0.037)
Position	0.024
	(0.013)
Policy area	0.019
	(0.056)
Network arrangements	0.030
	(0.0081)
Coordination tasks	0.030
	(0.045)
Transboundary collaboration	0.036
	(0.016)
Cultural features	
Conflict	0.177***
	(0.019)
Mutual trust	0.136***
	(0.013)
Identification central government	0.130***
	(0.018)
Constant	0.989***
	(0.125)
N	2434
R-sq	0.098
Adjusted R-sq	0.094
F statistic	43.007

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Standard errors in parentheses.

Regarding the structural features, there is no overall significant effect of policy area on coordination quality.[3] Administrative level has, however, a significant effect on coordination capacity. Civil servants in the ministries perceive coordination capacity to be stronger.

The OLOGIT also shows that the having coordination as a main task and working with transboundary collaboration seems to have an effect on collaboration capacity (Table A2). This effect is, however, less significant than administrative level and conflicts, trust and identification. Overall, the coordination culture might be as important as the structural features to understand the variation in coordination capacity (Wegrich & Stimac, 2014).

Hierarchical position seems to have no overall effect, which is somewhat surprising since this is generally a powerful independent variable in many analyses of these types of data (Christensen & Lægreid, 2008). Another interesting observation is that network arrangements do not seem to have any effect on coordination capacity.

Discussion

A main finding of the descriptive analysis is that civil servants in the wicked policy areas report lower levels of perceived coordination capacity. Another finding is that there are clear variations among the three wicked policy areas concerning perceptions, with climate change area as deviant among the three areas and more similar to the other policy areas.

Why are the descriptive analysis indicating that the civil servants in the three wicked policy areas scoring overall lower on perceived coordination capacity than the civil servants other policy areas? One answer to that could be that these policy areas are characterized by a more complex pattern of institutions and actors than the others, and that they, therefore, are struggling more to coordinate. It could also be part of the equation that means-end thinking or rational calculation is more demanding in these policy areas (cf. Dahl & Lindblom, 1953). One reason for the policy area climate change scoring relatively higher than police and immigration might be linked to climate issue as being the ultimate and 'super wicked' problem (Levin et al., 2012; Pollitt, 2016).[4]

Moving to the multivariate analyses, the significance of policy area disappear. Overall our main results are mostly supporting the notion that the negative effects of ministerial responsibility and strong sectors on coordination, on the one hand, and positive experiences in the practice of belonging to wicked issue areas, on the other, counteract each other. Somewhat surprisingly, we do not find support for the expected negative effect of wicked policy areas on coordination capacity. Neither do we find any support for the contrasting expectation that these ministries and central agencies have been assigned coordination responsibilities that straddle policy areas and administrative levels, and additional resources, which works in practice and gives them better coordination capacity than the regular line ministries and agencies. Thus a main finding is that whether a policy area is labeled a wicked problem or not has overall a limited effect on perceived coordination among civil servants.

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[3]We also did a regression analysis of the climate, police and the immigration fields separately without finding any significant effects of each policy area.
[4]Another explanation could be political priorities to give more resources to the policy area of climate change, also because Norway is an important gas and oil nation.

However, one may also discuss methodological factors involved, i.e. it has not been differentiated strongly enough between and inside policy areas according to the degree of wickedness. There are certainly variations between the police, climate change and immigration in this respect and there may be variation within specific areas too. For example, the Ministry of Climate and Environment and the Climate Agency have a rather broad range of tasks that include not only climate issues, but also environmental protection, pollution, contamination and nature management. Similarly, the other policy areas might include other wicked issues such as poverty, unemployment or public health. In practice, wicked features can be seen as part of a complex continuum of problem types (Alford & Head, 2017). Therefore, our categorization of wicked policy areas might be too rough and include too much 'noise'.

We expected civil servants in the ministries to face more coordination capacity than those working in the central agencies. The findings support this expectation. Civil servants working in ministries report better coordination capacity. This might reflect that ministries have more authority, resources and instruments for coping with coordination problems than the agencies (Christensen & Lægreid, 2008). Political and administrative leaders in the ministries have diverse potential coordinative measures, like committees of under-secretaries of state, staff supportive functions for coordination, organized 'duplication' units, meaning units systematically working on control and coordination of issues and agencies, etc. (Egeberg, 2012). There are major structural reasons for expecting more interaction inside public organizations than across organizations boundaries horizontally and vertically (Simon 1957). Organizational units and actors that are close to each other will perceive interaction and coordination differently compared to those that have to cross structural borders to communicate and coordinate (Egeberg, 2012).

Also, tasks matter. The expectation of a positive relationship between having coordination as a main task and coordination capacity gets some support. Transboundary collaboration taps another and more practical aspect of coordination, i.e. whether actors work in areas that demand collaboration across levels and sectors. We expected civil servants working on transboundary issues to face more coordination problems than other civil servants. Yet, our findings suggest the opposite. Civil servants with transboundary tasks report stronger coordination capacity. So we might have some of the same effects here that we found for administrative level, i.e. a lot of exposure to coordination challenges does not primarily lead to coordination problems but to positive coordination capacity. In other words, there might be a 'learning by doing effect' concerning coordination (March, 1994).

Network arrangements do not enhance coordination capacity in any significant way. This indicates that such network arrangements do not significantly improve coordination capacity. One interpretation of this might be that such arrangements are more about information-sharing than about coordination. There might be more negative than positive coordination if the participants' main task is to defend their own parent institution (Radke, Hustedt, & Klinnert, 2016; Scharpf, 1999). Since this is a rather wide and heterogeneous additive index, it might also be methodologically too diverse to have an effect.

Going back to our theoretical perspectives and expectations, we find support for the cultural-institutional expectations. It is clear that the cultural-institutional perspective has the strongest explanatory power, relative to the structural perspective. These

findings confirm other studies on coordination quality (Christensen, Danielsen, Lægreid, & Rykkja, 2016; Christensen & Lægreid, 2008; Lægreid et al., 2016). Civil servants who report a high level of mutual trust between ministries and central agencies, who work on non-salient issues with a low level of conflict and who strongly identify with the central government apparatus as a whole are more satisfied with both coordination capacity and within own policy area, across policy areas, upwards to international bodies and downward to regional and local government. The effect of conflicts and disagreement on own policy area relations is especially strong. Thus, cultural features seem to have a positive effect on perceived coordination capacity.

So, what general conclusions can we draw from these observations? One is the insight derived from Krasner (1988) on institutionalization. He differentiates between vertical depth and horizontal width in understanding what produces overall cultural integration or cohesion in public organizations (Selznick, 1957). Vertical depth denotes the extent to which actors are influenced by the main informal cultural norms and values in their actions, while horizontal width denotes the extent to which actors see the cultural norms and values of other units as important for their own. The three variables in question have elements from these two dimensions. Identification per se indicates strong cultural commitment, and the broader it is, the more an actor cares about other units and sees his/her work in a collective or holistic perspective. Mutual trust definitely relates to horizontal width and integration. If there are formal structural barriers to coordination, mutual trust can facilitate coordination in practice. The same goes for lack of conflict. The lower the level of conflict, the easier it is to overcome structural boundaries and vested interests and to interact and coordinate. So the structural and cultural factors seems to be reinforced concerning explaining perceptions of coordination capacity (cf. Christensen & Peters, 1999).

Conclusion

Going back to the broader picture, this article reveals, first, that there are coordination challenges within the Norwegian central government apparatus. Only about half of the civil servants report that coordination capacity is good or very good. Second, the variations in perceived coordination capacity are due more to cultural features than to structural features. What matters most for coordination capacity is strong mutual trust relations, a low level of perceived conflict and strong identification with the central government in general. This indicates the importance of cultural integration in structurally fragmented systems, i.e. cultural factors that counteract the effects of structural barriers for communication and interaction across organizational borders (Krasner, 1988; Selznick, 1957).

Third, there are effects related to three structural variables: administrative level, coordination tasks and transboundary tasks. Civil servants working in ministries and who has coordination as a main task report better coordination than other civil servants do, which is supporting our expectations. This leads us to conclude that the challenges of coordination may foster competence and positive experiences rather than problems. Working on issues that require transboundary collaboration does not seem to have a negative effect on coordination capacity; while formally having coordination tasks has some effect. This might indicate the same mechanism as for administrative level,

namely, that exposure to the challenges of coordination may foster positive effects on coordination capacity.

The policy implications of this analysis are first that there is a need to problematize wickedness. One way of doing it is to reconceptualize wickedness by including different degrees of structuredness (Turnbull & Hoppe, 2018). Second, the 'wicked policy' fields are characterized by differences and not only by similarities and that we need to take the specific features of different 'wicked policy' fields into consideration when addressing them. Third, even if better coordination is widely seen as necessary to respond effectively to wicked problems, the political and managerial challenges of effective coordination of such problems can be significant. There is no magic bullet for design for wicked problems (Peters, 2015, 2018). Fourth, rather than applying overly optimistic or pessimistic strategies for handling 'wicked' problems, having a pragmatic approach (McConnell, 2018), aiming at piecemeal and incremental reforms allowing for adaptation and experimental learning might be a fruitful way forward. Rather than having unrealistic high expectations regarding how to deal with 'wicked issues', a small wins framework (Termeer & Dewulf, 2018) might be a more promising response.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix

Table A1. Descriptive statistics.

Variable	N	Mean	Std. Dev.	Min	Max
Dependent variable					
Coordination capacity	3,411	2.488	.871	1	5
Independent variables (structural features)					
Administrative level	4,285	1.458	.498	1	2
Position	3,180	3.657	1.377	1	5
Policy area	4,285	.112	.316	0	1
Network arrangements	3,174	2.586	2.279	0	14
Coordination tasks	3,966	1.848	.358	1	2
Transboundary collaboration	3,741	2.384	1.237	1	6
Independent variables (cultural features)					
Conflict	2,858	2.509	.899	1	5
Mutual trust	2,854	2.347	1.400	1	6
Identification central government	2,750	2.533	.960	1	5

Table A2. Coordination capacity. Ordered logistic regression (OLOGIT).

	Coordination capacity Standardized beta/(se)
Structural features	
Administrative level	0.261***
	(0.084)
Position	0.052
	(0.029)
Policy area	0.051
	(0.127)
Network arrangements	0.071
	(0.018)
Coordination tasks	0.079*
	(0.105)
Transboundary collaboration	0.090*
	(0.038)
Cultural features	
Conflict	0.402***
	(0.045)
Mutual trust	0.291***
	(0.030)
Identification central government	0.286***
	(0.042)
N	2434
Pseudo R-sq	.039

* $p<0.10$, ** $p<0.05$, *** $p<0.01$
The displayed results are not transformed to odds-ratios. Standard errors in parentheses.

Table A3. Variation inflation factors.

Variable	VIF	1/VIF
Administrative level	1.37	.728
Position	1.22	.817
Policy area	1.20	.835
Network arrangements	1.17	.857
Coordination tasks	1.08	.925
Transboundary collaboration	1.08	.929
Conflict	1.07	.930
Mutual trust	1.04	.959
Identification central government	1.04	.964
Mean VIF	1.14	