

Cooperation in the Face of Transboundary Crisis: A Framework for Analysis

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The nation state is discovering the limits of its crisis management capacities. Events such as Ebola and Zika, the downing of flight MH17 over the Ukraine, sinking ships with refugees, cyber attacks and urban terrorism serve as reminders that crises faced at home often originate in far-away and unsuspected domains. As the transboundary dimensions of many crises and disasters increasingly manifest themselves, the need for international cooperation appears ever clearer. But it does not always happen, even in the European Union. This prompts our question: Why do EU member states elect to cooperate in response to some transboundary crises and not to others? We bring together the crisis and collective action literature to formulate a theoretical framework that can help to answer these questions.

DRAFT PAPER TO BE PRESENTED AT EUSA, Miami – WORK IN PROGRESS – NOT FOR CITATION

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1. Introduction: What determines international crisis cooperation?

Whether we consider the longstanding Eurozone crisis, the recent Ebola outbreak or the ongoing refugee tragedy, it is clear that many of today's crises traverse both national borders and policy domains (OECD, 2003; Beck, 2008; Lagadec, 2009; Ansell et al 2010). Such transboundary crises are nothing new, of course, but their incidence appears to be on the rise.¹ Effective management of these transboundary crises requires international cooperation among states. But such cooperation is not always forthcoming.

Some transboundary crises – think of the financial crisis or the Icelandic ash crisis – prompt international collaboration. In other cases, states choose to go it alone (a recent example is the migration crisis, which has triggered mostly unilateral responses). This observation gives rise to our research question: Why do states collaborate in response to some transboundary crises, while unilateral approaches dominate in other transboundary crises?

The question becomes especially interesting when states can draw on institutional venues and processes that were designed to facilitate transboundary cooperation. The European Union (EU) is a case in point. The EU harbors considerable resources – principles, strategies and tools – that can be harnessed to coordinate a transboundary crisis response.²

Recent years have seen the inauguration of the Emergency Response Coordination Centre (ERCC), a 24/7 crisis center operated by the Commission's DG ECHO, and the Integrated Political Crisis Response arrangements (IPCR), a scalable information-sharing and crisis coordination mechanism based in the Council.³ In addition, ARGUS, an IT tool set up by the Commission in 2005 for use in multi-sectoral crises, links crisis-related systems and actors across the EU in order to provide a general European rapid alert system and coordinative capacity.

Moreover, several mechanisms designed to mobilize crisis response resources across borders are now active at the EU level. Most prominent among them is the Civil Protection Mechanism (CPM), which since its inception in 2001 has been used to coordinate the deployment of resources to crisis-hit countries in and outside of the EU. Closely linked to the CPM is the more recently initiated European Emergency Response Capacity (EERC). Its objective is to create – via Member State

¹ Witness the Spanish Flu that swept the globe after WWI or the Great Depression. A non-exhaustive list of factors prompting this escalation includes (1) demographic and economic expansion; (2) the increased interconnectedness of economies, life-sustaining systems and critical infrastructure, and a resultant increase in their vulnerability to crises; (3) climate change; (4) technological developments; and (5) new manifestations of terrorism. See Boin (2009) for a brief introduction.

² For an overview, see Boin, Ekengren, & Rhinard, 2013; Boin, Rhinard, & Ekengren 2014; and Rhinard and Backman, forthcoming. This is not to say that the EU is endowed with full-fledged crisis management capacities. We might say that European security cooperation today is in the same place that economic cooperation was in the early 1980s (cf. Genschel & Jachtenfuchs 2016). Areas such as civil protection, critical infrastructure, energy security, health security and the fight against terrorism are primarily regarded as national responsibilities, and hesitation to exchange information or engage in joint decision making is widespread among national decision makers. The removal of national barriers in security related areas has been hampered by national protectionism and lacking trust among the member states.

³ The ERCC and IPCR are refined, second-generation mechanisms purpose built for crisis management. They recently replaced, respectively, the MIC (Monitoring and Information Centre) and the CCA (Crisis Coordination Arrangements).

contributions – a pool of standby assets, e.g. search and rescue teams, medical equipment, and water purification systems, that can be rapidly deployed following the onset of a crisis. Meanwhile, the Solidarity Fund (EUSF) has disbursed €3.8 billion to 24 European countries in response to more than 70 natural disasters since it was developed in 2002 (European Commission, 2017). The EU Member States also have recourse to the Solidarity Clause, which despite being relatively unknown may well be among the Lisbon Treaty’s more remarkable innovations (Martino 2015, p. 72). This clause (Article 222, Treaty on the Functioning of the European Union) confers upon any Member State overwhelmed by a terrorist attack or natural or man-made disaster the right to compel assistance from the other Member States, as well as the Union itself, which must “mobilise all the instruments at its disposal...”.⁴

In addition to these coordination and resource mobilization tools, the EU has in place an array of sense-making systems, such as the External Action Service’s Situation Room, DG HOME’s Strategic Analysis and Response Centre, an analysis unit at FRONTEX, and the monitoring capabilities of the European Centre for Disease Prevention and Control (ECDC). This is the short list – a recent survey uncovered more than 80 systems with sense-making functionality in the EU (Boin, Ekengren, & Rhinard, 2014).

There are a number of EU agencies that can become involved in transboundary crisis management. This group includes the European Maritime Safety Agency (EMSA), the European Food Safety Authority (EFSA), the European Centre for Disease Prevention and Control, Eurojust and Europol, the Agency for Network and Information Security (ENISA), and the Cybercrime Centre within Europol.

The use made of these capacities varies. In some crises, member states actually cooperate, making use of the aforementioned capacities or even rapidly developing new ones. Such joint action has perhaps been most visible when it has taken the form of external missions to crisis-ridden or disaster-stricken countries. The EU’s mission to Haiti following the 2010 earthquake in that country is just one example of what have become almost routine EU missions to support destabilized countries outside the EU (Cottey, 2007; Jones, 2007; Kirchner & Sperling, 2007; Norheim-Martinensen 2013; Tercovich 2014). Cooperation has even occurred in response to highly complex and politically fraught crises, with the flurry of activity that emerged in response to the 2008 financial crisis and the subsequent sovereign debt crises a prime example (Schimmelfennig 2014, pp. 323-326; see also Parsons & Matthijs 2015).

Cooperation has been significantly less forthcoming in other crises. A particularly glaring example is the migration crisis that peaked between summer 2015 and spring 2016. The mass migratory influx prompted divergent actions on the part of the EU Member States, with Germany opening its borders to Syrian refugees at approximately the same time that Hungary was building fences along its borders with Serbia and Croatia. Destination countries for asylum seekers, including Austria, Germany, and Sweden were largely left to their own devices; national decisions on border and refugee transport policies were often made in a unilateral, ad hoc manner, leaving neighboring countries to fend for themselves.

⁴ On the Solidarity Clause’s broad applicability, see Myrdal & Rhinard 2010, p. 8; and Martino 2015, p. 72.

In this paper, we ask why member states seek cooperation in transboundary crisis. We treat a transboundary crisis as a collective action problem. Accordingly, we begin by re-scouring the collective action-inspired literatures. We refine those insights using crisis research and formulate a set of hypotheses.

2. Why do nations work together? Revisiting Collective Action Theory

Our theoretical exploration starts with Mancur Olson's (1965) classic work, *The Logic of Collective Action*. His core assertion holds that rational egoism (i.e. rational decision-making based on self-interest) ultimately undermines the prospects for collective action. As Sandler (1992, p. 3) concisely puts it, "[Olson's] book rests on a single basic premise: individual rationality is not sufficient for collective rationality".

The problem, in short, is that collective action often fails to emerge when group members rationally appraise the costs and benefits of contributing to a public good. They often elect to free-ride, knowing that they can get the benefits of non-excludable goods without paying for them. This has come to be known as the enforcement, or monitoring and sanctioning, problem of collective action. It is thought to be particularly relevant at the international level, where there is no equivalent of the nation-state and its authority to compel the collective provision of public goods (see Nordhaus 2006 on the "Westphalian Dilemma").

Myriad works have built on Mancur Olson's classic statement of the collective action problem. Olson's initial insights have been developed in the literature dealing with International Relations; regional / EU integration; global public goods provision;⁵ and common-pool resource management.^{6&7} But despite the breadth and depth of the resulting literature, its insights have yet to be applied to the systematic study of transboundary crisis management.⁸

These four blocks of literature do not really explicitly discuss transboundary crisis management as a collective action problem. At the same time, they afford many insights that can help us answer the research question. First, we discuss why, according to this set of theories, nation states are unlikely to cooperate. Second, we discuss what can be done to further and facilitate transboundary crisis collaboration.

⁵ This literature can be traced back several decades (Kindleberger 1981 and 1986; Evans 1970; Scott 1974; Camps 1980), but it gained traction around the turn of the millennium (Sandler 1998, 2004; Kaul et al. 1999, 2003; Barrett 2006 and 2007; Nordhaus 2006; Morrison 1993; Stiglitz 1995). For a recent literature review, see Kaul, Blondin, & Nahtigal 2016.

⁶ The commons-management literature also dates back several decades (G. Hardin 1968; Butler 1977; Nordhaus 1982; Wijkman 1982), but the work that has come to dominate it is Elinor Ostrom's 1990 book on commons governance. Ostrom explicitly pondered the transferability of her findings to the international level (Keohane & Ostrom 1994). And she went on to apply a model of 'polycentric governance' to the management of international-level commons problems, particularly climate change (Ostrom 2014; Ostrom 2010). For other works in this vein, see Edenhofer et al. 2013 and 2015; Stavins 2010; Stewart et al. 2013. For a recent comment on applying Ostrom's decentralized approach to transnational challenges, see Sabel & Victor 2015.

⁷ We cannot provide complete summaries of these extensive literatures in this paper. Rather, the objective is to discuss those factors identified within them that may be able to explain varying levels of cooperation on transboundary crisis management.

⁸ As investigated here, these crises pertain to what have alternatively been termed civil-security, internal-security or societal-security concerns, as opposed to traditional inter-state military conflicts.

Establishing common ground for cooperation

In the explanation of collective action and international cooperation, preferences are often mentioned. Some claim that preference *heterogeneity* (especially when backed by capability or endowment heterogeneity) is beneficial for collective action. Others suggest that, to the contrary, preference *homogeneity* is necessary for collective action.

Mancur Olson (1965) conflated actor preferences and capabilities to arrive at the conclusion that preference heterogeneity – backed by capability heterogeneity – facilitates the provision of public goods (see also Russett & Sullivan 1971, p. 853; Keohane & Ostrom 1994, pp. 409-411).⁹ This assertion clashes with case study-based conclusions in the common-pool resources literature. There, the common wisdom is that skewed or heterogeneous preferences inhibit cooperation (Keohane & Ostrom 1994, p. 411; see also Baland & Platteau 1996).

The “heterogeneity-helps” reasoning assumes there is sufficient common ground among actors for collective action to be the rational outcome of negotiations. ‘Preference heterogeneity’ in many discussions of collective action refers to disparities in preference intensity rather than fundamental misalignment of preferences, i.e. in Olson’s work and many texts on global public good provision, the assumption is that all actors want or would benefit from the provision of the good in question – there is thus substantial common ground for cooperation. This assumption may be true for trade issues, but is less tenable in transboundary crisis situations (and generally in settings characterized by institutionalized veto points).

A relevant discussion emerged when scholars started emphasizing the bargaining problem that – in addition to the enforcement problem – plagues international cooperation (Putnam 1988; Scharpf 1988; Scharpf 2006, pp. 848, 851; Krasner 1991; Morrow 1994; Fearon 1998; Koremenos et al. 2001; Moravcsik 1993; Moravcsik 1998).¹⁰ Wisdom shifted toward the conclusion that it is actually preference homogeneity which facilitates cooperation. As Scharpf (2006, p. 851) states, “...the difficulty of reaching negotiated agreement increases with the heterogeneity of Member State conditions, interests and preferences”.

Making things even more complicated, we should probably consider preferences at two levels (Krasner 1991; Morrow 1994; Fearon 1998). First, there is the fundamental issue of whether sufficient common ground for cooperation exists, e.g. whether decision-makers in multiple states agree on the need for and basic *goal* of a joint crisis response. Then, assuming that national leaders see potential benefit in cooperating (i.e. that basic interests / preferences align), there is a need to agree on the specific *form* that that cooperation will take (e.g. a specific crisis response strategy). For instance, even though members of the Eurozone seemed to agree on the goal to save the common currency, they had markedly different preferences with regard to the ways in which this goal could be accomplished (Schimmelfennig 2015).

⁹ More formally, Olson argued that “privileged groups”, i.e. groups in which at least one member has a preference schedule that incentivizes it to unilaterally provide the collective good in question, are those in which collective good provision is most likely to occur (Hardin 1982, p. 43; Sandler 1992, pp. 8-12).

¹⁰ For detailed discussions on the distinction between the defection / enforcement problem discussed earlier and the bargaining or distributional problem now under discussion, see Garrett 1992, pp. 534, 541; Singleton & Taylor 1992, p. 319; Fearon 1998, pp. 269-276.

The literature helpfully suggests four factors that can affect the extent of group-level homogeneity across these two preference levels, and thereby aggravate or mitigate the bargaining problem.

Expected benefits There is a strong theoretical basis for the contention that actors cooperate when they expect a favorable return from doing so. States are more likely to cooperate on public good provision when they expect a relatively high, or at least fair share, of the total benefits (Sandler (1998, p. 236). Accordingly, it is important that the group of states paying the costs of cooperation aligns with the group states benefitting from it (Sandler 2006, pp. 157-160).

The level of exposure to the crisis seems to matter here. Ostrom's work suggests that a community whose members will be similarly harmed through inaction and benefitted similarly by action is more likely to work collectively. In this sense, collective action is triggered by a perceptible and common threat to the resource upon which group members jointly depend (Ostrom 1990, pp. 90-92, 211). A mutually vulnerable community of actors then becomes a key explanation for explaining cooperation (Singleton and Taylor, 1992).

Translating these theoretical insights to the transboundary crisis context, it becomes clear that if states within a decision-making group are unevenly exposed to a crisis they will benefit unevenly from a response aimed at mitigating the consequences of that crisis. In the short run, the un- or under-exposed states will receive far less benefit from a joint crisis response than the heavily exposed states; the former will accordingly be less enthused about bearing the costs. Joint action in crises characterized by uneven exposure would require uncompensated sacrifices from those states unexposed to the crisis (and lightly compensated sacrifices from under-exposed states).¹¹ This disparity can be expected to contribute to problematic preference heterogeneity within the decision-making group.

Exposure is not a binary concept. States can also be exposed to the same transboundary crisis in different, i.e. asymmetrical, ways. For examples, consider the positions of Germany and Greece in the Eurozone crisis or the positions of 'transit countries' (e.g. Croatia, Slovenia) and 'destination countries' (e.g. Germany, Sweden) in the 2015-2016 migration crisis. While evenness of exposure is expected to facilitate a joint crisis response, the asymmetry of exposure may well undermine it. That is, leaders of states asymmetrically exposed to a crisis will be more likely to have divergent preferences on the specific response strategy.

This leads to the following hypothesis:

H1: The higher the symmetry in exposure, the higher the chance that international cooperation will emerge.

Can states decouple? Given that high defection costs may auger in favor of cooperation, the extent of interdependence and the associated ease of 'exiting' or 'decoupling' from a transboundary crisis is

¹¹ See Scharpf's (2006, p. 851) discussion of "uncompensated sacrifices".

consequential for cooperation. The question is whether states can decouple,¹² i.e. whether they can unilaterally build a fence (metaphorically or literally) and seal themselves off from the crisis.¹³

To understand when this type of decoupling is easy and when it is difficult requires consultation with the EU integration literature. Neofunctionalist theory provides relevant insights. This theoretical strand highlights the importance of previous decisions and the sunk costs, policy constraints, and unintended effects they create. Neofunctionalism's basic spillover hypothesis is that, "the greater the policy scope and the higher the level of the initial commitment to collective decision-making, the greater the propensity for task expansion" (Schmitter 1969, pp. 162-164). In this way, institutionalized regimes may "lessen the bargaining problem by raising the political costs of failure to agree, since a failure to agree can now have adverse implications for the regime" (Fearon, 1998, p. 298). If a transboundary crisis threatens a common regime or institution, especially one characterized by high sunk costs, it may be difficult for states to decouple because failure to cooperate would put the regime and each state's share of the associated sunk costs at risk (see also Parsons and Matthijs 2015).

Two additional factors of relevance can be identified (Schimmelfennig 2014; see also Niemann & Ioannou 2015). These are: (1) the extent to which previous integration decisions increased interdependence within a given policy sector; and (2) the extent of institutional or legal hurdles to 'exiting' a common regime.

The Eurozone crisis serves as a good example of how these three factors affected the ability of states to defect from cooperation: The sunk costs of the common currency were high; deep interdependencies had been created by the monetary union, such that the whole regime was threatened by the potential departure of one member state; and the institutional / legal barriers to exit were significant: there is no formal procedure for Eurozone exit (see Schimmelfennig 2014, pp. 328-329). In comparison, sunk costs and interdependencies were relatively low in the EU's refugee and asylum regime prior to the migration crisis, and the legal barriers to exit (via border closure) relatively weak: temporary border closures are permitted under the Schengen rules.

H2: The prospects of collaboration are related to the level of institutionalization of the international regime under which the collaboration is to take place.

Level of politicization There may be political costs to cooperation (or lack thereof). Postfunctionalist theorizing (Hooghe and Marks 2009) suggests, in brief, that the extent to which 'mass publics' are politicized can impact the prospects for cooperation between member states. Politicization broadly refers to the increased salience of EU affairs (i.e. more actors engaged in and observing EU affairs) and an associated polarization of opinion with regard to those affairs (see de Wilde et al. 2016, p. 4;

¹² Decoupling is a term used in the crisis management literature to signify the disconnection of a unit or organization in the midst of a crisis. On an individual level, one might decouple their house from the power grid (by shutting off the mains) in the event of a flood. In the context of the Eurozone crisis, decoupling would refer to exiting from the common currency zone. In the migration crisis, it might best be exemplified by the fence Hungary built along its border with Serbia.

¹³ Hardin (1982, pp. 73-74, citing Hirschman's classic distinction between 'exit' and 'voice') raised this 'exit' question in his comprehensive review of the collective action literature.

Genschel & Jachtenfuchs 2015).¹⁴ The basic causal mechanism here is that politicization “raise[s] the heat of debate, narrow[s] the substantive ground of possible agreement and make[s] key actors, including particularly national governments, less willing to compromise” (Hooghe & Marks 2009, p. 22).

In crisis situations, public opinion becomes even more important. We know that crises can differ in the levels of polarization that they evoke (Boin and ‘t Hart, 2000; Boin et al 2009). Some crises may trigger an enhanced sense of solidarity; other crises may tear a society apart. Politicians tend to be aware of the reality that crises can make or break careers (and they thus tend to take public opinion into account in their decision-making) (Boin et al 2008).

During the Eurozone crisis, public opinion played a dominant role. Rather than blocking cooperation among the member states, it actually remained supportive of the Euro; in other words, rather than hardcore polarization with regard to an underlying goal of the crisis response, there was support for saving the Euro (Schimmelfennig 2014; Hobolt and Wratil 2015; Parsons & Matthijs 2015). The salience of the migration crisis is similarly unquestionable, but polarization has occurred both within member states (visible particularly in party competition on the migration issue) and on the transnational level, i.e. there has been polarization of public opinion across the member states with respect to crisis response goals.¹⁵

Following this literature, we assume that

H3: The higher the level of societal and political contention, the less likely it is that a country will seek collaboration.

Available solutions The literature suggests that international cooperation can be facilitated by the existence of a salient solution. In 1960, Schelling developed the concept of ‘focal points’ (alternatively termed ‘Schelling points’, prominent solutions, and salient solutions). The underlying logic here is that if a form of cooperation or level of contribution “can be identified as in some way obvious and perhaps fair, [group] members may respect it” (Russett & Sullivan 1971, p. 858).

It has since been argued that the existence of a prominent solution can facilitate international cooperation (Russett & Sullivan 1971, p. 858; Zürn 1992, as cited in Hasenclever et al. 1997, pp. 53-58; Young 1989, p. 363; Young & Osherenko 1993, p. 14). The mechanism is simple: by offering a focal point around which expectations and preferences can converge, collaboration becomes more likely (Fearon 1998). This is a significant point in the cooperation literature, and translating it to the transboundary crisis context would produce questions such as: “Is there an established solution to this type of crisis?” or “Is there a pre-existing crisis management plan?”

The literature suggests that prominent solutions can emerge from several different sources, including the following:

¹⁴ This is broadly in line with Putnam’s (1988) two-level game logic: politicization reduces the Level II win sets, making international negotiations more difficult.

¹⁵ The Eurobarometer question (November 2015 fieldwork) “Should [OUR] country help refugees?” revealed dramatic public opinion divergence across the EU member states. The percentage of respondents answering ‘Yes’ to this question ranged from 94% in Sweden to 28% in Czech Republic (TNS Opinion 2015, Standard Eurobarometer 84, European citizenship report).

- International law (Russett & Sullivan 1971, p. 858);
- Repeated negotiations within a regime (Fearon 1998, p. 298) – Here the argument is that previous rounds of negotiations on issues within a regime establish focal points and bargaining precedents (with regard to the Eurozone crisis, an example might actually be austerity / balanced budgets given the strong German tradition in this area and its impact on EU policy over several decades);
- Epistemic communities (P. Haas 1992) – Haas’s work on epistemic communities suggests that when stunned by the uncertainty of crisis, high-level decision-makers turn to experts for advice; accordingly, if there is a transnational expert community whose members concur on the course of action, that strategy could become a prominent solution; if, on the other hand, there are “scientific and technical disagreements about the likely effects of different cooperative policies” (Fearon 1998, p. 286), that would be a complicating factor;
- Ideational focal points / norms (Garrett & Weingast 1993; Finnemore & Sikkink 1998) – Norms might work as much by excluding certain potential solutions as by highlighting particular ones, but it has been contended that they can facilitate international cooperation by shifting actors’ preferences and/or by ruling out the use of certain tactics or the taking of certain positions during negotiations.
- A pre-existing crisis management plan, e.g. the EU’s 2001 Temporary Protection Directive, which was designed in the aftermath of the wave of refugees from the Balkans in the mid-1990s and intended to be used in the event of another mass influx of migration.¹⁶

Most crises will require a combination of various means such as funding, hardware, sanctions, rules, standards, venues, summits, expertise, and insurance. The collective action literature helpfully identifies three types of solutions:

- Coordination: behave in a synchronized way to solve the crisis
- Collaborate on a collective good: create a joint instrument (or a fund) that will solve the crisis
- Burden sharing: minimizing the consequences by dividing the costs

It is easy to see how countries may differ in their preferences for this or that type of solution. If there is a clear and shared idea of the what the best solution is, international collaboration will be easier. If it is possible to identify small-step solutions that can be implemented in a relatively non-controversial way, international collaboration will be easier to initiate. But such consensus rarely, if ever, exists. The causes of a transboundary crisis are often ill understood, hard to agree on, or impossible to remedy.

Hypothesis 4: The more countries agree on the type of response, the higher the prospect of a transboundary initiative.

Most threats emerge over time (think of the financial crisis or the refugee crisis). Some, however, appear within hours or days (think of the Ash crisis). The question is whether the “lead time” – the

¹⁶ While this specific directive was not activated during the migration crisis, the voluntary refugee relocation mechanism it foresees bears many similarities to the relocation quota scheme agreed by the EU member states in September 2015.

available time to develop a response – affects the prospect of collaboration. In theory, this could work both ways. A relatively long lead time may make international collaboration seem potentially successful, as the time span will allow for time-consuming coordination issues. One might also argue that time compression “focuses the minds” of leaders, allowing them to overcome cultural and/or institutional barriers against international collaboration.

Hypothesis 5: If there is little time to develop a solution, it helps if one is available.

Overcoming the enforcement and coordination problems

The notion that collective action is complicated by larger numbers of actors is essentially accepted wisdom in the literature (Oye 1985; Keohane & Ostrom 1994; Koremenos et al. 2001, p. 765; Scharpf 2006; Sandler 2004, pp. 32-34; Sandler 1998, p. 243). But the enforcement and coordination problems are no longer seen as obstacles that cannot be overcome (even in the presence of a large number of actors). The literature has identified a number of institutional capacities and several strategies to mitigate these problems.

First, the existence of a **collective enforcement mechanism** is expected to mitigate the defection / enforcement problem and thereby facilitate cooperation. Olson ([1965] 1971, p. 2, emphasis added) introduced this coercion logic in famously writing that, “unless the number of individuals in a group is quite small, *or unless there is coercion or some other special device* to make individuals act in their common interest, rational self-interested individuals will not act to achieve their common or group interests”. The development of group-level sanctioning capacities to punish non-cooperative behavior should prevent this.¹⁷

Enforcement authority is, of course, rare at the international level (Oye 1985; Russett & Sullivan 1971; Nordhaus 2006).¹⁸ Some binding agreements backed by enforcement authority do exist at the international level, with the WTO’s dispute settlement mechanism and the European Commission as prime examples.¹⁹ The associated expectation is that where binding rules have been agreed and enforcement authority delegated to a centralized or supranational body, the prospects for cooperation improve. But there are no binding mechanisms for crisis management. Still considered a core responsibility of the nation state, political leaders have been loath to sign crisis-related authority away. The EU is slowly moving to develop more-binding arrangements, but it is too easy to assess whether this will go anywhere.

¹⁷ Monitoring and sanctioning mechanisms also play a notable role in the literature on commons governance. Two of Ostrom’s (1990) eight design principles for successful commons management directly pertain to monitoring and sanctioning capabilities (another is linked to dispute resolution), and the importance of these capabilities has also been emphasized by other authors working on commons management, be it at the local or international level (see Agrawal 2002; Cox et al. 2010; Sabel & Victor 2015).

¹⁸ The development of such capacities is itself a second-order collective action problem, hence their international rarity. As Oye (1985, pp. 21) points out, the creation of collective enforcement mechanisms “demand[s] an extraordinary degree of cooperation”. But where binding rules and enforcement authority already exist, the theoretical expectation is that they will facilitate cooperation is strong.

¹⁹ At the global level, one could think of the WTO dispute settlement mechanism or the UN Security Council. A transboundary crisis-relevant example is the binding reporting requirements to which EU member states have bound themselves in the event of a livestock disease outbreak.

Second, the existence of a **coordination mechanism** is expected to facilitate cooperation.²⁰ IR scholars have devoted much ink to the capacity of international regimes and institutions to decrease transaction and information costs while enhancing the ability of actors to communicate and make credible commitments (Keohane 1984; Oye 1985, p. 20; Koremenos et al. 2001, p. 766). A general example would be the WHO and the role it plays within the international public health sector; the G20 could also be seen as a high-level coordination mechanism. In the EU, the Integrated Political Crisis Response arrangements provide an example.²¹

Elinor Ostrom's work on common-pool resources provides something of a counterpoint to the coordination mechanism consensus. Her findings support a more decentralized, bottom-up approach to engendering cooperation. Indeed, explicit mention of a coordination mechanism is not to be found in Ostrom's eight design principles for successful commons management (Ostrom 1990; Cox et al. 2010; cf. Agrawal 2002). However, it is important to keep in mind that these findings are based on case studies of local-level commons management, often in small communities (with the unique group traits implied by that setting). Tellingly, in their recent application of experimentalist governance theory (which borrows some reasoning from the Ostrom-inspired literature) to international challenges, Sabel and Victor (2015) noted that the bottom-up commons-management literature failed to explain how decentralized approaches get off the bottom, especially when it comes to international cooperation. Accordingly, Sabel and Victor call for a central coordinative body to link-up or aggregate efforts made by otherwise decentralized actors.²²

The crisis and disaster literature has paid ample attention to the importance of coordination. There appears to be general agreement that top-down coordination does not work. Emergent coordination works better (Boin and Bynander, 2015). The role of international organizations, then, would be to facilitate emergent coordination (rather than impose pre-defined mechanisms).

The collective action literature suggests the importance of institutions to facilitate cooperation. The management of a transboundary crisis requires specific structures and processes (Ansell et al 2010). In the context of transboundary crises, we may therefore ask whether international institutions – processes, mechanisms and venues – exist that can facilitate crisis management cooperation. Combining these insights, we arrive at the following hypothesis:

H6: If an international organization has the capacity to facilitate emergent coordination across boundaries, budding collaboration is more likely to persevere.

Transboundary collaboration may require one or more of the strategic crisis management tasks (Boin et al 2005): sense-making, coordination, joint decision-making, communication. Each task poses different constraints, which may be more or less palatable to countries. For instance, information sharing may be more problematic in some type of crisis (terrorism) than in others (ash crisis). Joint

²⁰ Frohlich and Oppenheimer (1970) stressed the pivotal role that such mechanisms can play in helping groups to accomplish joint action. These authors envisioned the role being taken up by a political entrepreneur willing to trade coordination duties for the realization of personal objectives.

²¹ The expected utility of a centralized coordination mechanism is also emphasized by those international public goods scholars who have called for a UN-level coordinative body to facilitate the provisioning of global public goods (Ocampo and Stiglitz 2011; Ocampo 2010).

²² Specifically, these authors call for an institutionalized, integrative center that serves a facilitative – information processing and distribution – role rather than a directive function (Sabel & Victor 2015).

decision-making is always harder when it touches upon military issues. We can formulate the following hypothesis:

Hypothesis 7: The more strategic crisis management tasks are involved, the less likely collaboration will be.

A third – and core – finding of the literatures on collective action and international cooperation is the impact of **repeated interaction**. Repetition or ‘iteration’, as it is often termed, has been found to dramatically increase the prospects for cooperation (Taylor 1976; Axelrod 1984). Repeated interaction helps to mitigate the defection / enforcement problem in two ways. Let us first discuss the rational-choice mechanism before turning to other repetition-based effects.

From the rational-choice perspective, repeated interaction creates a ‘shadow of the future’, under which actors’ incentive structures change. The key mechanism in this regard is the Tit-for-Tat strategy (Axelrod, 1984). Under this strategy, players mimic the move made by their counterpart in the previous round. Thus, if Player A cooperates in the first round of the game, but Player B defects, A will defect in the next round. Players can thus sanction non-cooperation by their partners, and more importantly, the expectation of such behavior exists. The conclusion is not just that repeated interaction *can* lead to cooperation, but that cooperation becomes the rational strategy even in situations where it would be irrational in a one-off running of the same game. Thanks to the foreknowledge of repetition and the shadow of bargaining with the same counterpart(s) in the future, actors cooperate even if the rational egoist assumption is upheld.

It is difficult to overstate just how central the rational-choice perspective on repeated interaction has become to the international cooperation literature. The optimism prompted by these findings led Koremenos et al. (2001, pp. 764-765) to the conclusion that, “The density of contemporary international interdependence creates repeated interaction that makes cooperation feasible. In brief, the possibility of cooperation is present in most international issues”. Nevertheless, the applicability of the repeated interaction findings to crisis situations can be questioned. Koremenos et al. raise this issue explicitly, arguing that because crises produce immediate incentives that overwhelm longer-term considerations, they constitute an exception to the general rule on transaction density and repeated interaction.

Fearon (1998, p. 270) notes that “States have to care sufficiently about future payoffs” and must “expect that future interactions are likely enough for the threat of retaliation to deter cheating”. Intuitively, it seems reasonable that these preconditions would be less fully met in crisis situations than in other international cooperation settings. Expectations of future interactions may be greatly decreased by the unique nature of major transnational crises.²³ Still, it seems – theoretically – doubtful that the shadow of the future disappears entirely in crisis situations. After all, why would the EU have assembled considerable transboundary crisis management capacities over the last 15 years if there were no expectations of future interactions in this policy area?

²³ Oye (1985, pp. 12-13) lists three preconditions. Two of these – a low discount rate (i.e. valuing future payoffs) and the expectation of continued interactions – match those of Fearon. Oye’s third prerequisite – “payoff structures must not change substantially over time” – is, according to the author, “in practice, quite restrictive”. It may be especially restrictive with regard to transboundary crises.

In addition, we know that repeated interaction between actors can lead to the development of norms and social conventions that facilitate cooperation. At the extreme theoretical endpoint, repeated interaction over a prolonged period of time might lead to the development of a common identity among actors that would radically shift their preferences and thereby expedite cooperation. This notion is visible in Beck's (2008) discussion of the cosmopolitan state (see also Russett & Sullivan 1971, pp. 851-852; Wendt 1994). Less far-fetched – at least at the moment – is the reasoning that repeated interaction could prompt the development of community norms (e.g. cooperative crisis management).

Similarly, Ostrom has explained how trust (in the context of trusting others to reciprocate) can develop over time and facilitate successful commons management (Poteete, Janssen, & Ostrom 2010, pp. 226-227; cf. Wade 1988; Baland and Platteau 1996; but see Hooghe, 2005). Empirical research has shown, for instance, that repeated interaction between professional bureaucrats in the EU (COREPER) fueled a socialization process. As a result, actors were better able to understand each other's problems and operating constraints, thereby facilitating a problem-solving approach in cases where hardcore intergovernmental bargaining might otherwise be expected (Lewis 1998, 2003).

All this suggests that

H7: regions and/or policy sectors that are more tightly integrated and in which actors have more experience working together on crisis management, should do better in terms of producing cooperative responses to transboundary crises.

Studying collective action in the face of transboundary crises: Towards a phase model

How to explain the emergence of transboundary crisis management cooperation? Our review of the collective action literature suggests that countries in principle do not want to contribute to a joint response unless it is in their interest. Everything needs to be aligned. But it can and does happen. This may happen through some random process, somehow producing a similar set of interests and perceptions across the board. Alternatively, some types of crises may force this alignment. Or some type of mechanism must be put in place to coax collaboration.

The literature explains how difficult it is to get rational actors to cooperate, even under routine circumstances. But when there are certain mechanisms in place, countries may not choose to “free ride”. We will treat this as our point of departure.

Our literature review produced a set of insights that together begin to outline the prospect of international collaboration in the face of transboundary crisis:

- *The more countries are involved, the harder it gets*
- *The more politicized a crisis (and its solutions) is back home, the harder it will be to work with other countries*
- *But the presence of coordination and enforcement mechanisms may help to bring countries together*

- *Relatively deep integration and interdependence in the policy sector(s) struck by a transboundary crisis, and accordingly high exit costs, facilitate cooperation*
- *As does the availability of a feasible solution*

The hypotheses set out above allow us to theorize and test whether certain types of crises are more or less likely to trigger a joint response. Building on these insights, we can formulate a phase model that describes the steps towards the initiation of transboundary crisis management:

- A shared understanding that a problem exists: the likelihood of a movement towards a shared crisis response increases if there is a shared perception about the urgent nature of a threat.
- A shared understanding that states under threat cannot solve the problem alone. We assume that the transaction costs of joint action will only be assumed if an individual state cannot deal with the problem by itself (without back-tracking on international commitments).
- A shared understanding that collaboration between states is necessary. We assume that that the transaction costs of joint action will only be assumed if there is a belief that shared joint action can lead to an effective and legitimate solution of the crisis. The costs of not-joining should be high.
- The availability of a process that enhances and facilitates transboundary crisis management collaboration. We assume that the willingness to work together is more likely if transboundary collaboration is facilitated by some type of international institution with proven capacities.

Conclusion: Towards empirical testing

The literature reviewed in this paper explains why international cooperation often proves so illusive (there are many factors that impede it).²⁴ It also suggests that the international collective action problem will be even harder to overcome in the midst of complex crises, which are so often characterized by divergent exposure, politicization, and cause-solution uncertainty, and for which the ‘repeated interaction’ effect may be less helpful than for other policy problems.

And, yet, empirically it is clear that the EU member states are responding cooperatively to some transboundary crises and building crisis management capacities in their aftermath. In this sense, there is cause for optimism: there may be a road forward that leads to regimes in policy sectors affected by transboundary crises which will facilitate or perhaps even encourage collaborative crisis responses. One goal of this paper and the broader researcher project it spearheads, is to help identify the mechanisms that may play this role. Gaining a better understanding of the process(es) through which cooperation emerges during some transboundary crisis responses will hopefully equip decision-makers with the knowledge to influence these processes and improve the effectiveness of responses to these types of crises. Of course, at this point, these are nothing more than theoretical niceties – the next step is to test the model developed in this paper.

²⁴ Some studies have even pessimistically concluded that international cooperation is paradoxically most likely to occur in those situations which demand it the least (Zürn 1992, as cited in Hasenclever et al. 1997; Barrett 1999, p. 520; Boin et al. 2013).

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