

Functional regulatory spaces

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Abstract This article develops the concept of “Functional Regulatory Space” (FRS) in order to analyze the new forms of State action addressing (super) wicked problems. A FRS simultaneously spans several policy sectors, institutional territories and levels of government. It suggests integrating previous policy theories that focused on “boundary-spanning regime,” “territorial institutionalism” or multi-level governance. The FRS concept is envisaged as a Weberian “ideal-type” of State action and is applied to the empirical study of two European cases of potential FRS: the integrated management of water basins and the regulation of the European sky through functional airspace blocks. It will be concluded that the current airspace regulation does match the ideal-type of FRS any better than the water resource regulation does. The next research step consists in analyzing the genesis and institutionalization of potential FRS addressing other (super) wicked problems such as climate change and economic, security, health and immigration issues in different institutional contexts as well as at various levels of governance.

Keywords Policy subsystem · Territory · Multi-level governance · Water resource · Airspace · (Super) wicked problems

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Introduction: how does the State solve (super) wicked problems?

The myopic nature of policy theories focusing on a single policy subsystem or policy sector, which constitutes one institutional territory and one level of government, is problematic for analyzing how the State currently addresses (super) wicked problems (Rittel and Webber 1973; Levin et al. 2012), such as climate change, integrated water basin management, technological risks and financial crises.¹ Such public problems generally involve a large population of people who have been negatively affected, a high degree of intensity or severity of the problem's consequences on individuals' lives, a high level of public visibility and politicization, a complex set of causes generating the problem, and last but not least, (super) wicked problems tend to be politically constructed as new and urgent. Levin et al. (2012: 127–128) even argue that four unique features of so-called super wicked problems lead to collective tragedies. While “time is running out,” the absence of a central authority, the lack of credible long-term commitments by policy-makers, and the fact that “those seeking to end the problem are also causing it” hinder efforts to overcome the catastrophic impact of super wicked problems. To adequately tackle these problems, Levin et al. propose a new epistemological approach and then formulate clear policy prescriptions (2012: 138–147). In a nutshell, the design of policy solutions to super wicked problems should capitalize on path-dependent processes and create sticky interventions that gradually increase the coalition of supportive policy actors.

For this article, the State's responses to public problems that are currently being perceived politically as (super) wicked and are officially labeled as such (e.g., Australian Government 2007) have also been analyzed. However, we have no prescriptive ambition at this stage and suggest focusing further research on the processes of public action that cross different policy subsystems, institutional territories and levels of government. The concept of “Functional Regulatory Space” (FRS) will be developed to deepen our understanding of these new forms of State action. Such an approach is a fruitful means of bringing together the contributions of several scholars who have studied (the ongoing transformations of) policy processes from various innovative perspectives: boundary-spanning regime (Jochim and May 2010); new governance arrangements (Howlett and Rayner 2006); territorial institutionalism (Carter and Smith 2008); multi-level governance (Hooghe and Marks 2003); and super wicked problems (Levin et al. 2012). Integrating these approaches allows for the *simultaneous* and *combinatory* analysis of three different dimensions, which, in our opinion, increasingly characterize State interventionism when addressing (super) wicked problems, most notably the coordination of various public policies, institutional territories and levels of government.

As will be elucidated in this article, a boundary-, territory- and level-spanning State action is best characterized as “Functional Regulatory Space” (FRS). In order to demonstrate the innovative potential of this new ideal-type of State action, we will proceed as follows. Section “Policy sector, institutional territory and level of government: a critical literature review” critically reviews the existent literature, while Section “Functional Regulatory Spaces (FRS): an Innovative Concept” introduces the concept of FRS. Section “Two examples of potential FRS” presents preliminary empirical evidence on the analytical relevance of FRS for understanding how the political “rescaling process” of State action occurs in two domains: integrated water basin management and airspace regulation

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in Europe. The final section of the article identifies the next steps of a promising research agenda on FRS.

Policy sector, institutional territory and level of government: a critical literature review

During the first decades of scholarship on policymaking, the focus of analysis was on how the State solved a concrete public problem within a specific sector, an institutional territory and a single level of government, respectively, across different levels of government in a federalist State. Certainly, this seminal approach has been strongly challenged by the emergence of new kinds of (more complex) public problems, and subsequently, new State actions conceived and implemented to reduce the impact of such problems cutting across policy sectors, territories and levels of government. In reaction to these empirical developments, various models of policymaking have analytically addressed one of these three dimensions (sector, territory and government level). In the following sections, first the core arguments of these approaches will be summarized and then their limits to understand the rearrangement of State action highlighted. Our central claim is that thus far, there has been no theoretical concept that *simultaneously* considers inter-policy coordination, trans-territorial regimes and multi-level governance. This leads us to propose, as an ideal-type, a more integrated concept that we call “Functional Regulatory Space” (FRS).

“Boundary-spanning regime”: coordination between policy sectors

Many scholars have progressively pointed out that complex public problems span the boundaries of several policy sectors. To understand the policy processes related to the treatment of these messy problems, it is necessary to go beyond the logic of single policy subsystems. In this subsection, the arguments for an approach that takes into account cross-subsystem policy dynamics will be reviewed, relying mainly on the advocacy coalition framework (ACF) (Sabatier and Jenkins-Smith 1993). This approach seems quite obvious as the concept of the policy subsystem is at the center of the ACF: When applying this framework, the first step is to determine subsystem boundaries by documenting belief systems and patterns of coordination among regular participants in policymaking.

By focusing on subsystems as a unit of analysis, the ACF tends to focus on the functioning of a given policy subsystem and to underplay the potential influence of parallel subsystems. In the original formulation of the theoretical framework, the existence of other subsystems is implied, but the potential effects of trans-subsystem influences often remain unexplored. For instance, the concept of the “nested subsystem” (Howlett 2009) insists more on chains of relationships across decision levels rather than on pyramidal structures, where decisions made at a higher level influence multiple groups of policymaking participants at a lower level, which result in a “splitting” of the subsystem at these levels if the lower-level groups make different—or even incompatible—policy choices.

Focusing on “trans-subsystem dynamics,” Jones and Jenkins-Smith (2009) also note that “the treatment of *trans-subsystem* change [...] within the Advocacy Coalition Framework has been underspecified” (our emphasis). Furthermore, “the meso-level (i.e., individual subsystem) analysis characteristic of ACF scholarship has militated against the modeling of macrolevel interactions between subsystems that may influence both subsystem and coalition composition and offer important insights into policy change more generally” (Jones and Jenkins-Smith 2009, 37–38).

The need for increased coordination between government and administrative structures belonging to various policy subsystems has long been indicated by policy process and governance scholars. According to this body of literature, the different forces at play within the State machinery push in different directions. This leads to the development of various ways of dealing with public problems with compartmentalized authorities defending their own autonomy and with fragmented decision-making along policy sectors (Luhmann 2006). The concepts of “positive and negative coordination” (Scharpf 1994), “intra-policy and inter-policy coordination” (Knoepfel 1995), “joined-up” government (Christensen and Laegreid 2007; Ling 2002) or “substantive policy integration” (Briassoulis 2005) within a “New Governance Arrangement” (Howlett and Rayner 2006) typically focus on the way this lack of coordination can be mitigated. The aim is to bridge organizational divides, which are largely seen as structural. Consequently, a coordinated State action would compensate for fragmented State structures.

From the perspective of policy process scholars, the coordination approach most frequently utilized by governance scholars ignores the larger policy dynamics associated with policy subsystems. Conversely, by focusing on policy subsystems as the basic unit of analysis, policy process scholars underestimate the challenges posed by trans-subsystem dynamics. Understanding these dynamics is central to addressing the governance of “messy” policy problems that span multiple policy arenas (Jochim and May 2010).

According to Jochim and May (2010), a new conceptual basis is necessary for approaching messy problems. To that end, they introduce the concept of “*boundary-spanning policy regimes*.” Their goal is to develop a concept that addresses trans-subsystems policy dynamics that go beyond the coordination approach of governance scholars. Jochim and May define a boundary-spanning policy regime as a “governing arrangement that spans multiple subsystems and fosters integrative policies” (p. 307). In order to exist, a boundary-spanning policy regime must be supported by political forces that break the inertia of independent policy subsystems. The inertia of subsystems undermines coherent policy; the extent to which the forces of inertia reorganize in favor of a boundary-spanning regime determines the precise contour and strength of the regime (p. 304). Policy regimes are shaped by the same variables as subsystems: *issues*, which call for a political definition of a problem; *ideas*, which provide a common understanding of policy purpose; *interests*, because policy actors’ support determines the governing capacity of a regime; and *institutions*, which guarantee integration across elements of policy subsystems and stability (pp. 311–313).

In this article, the boundary-spanning policy regimes developed by Jochim and May (2010) will be built on. In accordance with these authors, it will be argued that understanding State responses to (super) wicked policy problems requires going beyond mere inter-policy coordination. Larger policy dynamics associated with policy subsystems must also be taken into account. However, an additional step is proposed in the development of policy process theory that takes into account the fact that trans-subsystem approaches too often ignore the impact of territorial boundaries and multi-level governance in the policy process.

“Territorial institutionalism”: coordination between institutional territories

The complexity of policy processes is linked to the number of policy actors involved who belong to different subsystems and are active at various levels of government. The odds are that they will straddle different boundaries of institutional territories. We argue that this dimension is central in the understanding of State responses to (super) wicked problems.

Comparative analysts have long relied on differences between countries (or decentralized entities in a federal system) to increase the statistical depth of their analyses, but policy process scholars rarely take into account territorial boundaries. When they do, it is mostly to study differences at the national level. For instance, Howlett and Rayner (2006) have compared the convergence and divergence of “New Governance Arrangements” to manage, with a higher level of policy integration, forests and fisheries in OECD countries. Policy process scholars seem to disregard the territorial boundary variable in favor of focusing mainly on subsystems boundaries.

However, some authors have insisted on the importance of territorialized approaches in both political geography (e.g., Brenner 2004) and policy process theories. For instance, Nohrstedt and Weible (2010) analyze the impact of geographical and policy proximities on subsystem changes. Spatial conceptualization is also a prerequisite of the “polycentric political system” developed by Ostrom et al. (1961). This approach focuses on the complex networks of institutions crafted by communities. Only when individuals facing a collective problem are unable to address that problem do they call for the intervention of higher-level coercive governance structures. A number of cross-scale linkages have been described and analyzed by resource management scholars: “nested enterprises” (Ostrom 1990), co-management arrangements (Berkes and Folke 1998) or “vertical interplay.” In their analysis of vertical interplay between different levels of social organizations, resource management scholars have shown that interactions result in patterns of dominance, separation, merging, negotiated agreement or system change (Young 2006). In political geography, literature on “the political construction of scale” insists on the fact that political actors actively seek to “construct” certain conceptions of scale in order to promote their specific political objectives (Bulkeley 2005: 884; Delaney and Leitner 1997; Jones 1998; Marston 2000).

While many policy scholars point out the necessity of an analysis that goes beyond subsystem boundaries and that takes into account multi-level governance, the impact of territorial boundaries on the policy process has received less attention. Carter and Smith (2008) suggest, however, that the “*usages of territory*” by policy actors (Keating 1998) are the key to understanding policymaking processes and outcomes. These authors tangibly propose the revitalization of the policy analyses of the European Union (EU) or other institutional schemes of multi-level governance (MLG) by adopting a *territorial institutionalist* approach.

This analytical turn implies a shift from a functionalist perspective of MLG (i.e., explanations based on the rational calculation of policy actors) to a more classical Weberian approach to the State (i.e., territory as the basis for political representation and legitimacy). Adopting this sociological perspective, Carter and Smith (2008: 267–270) argue that the frontiers of an institutional territory are crucial for understanding the legitimacy of policy actors. Furthermore, policy actors interpret their interests, define the policy problem to be solved, and design the policy instruments to be implemented in accordance with their economic, social and political position in a specific territory. The boundary of a policy subsystem and the circle of eligible policy actors are thus influenced by the preexisting institutional territory and its underlying institutional order: “(...) Territory always matters in the government of a sector but it only causes policy outcomes when territorial references are mobilized in a manner that engages with the sector’s institutionalized logic of action” (Carter and Smith 2008: 268). The “political assignment of authority” within a public policy thus derives from the interplay between the perceptions of a policy sector and an institutional territory. Here again, it is important to stress that such an approach tends, in dealing with the question of (trans-)territorial coordination,

to focus on single policy subsystems (see, for example, the cases of fishery and wine analyzed by Carter and Smith 2008). Therefore, this approach tends to neglect the question of inter-policy coordination.

“Multi-level governance”: coordination between levels of government

Most scholars in political science agree that public policies are increasingly formulated and implemented in a multi-level context. Within the “multi-level governance (MLG)” literature (Enderlein et al. 2010), a distinction is made between multi-level polity (general-purpose jurisdictions) and multi-level regime (overlapping functional jurisdictions), or what Hooghe and Marks have called Type I and Type II jurisdictions (Hooghe and Marks 2003).

Type I of MLG refers to multi-purpose or general jurisdictions (i.e., levels of government in federalist countries). In federalist countries, the power of policymaking has traditionally been dispersed across multiple jurisdictions at various institutional levels (e.g., between the Federal State, the 26 cantons and the myriad municipalities in Switzerland). Beyond the classical situation of federalist countries, a similar fragmentation of power is increasingly induced by the internationalization of public policies. For example, European integration has clearly impacted domestic policies and politics, thereby challenging the central level of Member States. Empirical studies have shown that the Europeanization of public policies does not lead to a unilateral strengthening or weakening of one level of government at the expense of the others (Knill and Lehmkuhl 2002; Boerzel and Risse 2003; Bulmer and Lequesne 2005; Graziano and Vink 2007). They do show, however, that the Europeanization process results in new and more complex forms of shared governance and networks of policy actors. Type I jurisdictions are general-purpose organizations that operate on a clearly bounded (administrative) territory.

Type II of MLG is task-specific jurisdictions operating within or across administrative territories of the multi-purpose jurisdictions, the perimeter of which are defined by the functional (i.e., social and spatial) limits of the problem. Their purpose is to address a single policy problem (e.g., public transport or urban services, ozone depletion or the water quality of transboundary rivers) at a scale of intervention that is deemed appropriate. Thus, “Type II governance tends to be embedded in legal frameworks determined by Type I jurisdictions” (Hooghe and Marks 2010: 23). Type II jurisdictions operate linkages between levels of government (center-periphery) and between public and private actors (State–society relationship). “Type II, for the moment still lacking a well-identified ‘real-life’ referent, looked like an anarchical, fluctuating superimposition of single-purpose jurisdictions with overlapping memberships” (Piattoni 2009: 170). According to Hooghe and Marks (2010), Type II jurisdictions are task-specific, with intersecting membership at diverse scales (which means that smaller jurisdictions are not contained within larger ones) and with a flexible design. They are supposed to respond flexibly to citizens’ changing preferences, with a possibility of exit and substitutes. Type II jurisdictions tend to appear when Type I jurisdictions are unable to address a given policy problem; when “the high boundary integrity of Type I governmental systems produces a competency constraint, in other words where mainstream governmental organizations are unable to respond flexibly to policy issues that intersect their jurisdictions” (Skelcher 2005: 94). Type II jurisdictions usually operate at the national–international frontier, as, for example, in the enactment of transnational standards on fair labor or sustainable forestry (see Bartley 2011), in cross-border regions (e.g., the INTERREG IV France-Wallonie-Vlaanderen Program that stimulates economic and social cooperation between neighboring regions of France and

Belgium), as well as at the local level (e.g., provision of urban services) (Hooghe and Marks 2010: 24–25).

The Functional Overlapping and Competing Jurisdictions (FOCJ) approach developed by Frey and Eichenberger (1999, 2001) is a good example of Type II at the local level. Especially in the US and Swiss urban regions, task-specific (i.e., *functional*) jurisdictions operate within a geographical perimeter which varies according to the types of urban (collective) goods and (public) services delivered (e.g., water supply, sewage, gas, electricity, refuse collection, police, school, health services, public transport, etc.). The relevance of such jurisdictions is mainly justified, on the one hand, by the fragmented spatial distribution of the individual and collective preferences regarding the characteristics of the goods and services delivered (i.e., quantity, quality and price) and, on the other, by the technical specificities of the different (network) industries and the differences regarding their relevant geographical perimeters for organizing economies of scale. The FOCJ approach shows how territorially flexible task-specific jurisdictions often coexist with and transcend institutional territories. In this way, it is quite similar to the concept of polycentric governance (Ostrom et al. 1961; McGinnis and Ostrom 2008; Aligica and Tarko 2012). However, it seems clear that the FOCJ approach tends to deal essentially with cases of single-task jurisdictions, such as water supply, sewage, security and schools. In a nutshell, the FOCJ approach does not formulate an explicit theoretical proposition concerning the crucial question of “inter-policy coordination” (Knoepfel 1995) or of “boundary-spanning policy regime” (Jochim and May 2010), as discussed above.

Type II governance also addresses State–society relationships. Type II jurisdictions involve interest groups in the decision-making process that are considered to be problem-solvers. This involvement ranges from simple consultations of private actors to self-regulation in which the public authorities only validate or apply the decisions taken by “private interest governments” (Streeck and Schmitter 1985). It is widely acknowledged in the literature that Type II jurisdictions are very often steered by private actors, notably at the international level (Khagram and Waddell 2007; Brenner 2004; Bartley 2011).

“The constituencies of Type II jurisdictions are individuals who share some geographical or functional space and who have a common need for collective decision-making—e.g., as irrigation farmers, public service users, parents, exporters, homeowners, or software producers.” (Hooghe and Marks 2003: 240). This is in keeping with Ostrom et al.’s effort to highlight the modes of (private) governance that escape both hierarchy and the market and that occur in various forums: “These include families and clans, neighborhood associations, communal organizations, trade associations, buyers and producers’ cooperatives, local voluntary associations and clubs, special districts, international regimes (e.g., CPR, global commons, international environmental problems), public service industries, arbitration and mediation associations, and charitable organizations” (Ostrom and Walker 1997: 36). As such, the implicit assumption made in the MLG literature is that Type II governance is driven by private actors or interest groups, or is at least designed to strongly involve them in policymaking.

In this respect, research on global commons (Buck 1998; Khagram and Waddell 2007; Orr 2006), on the scaling up of CPR regimes (McGinnis and Ostrom 2008; Stern 2011; Young 1994, 2008) or on the interplay between local, national and international levels of environmental and resource regimes (Young 2006) clearly highlights the central role played by private actors in MLG arrangements dealing with CPR and environmental issues. Moreover, coordination issues between levels of governance are addressed here in multiple ways, such as the comparison of similarities and specificities of policy processes at various (local, national, international) levels (Young 2008); the emergence of an

international single issue policy subsystem or regime composed of networks of private and public actors coming from various institutional levels (Khagram and Waddell 2007; Orr 2006); or a systematic analysis of the applicability (i.e., extension) of the design principles for long-enduring small-scale CPR institutions (Ostrom 1990) on a larger scale (i.e., global commons) (McGinnis and Ostrom 2008; Stern 2011).

Thus, the question is no longer whether or to what extent multi-level governance (MLG) is a reality, but how MLG should be organized in order to be accountable, democratic and efficient in problem-solving (Hooghe and Marks 2003: 233). This issue is particularly striking with Type II jurisdictions as these bodies “have properties that lead to weak ‘democratic anchorage’” (Skelcher 2005:96). In situations where private actors lead the process, or in situations of co-regulation between public and private actors, accountability relies on non-binding mechanisms based on expertise and reputation (i.e., peer-, public reputational-, market-, financial- and legal accountability) (Brenner 2004). This differs with jurisdictions led by public authorities, where accountability depends on the legal basis of the arrangement and the legal obligations of each constituency. Governmental actors are represented and the activities are mandated by national or supranational law, contrary to the global networks (Black 2008: 138). The question that remains is: How do governments remain accountable to citizens when they delegate public policy decision-making or implementation to specialized agencies? This point is addressed in the literature on regulatory governance (Majone 1999; Coen and Héritier 2005; Barbieri 2006; May 2007; Gilardi 2008; Maggetti 2009), and examples are available in the research on comitology (Christiansen and Larsson 2008; Brandsma 2010) as well.

Various solutions have been proposed to solve coordination problems that span different levels of government (Jochim and May 2010: 308). Hooghe and Marks (2003: 239) have suggested two different strategies: “One strategy is to *limit the number of autonomous actors* who have to be coordinated by limiting the number of autonomous jurisdictions. The second is to *limit interaction among actors* by splicing competencies into functionally distinct units.” In other words, the first strategy consists in constraining the number of *multi-purpose* or general jurisdictions (i.e., levels of government in federalist countries, Type I of MLG). Furthermore, such jurisdictions must be defined in order to better internalize all potential externalities. The second strategy implies constraining the interaction between *multi-level task-specific* jurisdictions (i.e., focusing on a particular policy problem, Type II of MLG). This can be ensured if these single-purpose jurisdictions have functionally distinct competencies in providing specific types of goods and services.

Finally, Type I and Type II MLGs are not sufficient for solving all coordination problems according to Skelcher (2005: 94ff; 108). Collective agreements across jurisdictions are still necessary for solving problems at the “*system-wide level*.” The main issue is, in this respect, how to ensure “*jurisdictional integrity*” and how to design institutions that can operate as sovereign entities exercising their own authority on a territory within both a spatial and functional realm. The author convincingly demonstrates that the relationship between multi-purpose jurisdictions and task-specific jurisdictions can be oppositional, complementary or parallel. Therefore, design solutions should take into account the possibility of collaboration between these two types of MLG institutions. The challenge is then to elaborate solutions that “are able to accommodate complexity of spatial patterning, multiple functional overlays, partial polity forming and variable system coupling between Type I and Type II entities.” (Skelcher 2005: 102).

Pointing out this (normative and theoretical) challenge, MLG scholars admit that there is a need for a more accurate conceptualization of coordination issues between functional

governance arrangements, institutional territories and levels of government. But our MLG literature review also shows that there is a need for integrating the issue of policy sector coordination (e.g., boundary-spanning regimes), which is clearly lacking in the MLG approaches discussed above. For example, the FOCJ approach can account for the emergence of trans-territorial regulatory arrangements, but by focusing on monosectoral problems (i.e., single good or service provision), it does not take into account inter-policy coordination issues. In the same way, CPR and environmental governance regimes scholars also fail to address this factor when conceptualizing “cross-sectoral” issues as essentially a problem of coordination between private, public, voluntary and community-like (e.g., CPRI institutions) organizations, and not between actors involved in multiple policy subsystems. In addition, no Type II MLG approach seriously takes into account the impact of territorial boundaries on the policy process or the “usages of territory” by policy actors (see section “[‘Territorial institutionalism’: coordination between institutional territories](#)” above).

Combining sectors, territories and level: political rescaling process

The conclusion of our brief literature review is that previous (competing) approaches have stressed different and, at the same time, complementary dimensions of State action. Table 1 gives an overview on the chiasmatic structure of current policy process theories. It suggests that no part of the current framework simultaneously and explicitly takes into account the cumulative problems of coordinating policy sectors, institutional territories and levels of government.

Consequently, we have developed a new concept called “Functional Regulatory Space” (FRS), which combines all three dimensions. Such an integrated approach should allow for a better grasp of the multi-dimensionality of contemporary State action. The next two sections (“[Functional Regulatory Spaces \(FRS\): an Innovative Concept](#)” and “[Two examples of potential FRS](#)”) will demonstrate how some new forms of contemporary State action are best characterized by a global “political rescaling” process, simultaneously implying new inter-policies dynamics, the redefinition of regulatory territorial perimeters, and multi-level rearrangements. All three sub-processes are interdependent, even if they can and should be distinguished analytically. These interdependencies have been, in our opinion, only partially addressed by previous theoretical frameworks. The innovative value

Table 1 Multi-dimensionality of State action theories

Theoretical approach	Coordination between policy sectors	Coordination between institutional territories	Coordination between levels of government
Boundary-spanning regime (e.g., Jochim and May 2010; Howlett and Rayner 2006)	Core issue	Issue addressed implicitly	Issue addressed implicitly
Territorial institutionalism (e.g., Carter and Smith 2008)	Issue not addressed	Core issue	Issue addressed implicitly
Multi-level governance and CPR governance regimes (e.g., Hooghe and Marks 2003; McGinnis and Ostrom 2008; Young 2008)	Issue not addressed	Issue addressed implicitly	Core issue

of the FRS concept is to specifically focus on these interdependencies to more fully understand the entire political rescaling process.

Functional Regulatory Spaces (FRS): an innovative concept

First, a generic definition of an FRS will be presented and then the political rescaling process inherent in the genesis and institutionalization of an FRS identified. Finally, our epistemological stance will be presented, which takes a Weberian approach to conceptualizing the FRS as an ideal-type of State action.

Generic definition of FRS

An FRS is a regulatory space, which politically emerges in order to tackle, support or solve problems concerning several policy sectors in different institutional territories and at different levels of government. Such problems include, for example, climate change, integrated water basin governance, financial crises, “centrality loads” in urban areas, etc. These public problems are generally constructed as (super) wicked by policy actors and are given high priority on the political agenda.

Thus, an FRS is a “sociopolitical field”² within the boundaries of which the (super) wicked problem is politically recognized by public and private stakeholders, who agree on the necessity of specific State intervention in order to solve it. In essence, an FRS is defined as a new regulatory space considered *functionally* appropriate—that is, geographically and socially relevant and politically legitimate—for the arbitration of rivalries and conflicts between the different groups of actors concerned.

FRSs are *functional* in the sense that they redefine the *social* and *geographical* spaces that are considered politically relevant for managing such problems. This redefinition process follows *ad hoc* criteria referring both to the physical area concerned in the problem and to the web of relationships linking stakeholders, rather than the existing boundaries of policy sectors, institutional territories or levels of government. In other words, FRSs are *alternative* regulatory spaces within which it becomes possible to tackle new types of problems that cut across various socioeconomic sectors as well as institutional territories and government levels.

An FRS is thus a space of inextricable *rivalries* and conflicts, as well as a space of political *regulation* of these rivalries. The more or less clearly territorialized boundaries of this field of power are defined by the stakeholders who act independently from the boundaries of the preexisting sector-specific policies and institutional territories.³ The perimeter of an FRS thereby demarcates the space of formal and informal rules regulating a specific problem or set of rivalries.

Insofar as (super) wicked problems are more likely to change in their nature, scope and boundaries than sector-specific or territorially defined problems, frequent changes in the internal rules and regulatory objectives of FRS as well as in their perimeters over time are

² In this sense, an FRS could, to a certain extent, be compared to the concept of the “social field” developed by Bourdieu (1991) or to “configuration” proposed by Norbert Elias (Elias 1978).

³ More precisely, there are various possible forms of geographical manifestation of an FRS: for example, surface (areolar) versus network (reticular); diffuse versus clearly bounded, etc. The shape depends on the stakeholders’ perception of the characteristics of the problem addressed. Some problems are characterised by quite clear geographical boundaries (e.g., integrated water basin management), while others are much more diffuse (e.g., food safety, technological risks).

observed. FRS must be understood as flexible and *ad hoc* regulatory regimes that emerge after the political recognition of new types of public problems.

Due to the (super) wicked nature of the public problem addressed (i.e., large audience, severity of consequences, complexity of causes, political visibility, newness and urgency), the emergence of an FRS requires various kinds of reorganization processes between different policy sectors, institutional territories and/or levels of government. Because of the extensive interdependencies between inter-policy, multi-territorial and multi-level governance—and the resulting resistance to change—it is suggested that the emergence of FRS goes together with “political rescaling” processes. Below it will be briefly discussed how an FRS implies (1) a redefinition of the hierarchical relationships between policy sectors, (2) new geographical perimeters of the political regulation and (3) a redistribution of competencies between levels of government.

First, the emergence of an FRS implies a change in the definition of the public problem to be solved through State action, as well as the priorities of State intervention. It thereby implies a redefinition of inter-policy coordination and of the hierarchy between the existing policy sectors (or policy subsystems) concerned about the specific problem addressed by the actors of the FRS. In fact, because (super) wicked problems do not correspond to the logic of existing policy sectors, their treatment requires the reorganization of the hierarchy of policy objectives or even the redefinition of their respective scopes. Such a political redefinition of policy objectives often results in the choice of new policy instruments and implementation arrangements. Thus, an FRS corresponds to a change in State action that is considerably more important than what can be expected by MLG coordination or the emergence of FOCJ. The emergence of an FRS does not only imply the territorial or functional redefinition of State action in one and the same policy sector. On the contrary, it goes together with a new articulation *between*—and often a simultaneous redefinition *of*—the policy designs of the different policy sectors concerned by the problem.

Second, the emergence of an FRS implies a redefinition of the spatial boundaries of political regulation. (Super) wicked problems are characterized by the fact that their geographical boundaries do not correspond to existing institutional territories. Because of their functional nature, these kinds of problems go beyond the existing political territories and are, in fact, mostly trans-territorial (e.g., international water basins, workers commuting across national borders, the spread of bird flu or other diseases across countries). This gap between functional and institutional territories implies the definition of new *ad hoc* spaces responding more efficiently to the emerging need for political regulation of the problem. Thus, the relevant perimeter of an FRS demarcates the socio-geographical space corresponding to the (super) wicked problem and does not necessarily correspond to existing institutional territories. This is well illustrated in the management of such issues as unemployment, mobility, criminality and fiscal competition that span municipal, regional or national boundaries. Other well-documented examples concern the conflicts linked to noise pollution around airports located at regional borders (e.g., conflicts between Wallonia, Flanders and Brussels around Brussels International Airport) or international borders (e.g., conflicts between Switzerland and Germany around Zurich Airport).

Third, the emergence of an FRS simultaneously implies a redefinition of the tasks and competencies between levels of government. Insofar as (super) wicked problems do not fit the existing institutional territories, they often cannot be addressed by a single level of government, which is why they commonly involve transfers of power between different levels of government and operate as catalysts for new dynamics of MLG. Such redistributions of tasks and resources can take place from lower government levels to higher levels (i.e., Europeanization or centralization), or vice versa (i.e., federalization or

decentralization). They can also lead to the creation of new levels of governance responsible for tackling the (super) wicked problem as shown, for example, by a number of metropolitan governance scholars. Indeed, whatever their theoretical premises, political rescaling authors (e.g., Brenner 2004), neo-regionalists (e.g., Norris 2001; Frisken and Norris 2001) and urban political scientists (e.g., Le Galès 2002) have analyzed the ways in which new levels of power were (re)emerging and (to some extent) institutionalized in most European urban areas in the last two decades. Comparable developments of metropolitan areas have a long tradition in North America (Ostrom et al. 1961), with such examples as Portland's Metro Council in Oregon or "Metro Vancouver" (Greater Vancouver Regional District) in British Columbia. They have also shown how the creation of these new urban governance structures was linked to the management of complex, intersectoral and trans-territorial problems such as urban sprawl, centrality loads, transport and mobility, economic competitiveness, and environmental and industrial risks.

Each of the three aforementioned processes contributes in a different way to a political *rescaling* process that implies a specific kind of redefinition of the substantive (i.e., scope of the problem definition), institutional (i.e., distribution of policy competencies across levels of government) or geographical (i.e., spatial perimeter) scales of State action. The most important added value of the FRS concept is its emphasis on the fact that the emergence of an FRS does not boil down to the mere addition of these three rescaling processes; the FRS concept highlights the extreme interdependency of these processes of change in State action scales. For instance, changes in policy hierarchies (e.g., structural measures implemented to reduce public debts in southern European countries and stabilize the Euro) often depend on and imply a simultaneous redefinition of territorial and institutional scales (i.e., shifts of political power from the national State to the European level). Section "[Two examples of potential FRS](#)" will go into this more thoroughly using the two empirical examples of integrated water basin management and airspace block management in Europe.

FRS as a Weberian ideal-type of State action

The FRS concept presented above is defined and used following the Weberian "ideal typical" approach (Weber 1997). According to Max Weber, "an ideal-type is formed by the one-sided *accentuation* of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent *concrete individual* phenomena, which are arranged according to those one-sidedly emphasized viewpoints into a unified analytical construct ("*Gedankenbild*"). In its conceptual purity, this mental construct cannot be found empirically anywhere in reality. It is a *utopia*. Historical research faces the task of determining, in each individual case, the extent to which this ideal-construct approximates to or diverges from reality" (Weber 1997 (1903–1917): 90).

Thus, in an ideal-typical perspective, the conceptual challenge relies on identifying and caricaturing the significant and relevant (system of) features of the social phenomenon being studied. The methodological procedure consists, then, of confronting and measuring the divergence or, on the contrary, the congruence between the ideal-type or *Gedankenbild* (i.e., FRS as rescaling process) and the empirical cases studied. Such an epistemological stance means that the degree to which a specific empirical regulatory process corresponds—or does not correspond—to an (ideal-typical) FRS situation as depicted in the previous section has to be assessed. This methodological process will be applied in Section "[Comparative analysis](#)" (and noted in Table 2) by comparing two empirical cases (i.e., integrated water management and functional air blocks) with the FRS ideal-type.

Table 2 Challenges of rescaling process within two potential FRS

Convergence/divergence between empirical political rescaling process and ideal—typical FRS concept	Integrated water management (in transboundary river catchments—TRC)	Airspace regulation (in functional airspace blocks—FAB)
(Super) wicked problems put on the political agenda?	<i>Yes</i> Water pollution, agriculture, floods, tourism, hydroelectricity, ecosystem conservation, etc. (i.e., rivalries between users of the water resource)	<i>Yes</i> Dramatic increase of air traffic (passengers and freight; civil and military), airspace and airport congestion, delays, airprox, CO ² emission, noise pollution, etc. (i.e., rivalries between users of airspace)
New hierarchies between policy sectors?	<i>Partial</i> Water considered to be a resource and not managed anymore within different policy sectors in isolation Increase in coordination and new hierarchy between agriculture, transport, health, energy, tourism, etc., policies Ongoing complex process due to the high number and diversity of involved policy subsystems	<i>Yes</i> Liberalization of the European sky and environmental issues imply a redistribution of airspace use rights through a new hierarchy of policy objectives Key issues addressed: military airspace opened to civil aviation; internalization of climate change; and noise pollution management
New geographical boundaries beyond institutional territories?	<i>Partial</i> Regional, national and international cooperation on transboundary rivers Geographical definition of water basins remains to a certain extent a political compromise Resistance of existing institutional territories: implementation remains the competence of national/regional governments	<i>Yes</i> FABs have cross-border perimeters corresponding to the functional needs of traffic flow regulation (integration of ATM) Coordination between national governments at the FAB Council
New divisions of competencies between levels of government?	<i>Partial</i> Supranational management by the EU Commission (“Common implementation strategy”) Coordination through centralization within the Member States (e.g., Wallonia or France) No imposition of new specialized management agencies and no single model of TRC agency	<i>Partial</i> Principle of a supranational management of airspace established and transfer of some competencies to upper levels of government (FAB Councils, Eurocontrol and EU Commission) Eurocontrol as a specialized agency European Commission as coordinator of the reform No single air traffic controller for each FAB (maintenance of national air traffic control agencies)

Moreover, the *comparison* and identification of convergence or divergence between the empirical reality and the conceptual construct should stimulate the formulation of explanatory hypotheses concerning specific causal relationships between variables (Bourdieu et al. 1991). By doing so, it should help to deepen and strengthen the comprehension of the specificities and similarities of the various empirical phenomena under observation (i.e., the emergence of FRS and political rescaling processes in our case).

Two examples of potential FRS

Functional Regulatory Spaces have spread in a variety of areas in the last few years (Nahrath and Varone 2007). If the emergence and gradual consolidation of FRS constitute pragmatic answers to (super) wicked problems that cross policy sectors, territories and levels of government, FRS is nonetheless the outcome of fierce power struggles between public and private actors involved in different policy subsystems (Swyngedouw 2004). In this section, two examples of such emerging FRS in Europe will be introduced: transboundary river catchments (TRC) and functional airspace blocks (FAB). After a short description of each potential FRS, their conditions of emergence are presented, as well as the issues that their reconfiguration raise in terms of policy sector (1), territoriality (2) and levels of government (3).

Transboundary river catchments (TRC)

The European Union (EU) decided in 2000 to organize the integrated management of water along river catchments. The Water Framework Directive (WFD) aims at reaching a good status for water by 2015. This includes surface water (rivers), groundwater and tidal water (estuaries), from both qualitative and quantitative perspectives. Adopting a resource perspective (i.e., a cross-sectors approach by definition), water management is organized in river catchments, which are the territories around a river where rainfall ends up in the river's estuary. For major rivers, a river basin can reach thousands of square kilometers and cross several countries (e.g., the Rhine, Meuse and Danube). River basins have already been designated by the 27 Member States, at least within their own national borders, and they have possibly coordinated themselves for international catchments. The Member States are also obliged to set up management plans for each catchment, including a diagnosis of the situation (i.e., all water uses) and a list of measures to improving the sustainability of the water resource.

The model of river catchment that was already present in several Member States gave inspiration to the EU decision-makers. In France, water management is partially organized by the *Agences de l'Eau* which collect taxes on wastewater discharge and invest the funds raised in treatment and water protection. In the United Kingdom and Germany, some initiatives were also taken in this direction, but most pressure came from the scientific community which favored the functional management of water. The EU proposal of a new FRS for the integrated management of water resources is also built upon past experiences; the international commissions of the Rhine, Meuse and Danube, for instance, were initially designed to manage transboundary river catchments (TRC). The emergence of the TRC scheme for an integrated water management system implies the three components of the political rescaling process, as identified above.

- (1) The new water management strategy is built on the functional space of the river catchment. While it belonged initially to the policy sector of environmental protection, it has been extensively broadened. Currently, it has direct implications on *various policy subsystems*, such as public health (e.g., swimming areas and the quality of drinking water), land-use (e.g., flood protection and flood zones), agriculture (e.g., fertilization and irrigation), industry (e.g., emission control), transport (e.g., inland navigation), energy (e.g., water dams and minimum flow) and the environment (e.g., biodiversity and conservation). The parallel treatment of different concerns is accompanied and legitimized by the creation of a dedicated territory encompassing

the natural resource with the aim of sharing it between the different stakeholders (i.e., all potential resource users).

- (2) In terms of *territory*, the concept of a river basin, or water catchment, is mainly functional and tends to stick to the hydrological perspective of a catchment, even if it is sometimes difficult to delineate the exact boundaries of a river basin. When only surface water is concerned and the river flows through hilly landscapes, it is quite straightforward. But once combined with groundwater, the mapping exercise becomes more difficult, as groundwater does not flow in the same direction as rivers. Moreover, the boundaries of the water basins are sometimes fuzzy in flat land where the water of different rivers mix (e.g., the Rhine, Scheldt and Meuse in the Zeeland region of The Netherlands), or in the case of major hydraulic works (e.g., water transfers in the Ebro valley in Spain).

The political construction of the river basins also provides an answer for purely political problems. In fact, the institutional territories resist this reconfiguration of space, partly because they still own the administrative resources for running the implementation process. In the EU, each Member State has claimed river basins within their national borders, but has not directly considered their international dimensions. In Belgium, for example, the river basins are intersected by the linguistic border (e.g., a Walloon and a Flemish river basin) along the same river Dender. Its regulation remains under the jurisdiction of the national or regional governments and has not been delegated to water agencies, except in some countries where the arrangements were previously set (e.g., France with the *Agences de l'Eau*). In short, if a river basin is generally drawn according to functional criteria and boundaries, it also remains to some extent a political compromise.

- (3) In terms of the distribution of *competence between levels of government*, TRC management is not straightforward. The implementation process is distributed between functional agencies and public authorities. Although the European WFD is encouraging a functional organization of water management, it has not instituted national or community water agencies. Implementation relies partly on the former competence of national and regional government and partly on transboundary, national or regional water agencies (e.g., the International Commission for the Protection of the Rhine or the *Agences de l'Eau* in France), to whom competencies are delegated by governments. On the one hand, the international commissions of the Rhine, Meuse and Scheldt extended their competencies from the protection of the river to the protection of the whole catchment. These authorities centralize information and coordinate voluntary actions. On the other hand, national and regional governments remain legally responsible for water management. New authorities or specialized agencies are not created in an institutional void and must thus cope with existing arrangements.

To sum up, with the implementation of the European WFD and its underlying TRC scheme, an FRS was conceived without imposing new specialized management agencies. The institutional territories and their authorities succeeded in maintaining their logic and sometimes increased their power. At the supranational level, cooperation consists in exchanging the best practices and adopting common standards in the context of the “common implementation strategy” of the EU Commission. The international river commissions are compiling information on transboundary rivers and institutionalized

dialogue between the national water authorities. Even if the unit of analysis changes, the prevailing arrangements mainly remain at the national level, with an occasional recentralization process. Change toward the development of a mature FRS is thus expected to be incremental.

Functional airspace blocks (FAB)

The liberalization of the European sky and the continuous growth of aviation traffic have prompted an increase in the rivalries surrounding the use of airspace and ground infrastructure. Different types of traffic (transit flights, landing and departing flights) and different kinds of operators (commercial airlines, business jets, leisure aviation, air force planes, etc.) have to coexist in a limited airspace. In the last 10 years and despite the 9–11 terrorist attacks, traffic has grown in Europe (e.g., by 40 % in Switzerland), resulting in increasing rivalries and safety concerns (e.g., cases of airprox or near-collision) (Office fédéral de la statistique 2010). In this context, the EU adopted the Single European Sky (SES) legislative package in March 2004, comprising four regulations. This package is aimed at preventing its airspace from becoming oversaturated by, for example, decreasing delays and congestion. Two factors are identified at the source of the problem: air traffic increase and the division of airspace between civil and military use. The objective of the SES is to improve the capacity of airspace, notably by reorganizing air traffic management (ATM), irrespective of national borders in FAB. These new FABs are designed not with regard to national territories, but according to traffic needs and main commercial routes. Military forces are invited to integrate the FAB and renounce the exclusive use of portions of airspace.

According to EU Regulation 551/2004, the creation of the FAB should result from a progressive integration of the national ATM based on mutual agreements between the Member States responsible for parts of airspace within each block. By the end of 2012, the Member States must organize to set up operational FAB. They must also develop a flexible use of airspace within the FAB, which implies closer coordination between civil and military regulatory bodies. For instance, the six parties of FAB Central Europe (FABEC), which includes France, Belgium, The Netherlands, Germany, Luxembourg and Switzerland, signed the FABEC Agreement in December 2010, detailing the conditions of implementation of FABEC. The governance structure of FABEC remains purely inter-governmental, with a FABEC Council comprised of civilian and military representatives from each country. The question of rationalizing the national air traffic control agencies is not directly addressed. Gradual integration through interoperability and common processes is privileged by a radical redistribution of competencies (e.g., introducing competition for the market between the different ATM).

Former initiatives on the functional organization of airspace existed before the creation of the FAB. The first attempt was linked to the launch of Eurocontrol in 1963. The initial objective of the convention signed by France, Belgium, the Netherlands, the United Kingdom, Germany and Luxembourg was to make the supranational organization fully responsible for the upper airspace of the entire area (above 24,500 feet or 7,500 m). Over the years, the commitment decreased and some Member States reclaimed individual responsibility for air traffic control. Nowadays, the political role of Eurocontrol has been taken over by the EU Commission, and in the new arrangement, the organization's main tasks are confined to flight planning and the collection of route charges. Cross-border airspace management has also developed for functional reasons, as in Switzerland, where the airports are located close to national borders (e.g., Geneva Airport near the French border and Zurich Airport near the German border). The Swiss air traffic control agency,

Skyguide, has a competence on its delegated foreign airspace, that is, portions of airspace located outside Swiss borders. It accounts for about 45 % of the total flights managed by Skyguide. This situation is a result of bilateral international agreements.

As of 2001, the functional divide between civil and military airspace was called into question. The two formerly separated airspaces are now integrated and managed by Skyguide. This single agency dynamically adapts to the users' needs (commercial traffic and air force training) according to the respective traffic loads in the two airspaces. As such, the constitutive elements of the FAB have not emerged from scratch. They existed before in isolated solutions brought about by local problems before being systemized in an FRS characterized by the political rescaling process identified above.

- (1) At first sight, the FAB may appear to be single-sector regulatory arrangements. However, they are in fact cross-sector FRS, as they link *three formerly autonomous policy subsystems*: national defense; air transport; and environmental protection. With the FAB, the supremacy of commercial aviation over airspace is clearly confirmed. Most military zones are open to civil flight routes in a regulation known as the “flexible use of airspace.” Commercial flights are no longer obliged to avoid these areas and are now allowed to fly over them. This new hierarchy between civil and military aviation is the result of increasing pressure from the commercial sector, which faces the saturation of civil airspace at peak hours. Furthermore, the FABs also have environmental objectives. A more rational and better organized use of the routes would lead to less fuel consumption, and thus, CO₂ emission cuts. Since the protocol to the U.N. Framework Convention on Climate Change (Kyoto Protocol) adopted in 1997, the civil aviation sector has succeeded in internalizing environmental concerns rather than being subject to the regulation of environmental agencies (for a similar situation in the agricultural sector, with the implementation of agro-environmental measures, see Montpetit 2002). The FAB must be perceived more as spaces where heterogeneous users share a scarce common resource (the carrying capacity of the airspace).
- (2) The FABs have *cross-border perimeters* that encompass several portions of countries. For example, the FAB Central Europe (FABEC) manages the airspace of five EU Member States and Switzerland. They are designed according to purely functional needs based on the operational requirements of traffic flow and largely ignore institutional territories. This represents a paradigmatic change, as the Convention of Chicago of 1944 established the principle of national sovereignty on national airspace (art. 1). The boundaries of national airspace are land borders. The FABs do not repeal this principle, but cope with it. They address the issue in terms of management in times of peace and keep the arrangement reversible in case of conflict or military threat. However, the emergence of this FRS creates tension with existing institutional boundaries, which necessitates some trade-offs. For instance, the FABEC is not strictly functional, but respects the national borders of its member countries. This is clearly explained by the fact that in each country, the entire territory is managed by a single air traffic control agency, which decreases transaction costs (imagine a situation where the German *Deutsche Flugsicherung* would have to split up or coordinate with partners in three of four different FABs). This arrangement is not limited to the European Union, but encompasses associated countries in Europe (i.e., Switzerland and Norway) and Africa (i.e., Tunisia and Egypt).
- (3) Regarding *multi-level governance*, no public authority has the ability to supervise the FAB. There are many candidates, but the future is still unclear. Eurocontrol seems to

be increasingly in a position of becoming a specialized advising agency (comparable to the European Environment Agency) rather than a regulator or a political arena. At the same time, the EU Commission does not have enough authority to arbitrate the reorganization of European airspace. As such, national governments maintain their say on the process through weak coordination mechanisms. FABEC is run by a FABEC Council comprised of civil and military representatives from the different member countries. It is difficult for any party to renounce national competence on aviation control. At the same time, the sovereignty of the European sky is not transferred to the EU and remains national. National governments are put in the difficult position of remaining liable for their national airspace while transferring its management to supranational agencies. In the future, this cross-border airspace regime may also provoke the entry of sub-national governments for their management, notably those in charge of the management of major airports (e.g., the German area of Hesse, hosting the Airport of Frankfurt or the Flemish Region in Belgium hosting Brussels International Airport).

The main difficulties for this territorial integration are social. Air traffic controllers are organized at the national level through powerful trade unions with strong bargaining positions. They oppose the reform process out of fear of losing their social advantages. Numerous strikes occurred in 2010 in France and Spain, to name but a few. The unions fear personnel cuts, privatization of air traffic control agencies and the introduction of competition (from the market). The current FABEC treaty remains quiet about the form of integration of ATM within the area. Either the question is too politically sensitive and governments fear strikes blocking the traffic, or they expect a gradual integration through mutual cooperation between national air traffic control agencies.

In summary, the FABs have well-delineated perimeters that have reached consensus among the EU Member States and associated parties. The idea of a supranational management of airspace is established, in contrast to the regulation of transboundary river catchments. Here, the difficulty is to transfer authority at the supranational level and rationalize the management of the emerging FRS. It seems obvious that a single agency should control air traffic, at least for upper airspace. However, the decision is highly sensitive, and national governments prefer a gradual integration of air traffic controllers in order to avoid social protests.

Comparative analysis

The differences observed between the two empirical cases (TRC and FAB) and the comparison between these cases and the FRS ideal-type demonstrate the relevance of simultaneously considering the three dimensions contributing to a political rescaling process (cf. Table 2). Each case of potential FRS integrates different policy subsystems around its functional issue and creates institutions for managing it. At the same time, the existing institutional territories remain on the scene and participate actively in both the initial design of the FRS and its implementation. Finally, the emergence of these two potential FRS implies a shift in competencies between different levels of authorities, even if these changes remain incremental. The actual delegation of the FRS management to a specialized agency is, however, the exception rather than the rule.

As explained in section “[FRS as a Weberian ideal-type of state action](#),” the FRS concept is conceived to be an “ideal-type” of State action, which is useful for identifying the

convergence and divergence between empirical reality and a theoretical construct. Applying this epistemological approach, the extent to which integrated water management and the regulation of civil aviation in Europe correspond, more or less, to the ideal-type of an FRS as defined in Section “[Generic definition of FRS](#)” has thus been assessed. In so doing, it can be concluded that the Functional Airspace Blocks (FAB) currently under development match better with the ideal-type of an FRS than the emergence of basin authorities managing transboundary river catchments (TRC), as represented in Fig. 1. The redefinition of the hierarchies between various policy sectors is addressed in both empirical cases. However, the process is less developed in the TRC case, due to the high number of policies to be reorganized. Furthermore, the definition of a geographical perimeter and the redistribution of competencies between levels of government as well are also more complex and incomplete in the case of integrated water management than in that of airspace regulation. Thus, the comparison between the FRS ideal-type and the two empirical examples shows the relevance of the FRS concept as well as the hypothesis on the three-dimensional (i.e., intersectoral, trans-territorial and multi-level) political rescaling process of State action, which aims at solving (super) wicked problems. It also allows for the identification in both empirical examples of their respective discrepancies with the ideal-typical FRS concept.

Figure 1 summarizes, from a three-dimensional perspective, the similarities and differences between the FRS ideal-type and the two empirical cases of potential FRS studied here. The FRS ideal-type is indicated by a black dot at the extreme tip of each axis of Fig. 1. This suggests that the FRS ideal-type always has many policy subsystems, levels of government and institutional territories (see section “[Generic definition of FRS](#)” above). Such a graphical representation demonstrates how European FAB better matches the FRS ideal-type than does the TRC-integrated water management case. It allows identifying where (i.e., on which axes) the most significant resistance lies to a more accomplished FRS.

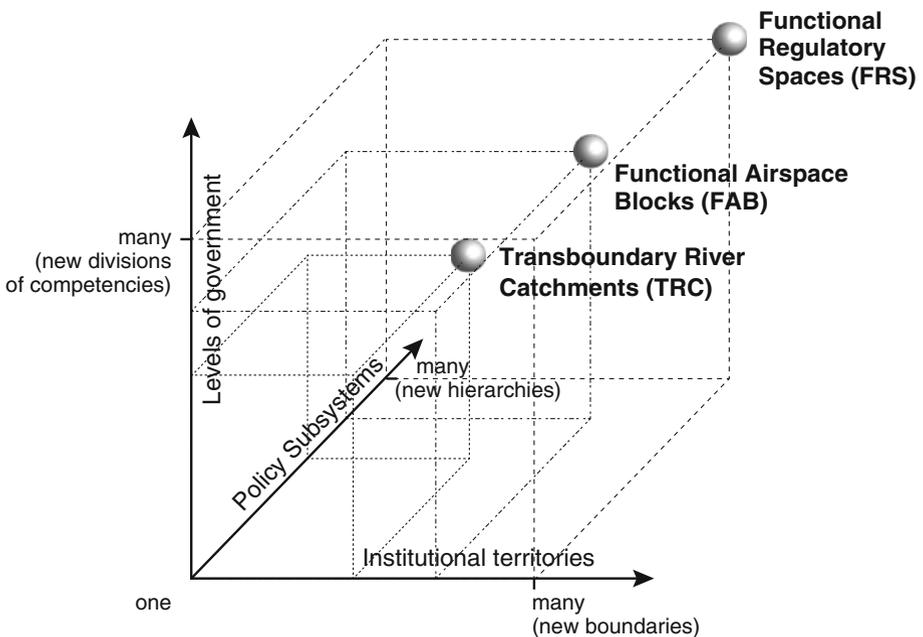


Fig. 1 Three-dimensional comparison between an FRS ideal-type and the two potential FRS

Further research steps

This article has focused on the political rescaling process that characterizes current State action and may be observed in various domains (e.g., integrated water resource management and airspace regulation in Europe). Our main analytical claim was to simultaneously consider three types of change that have thus far been addressed separately by scholarship on policymaking, namely the redefinition of relationships between policy sectors, the redefinition of the geographical perimeters of regulation, and the redefinition of competencies and responsibilities between different levels of government. To that end, the concept of “Functional Regulatory Space” (FRS) has been developed, as this new ideal-type of State action allows for the integration of previous approaches (i.e., boundary-spanning regime, multi-level governance and territorial institutionalism) and thus proposes a cumulative theory development. In so doing, the FRS concept should better reflect the multi-dimensionality of State action to address (super) wicked problems, or the “polycentricity of governance” according to the IAD framework proposed by Ostrom and colleagues (McGinnis 2011:171–172). In a nutshell, it has been argued that the major theoretical and empirical challenge is to better grasp the interdependencies between inter-policy coordination, the trans-territoriality of State action and multi-level governance. In conclusion, three further research steps that would be beneficial for further study will be suggested.

First, the dependent variables to be explained must be more precisely defined, that is, the constitutive elements or building blocks of an FRS that can be measured empirically. The variables already identified by previous approaches (i.e., issues at stake, ideas and frames of reference, social identities, interest of stakeholders, institutional rules, assignment of authority, geographical perimeters, time perspective, etc.) should be discussed, selected and organized with the aim of assessing all FRS dimensions, while, at the same time, remaining relatively parsimonious. In other words, the main features of the ideal-type presented here need to be further developed. Furthermore, the impact of an FRS on the collective problem to be solved should be assessed according to explicit evaluation criteria in order to estimate the durability (over time) of a given FRS as well as its legitimacy.

Second, extensive theoretical work is still required to conceptualize the dynamics of the political rescaling process underlying the development of an FRS. Different causal mechanisms or “configurational paths” must be identified leading to the emergence, institutionalization or even collapse of an FRS. This implies a deeper analysis of the drivers of change and, furthermore, the causal interaction between factors simultaneously inducing inter-policy, trans-territorial and multi-level transformations. The main research questions, therefore, are as follows: Should a clear sequential development of the three sub-processes be postulated? Would this mean, for instance, that successful multi-level governance facilitates a new hierarchy between policy objectives in a second step? Or should simultaneous and self-reinforcing effects of the three sub-processes be expected instead (e.g., new actors and an ideational uptake, transgressing, at the same time, the boundaries of policy sectors, government levels and institutional territories)? Or, on the contrary, could negative feedback from a transformation failure to the other two processes be observed? For example, institutional territories might hinder any further inter-policy coordination or new multi-level arrangement. Elaborating a typology of the FRS dynamics, or a historical path, is a key step toward theory development. The most recent work of Levin et al. (2012) on the strategy to overcome the tragedy of super wicked problems is highly relevant in this respect. The authors argue that path-dependent processes are required for solving this kind of public problem and, in so doing, to develop and

institutionalize what we have called an FRS. Furthermore, Levin et al. (2012:148) argue that a “progressive incremental trajectory” is the best means toward that end. It would thus make sense to systematically test this hypothesis to explain the success or failure of an FRS.

Finally, additional empirical examples of potential FRS should be analyzed in greater depth than has been done in our brief presentation of the European water basin and airspace management schemes. Such case studies should go beyond the empirical analysis of natural resource regulation to include other (super) wicked problems that diverge in terms of their respective audience, severity, visibility, complexity, urgency, scale, etc. Future studies should include as potential FRS candidates (in an ideal–typical epistemological approach) the public regulation of economic issues. Examples are the creation of the “Eurozone” to regulate monetary, financial and macroeconomic issues, core State functions such as the “Schengen Area” implemented for border control, security and immigration policies or, at a different scale (new) institutions in the domain of urban and regional development (e.g., (new) metropolitan governance institutions or regional natural parks, etc.). Additionally, new empirical case studies should also go beyond the European context and analyze similar cases in the North American or Asian context. As a matter of fact, no constitutive element of the FRS concept is dependent on the particularities of the European institutional system. Last but not least, another complementary research strategy might consist in analyzing, on a secondary basis and with a renewed FRS perspective, the empirical examples already provided by previous approaches such as terrorism and homeland security in the United States (as proposed by Jochim and May 2010) or global climate change (Levin et al. 2012).

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