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Understanding Crisis-Induced Change in Global Governance: The Diplomatic Management of the Global Financial Crisis of 2008-2009

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Abstract

This paper seeks to open the “black box” of how global crises such as the global financial crisis lead to change in global governance institutions. It finds that current approaches to institutional design and crises are inadequate in explaining change under crisis conditions as they fail to take into account the centrality of uncertainty by reducing it to risk. Therefore, it draws on complexity theory and collective intentionality to develop the concept of crisis by focusing on causal and ontological uncertainty. It then combines them to propose a dynamic sequential model that traces the causal chain of crisis-induced pressure on global institutions and outlines a set of conditions that make successful crisis management more likely. Finally, the model is applied empirically to the diplomacy of the global financial crisis and to the adjustments made to international financial institutions during the crisis management period. Overall this article demonstrates that understanding the exact causal pathways and conditions under which crises can drive change in global governance is a promising research area.

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I. Introduction

The Global Financial Crisis (GFC) is undoubtedly one of the marking events of the early 21st century. Its scale and spread provided a "stress test" for global economic governance, as the demand for such structures to "perform effectively is at its greatest during crises" (Drezner 2012:1). The GFC led to a 1.3% contraction in global GDP, with a 7.5% contraction of real GDP in advanced economies in the fourth quarter of 2008 alone (IMF 2009:xv), and a 9% drop in global trade, the biggest trade contraction since World War II (WTO 2009), putting an abrupt end to a period of relative global prosperity. Asset values plummeted, with losses of $27 trillion in 2008 alone (Lund et al. 2011:2). The scale of the shock naturally spurred global institutions into action; however, in the process of crisis management these very institutions were transformed in terms of governance, resources, and roles, with lasting consequences. Thus, the G20 summit and the FSB emerged as central actors in global economic governance, whilst the IMF and the WTO rediscovered their crisis management roles.

One is easily tempted by the firsthand impulse to attribute such crisis-induced developments to the imperatives of the particular situation, leaving much of the study of crises to historians. Yet, the institutional transformations during the GFC are just the latest in a clear pattern, which suggests that "the notion of global governance has always been intimately linked to that of crisis" (Broome et al., 2012:3). The carnage of World War I led to the creation of the League of Nations, the failure of which in turn led to the emergence of the UN after World War II. The mistakes of the Great Depression led to the Breton Woods conference and the eponymous set of economic institutions. The string of financial crises since the 1970s led to the appearance of the G7 in 1975, the financial G20 in 1999, and finally the G20 summit in 2008, among other institutions. Overall, the "turbulence of world politics" (Rosenau 1990) during the second half of the 20th century has been accompanied by feverish institutional creation to deal with collective problems engendered by accelerating globalization.

Yet, even if these facts are widely known, and particular instances are well-researched, there is a curious lack of theoretical generalizations behind the type of requirements crisis situations put on global governance's crisis management functions. Global governance in 'normal' times presents "regulatory mechanisms in a sphere of activity which function effectively even though they are not endowed with formal authority" as opposed to government institutions (Rosenau 1992:4). Thus, through interacting routines at the ideational, behavioral, and political-institutional level, governance provides order through intentionality. However, a crisis represents a period of *disorder*, which in turn places certain pressures for crisis management on global institutions in the particular domain. This crisis 'flipside' of global governance is often 'blackboxed' or treated in a purely descriptive manner, as is also the case with the GFC despite an otherwise voluminous literature on its causes, long-term consequences, and appropriate responses. This gives rise to a set of questions: What pressure did the dynamics of the GFC put on global governance institutions? In turn, how did they handle the associated crisis management requirements? How were they transformed in the process? In short, why did we witness the particular institutional changes in the particular order that we observed?

Therefore, this paper provides a theoretical model of how global crises such as the GFC lead to global governance transformations. In particular, it traces the process through which crisis dynamics put specific pressures on institutions and how these institutions respond during crisis management. Thus, it focuses on how are institutions chosen, when and how are they amended/created, and how do they behave and interact – all under crisis conditions.

Methodologically, therefore, it takes the presence of a crisis as an independent variable affecting global governance. However, global governance is a broad notion, including a set of formal and informal regulatory processes, regimes, and institutions, both in the private and in the public sphere. Consequently, this paper examines one of the most visible and central aspects of global governance, namely global institutions. This is especially appropriate in crisis situations in which much of the established order is put under stress, but where 'the buck stops' with global institutions.

However, even if the unit of analysis is restricted for practical purposes, the core insights of the global governance approach are preserved. Thus, this paper seeks to understand the systemic pattern of crisis management engendered by multiple interactions between actors rather than focus on any single actor. Furthermore, the level of analysis remains the global one rather than comparative national or regional responses to the GFC (Gourevitch 1986). Finally, and most importantly, it emphasizes*processes* of governance of a broad economic area, i.e. the behavioral patterns through which order is achieved intentionally rather than restricting itself to the analysis of institutional features (Neumann and Sending 2006, Dingwerth and Pattberg 2006). This is best accounted for through a diplomatic perspective, which focuses on "decisions and interactions during the crisis itself" rather than the structural factors (Richardson 1994:3). Thus, in the case of the GFC, one should focus "not on the measures adopted, but on the new processes of decision-making and negotiation that emerged from the financial crisis" (Bayne 2011:193, cf. Okano-Hejmans 2011:27-29). This shift from who the actors are to what their actions are therefore requires an explanation which is systemic in its analysis, global in its scope, and diplomatic in its approach.

Such an investigation into the influence of crises on global governance institutions makes several analytical, theoretical, and practical contributions. First, it provides an analytical framework to understand the causal process through which a crisis such as the GFC ultimately leads to global governance transformations, focusing on the often neglected process of crisis management. Additionally, it also makes a theoretical contribution to the literature in three ways: first, it develops the concept of crisis beyond its traditional IR connotation of conflict between states by highlighting the crucial role of different types of uncertainty, thus making it applicable to a wide range of crises, including the GFC; second, it provides an explicit causalmodelin place of the often descriptive accounts of the relationship between crises and institutional transformations; and finally, it contributes to the literature on institutional choice and design by drawing its attention to its limitations in situations of crisis. Finally, there are policy implications about what is needed to successfully manage global crises, a topic of particular relevance to events such as the GFC. Overall, research on the role of crises *in* global governance is likely to be a useful addition to the ever more voluminous literature on the crisis *of* global governance (for recent contributions, see Bremmer 2012, Goldin 2013, Hale et al. 2013).

In order to unpack the 'black box' of the causal chain between crises and institutional change, this paper proceeds in three steps. First, it briefly reviews the current literature on institutional choice and crises in IR, but finds out that the first is plagued by a misguided conceptualization of the nature of uncertainty under crisis conditions, while the second presents a much too narrow conceptualization of the phenomenon, which is inapplicable to the GFC. Therefore, in the second part, the thesis brings in existing research on complexity and collective intentionality to propose that crises are characterized by interrelated systemic and symbolic dynamics. This conceptualization opens the way to theorize the process through which crises affect global governance institutions by focusing on two key types of uncertainty, causal and ontological. Finally, it demonstrates empiricallythe spike and management of causal and ontological uncertainty through a network of institutions during the GFC. What follows are concluding remarks.

II. Approaches to Institutional Choice and Crises: Worlds Apart?

The previous section raised the question of how global governance institutions are affected by crisis conditions such as the GFC. There are two natural sets of literature to respond to this question: the one on institutional choice, design, and interaction, and the other on crises in IR. This section reviews each of them in turns and finds both of them wanting on different grounds. Thus, institutional choice approaches fail to account for the uncertainty impact of crises; however simply borrowing the notion of crisis from IR proves impossible due to its erstwhile association with security issues.

a. Institutional Design, Choice, and Interaction:

The associated rise of complex interdependence and multilateral institutions in the latter half of the 20th century has led to an emergence of an extensive literature broadly characterized by the use of rational choice models (Krasner 1983, Axelrod 1984, Keohane 1984, Oye 1986). In this perspective, institutional design is seen as reflecting the rational decisions of international actors to select institutional features that will further their own goals in resolving certain common problems. Therefore, institutions are "explicit arrangements, negotiated among international actors that prescribe, proscribe, and/or authorize behavior", thus providing "rational, negotiated responses to the problems international actors face" (Koremenos et al. 2001:762,768). Recently, research has moved away from official attributes and into processes of governance and informal organizations (Stone 2013, Lipson 1991, Snidal and Vabulas 2013).

While institutional *design* has been the primary focus of rational choice approaches, Jupille and Snidal focus on how actors choose the particular institutions through which to act; institutional *choice* therefore "becomes the dependent variable to be explained in the context of alternative options" (2005:2). For them international actors operate under a relaxed assumption of bounded rationality in deciding whether to use a focal institution, select another, change an existing one, or create a new arrangement; these decisions depend on the costs, the institutional status quo, and the nature of the cooperation problem. The result can often be forum shopping in spheres such as trade litigation, regulatory initiatives, and human rights (Busch 2007, Drezner 2007, Hafner-Burton 2004).

The limited scope of institutional choice and design approaches which consciously "look at individual institutional arrangements in isolation" (Koremenos et al. 2001:796), has prompted others to focus more broadly on how institutional interaction shapes international politics, known as international regime complexity (Aggarwal 1998, Raustiala and Victor 2004, Keohane and Victor 2011). This approach takes as a starting point the proliferation of various parallel, nested, and overlapping regimes in an anarchic international sphere with no final authority and seeks to tease out its causal consequences for state behavior. Blending complexity and regime theory, they emphasize that "understanding units does not sum up to the whole" and that "to think in terms of international regime complexity is to study interactive relationships and analyze how the whole shapes the pieces" (Alter and Meunier 2009:15,21). As a result, states' choices are affected by the different available institutions leading to chessboard politics. In short, therefore, such works direct our attention to how global institutions interact to 'do' global governance collectively and respond to the need for a more systemic perspective.

Yet, the fruitful explanations these approaches provide for institutional design, choice, and interaction assume equilibrium conditions and are therefore not transposable to situations such as the GFC. 'Normal' times present favorable preconditions for functionalist accounts, such as strong instrumental orientation, long time horizons, improbable unintended consequences, and opportunities for learning (Pierson 2000:495). The GFC, however, presents all but the reverse mirror of such conditions – an immediate threat of financial meltdown, short time frame, unclear consequences of policy actions such as expansionary measures, and limited chance for revision. Consequently, in crisis situations uncertainty, just one single variable among others in rational choice models, moves to center stage to become the key causal driver (Close 1979).

However, even if the GFC has provoked some institutional choice authors to put uncertainty in the driving seat (Snidal and Vabulas 2013), their narrow conceptualization of uncertainty remains linked to assumptions about equilibrium conditions, rendering the validity of the concept under conditions of crisis questionable. At the core of this problematic transposition lies the reduction of the notion of uncertainty to risk. To quote a representative definition, uncertainty is seen as "the extent to which actors are not fully informed about others' behaviour, the state of the world, and/or others' preferences" (Koremenos et al. 2001:778). These are effectually all problems of what Rathbun (2007) calls 'ignorance', or lack of information about an objective reality which can be rectified by more information and updating through international institutions[1]. This means that the situation is one where all possible outcomes are known, the probability of each one of them is weighted, interests are fixed, and the question is reduced to how most effectively to achieve the outcome which best 'fits' the interests. In this way, "the Rational Design framework seems to treat the nature of uncertainty as unproblematic and ends up as a conceptualization that effectively reduces it to risk" (Wendt 2001:1029). Such risk can be quantified on the basis of previous experience and observation of events and their frequency, severity and consequences (Jarvis 2011:299-300). In such situations rational decision-making and game theory can indeed be powerful tools to explain institutional choice, design, and interaction.

However, crises represent a collapse of the established order which leads to a fundamentally different situation in which, following Frank Knight's classic distinction, "uncertainty must be taken in a sense radically distinct from the familiar notion for risk…it will appear that a *measurable* uncertainty, or 'risk' proper…is so far different from an *unmeasurable*one that it is not in effect an uncertainty at all" (Knight 2001:201). During crises, situations of "ill-structured mess" (Mitroff et al. 2004), the very relationship between behaviour and reality is put in flux, leading to a sense of loss of control beyond the simple lack of information as "agents are unsure what their interests are, let alone how to realize them" (Blyth 2002:9). Thus, crises often lead to "warping of rationality" in decision-makers due to information overload, the influence of stress, group effects, and other structural and psychological features (Nicholson 1992:120-137). Furthermore, unlike risk, crises are highly unique situations, making it impossible to extrapolate routines from previous experience or form probability judgments (Beckert 1996:807). Hence, in such a situation actors face a different problem than factoring in all the variables in order to find the most efficient way to achieve their interests – namely, as established categories and beliefs collapse, they need to first *discover* what their interests are. In turn, this renders probability judgments and assumptions of 'given' interests problematic; hence "the equilibrium set of institutions to resolve a crisis is

[1] In the extreme version often found in realism this leads to fear from other states and dictates achieving more power as a way to reduce such uncertainty, making cooperation unlikely due to preoccupation with relative gains.

a moving target" as interests cannot be simply derived structurally (Blyth 2002:33-34). Thus, during the GFC knowing a state's position in the world economy was no longer sufficient to explain its approach to institutional choice as the very way the world economy functioned and was likely to function in the future was severely questioned as flaws were discovered in previous assumptions and ideas such as the efficient market hypothesis.

To summarize, rational choice approaches to institutional design, choice, and interaction are of limited value in approaching crises as they reduce uncertainty to risk and to just one among many variables. Explaining institutional transformation under such conditions therefore requires instead engaging in-depth with the central role of Knightian uncertainty such situations engender.

b. *International Crises:*

If rational choice approaches exhibit significant blindness to the specific influence of a crisis, a straightforward remedy would be to borrow from existing research on crises in International Relations. However, the complex nature of the phenomenon, the need for contextualisation, and the more normative focus on building resilience and preventing the emergence of a crisis in the first place mean that there is little agreement on a single definition. The transdisciplinary nature of the topic does not help either: "the crisis field is ill-defined, resembling a hodgepodge quilt of specialist academics that are scattered over many disciplines" (Boin 2004:167). Yet, an inquiry which takes crisis as its independent variable must be clear on what the concept entails.

The literature in diplomacy seems to be split between a decision-making and a systemic perspective. A prominent example of the first type of definitions is the one by Hermann (1969:414), who defines a crisis as a situation that threatens high-priority goals of decision-makers, presents a short time for response, and contains a high element for surprise; therefore, these approaches tend naturally to draw heavily on decision-making theories and psychology (George 1969, Hermann 1979). Thus, this perspective emphasizes the subjective and political nature of a 'crisis' -due to its social and perceptual character, a crisis is what decision-makers view as a crisis. Others, however, focus on systemic factors and define a crisis as a change in normal patterns of behaviour between states to which then decision-makers react (McClelland 1961, Young 1968). This definition focuses in particular on discontinuities and critical junctures.

There is nothing inherently preventing the integration of these two perspectives (McCormick 1978, Close 1979). Indeed, decision-making and systemic patterns influence each other in complicated ways. Thus, a change in perceptions to define a situation as a crisis most often would require some dramatic and threatening changes in a short span of time, leading away from a pattern of equilibrium. However, these changes are filtered through perceptual, psychological, and organizational, lenses and lead to decisions which in turn influence the dynamics of the crisis (Jervis 1982, Janis 1978). Also, there is nothing to necessarily restrict the scope of these two aspects, which makes them applicable to a wide range of crises. Therefore, it could be said that crises have a symbolic and substantive aspects which are mutually interrelated, but can for analytical purposes be treated as separate.

The problem, however, arises when one attempts to draw lessons for diplomacy from this research agenda, which is too narrowly focused on security issues to be applicable in other contexts. Traditionally, crises in IR are often limited to *international* crises with a military dimension *between* states; thus, the literature is focused on strategic interaction between states on the brink of war (Allison 1971, Lebow 1981, Brecherand Wilkenfeld1997). To the extent that they have focused on crisis management processes, they have again been almost exclusively focused on strategies and instruments for dealing with potential military conflict (George 1991, Wilkenfeld et al. 2005, Stein 2008). However, strategies such as coercive diplomacy, mediation, or limited escalation can be largely meaningless in the context of other crises, such as the GFC. In the economic context strategic state interactions are replaced instead by sensitiveness to market developments which shape the actors, positions, and alternative solutions to negotiations, to the extent that markets become endogenous to the very processes of economic diplomacy (Odell 2000:47-69, Bayne and Woolcock 2011:5).

Potentially, this lack of attention to economic dimensions can be rectified by turning explicitly towards the literature on financial crises. This would include the classic works by Fischer, Minsky, and Kindleberger, alongside research on bank runs (Diamond and Dybvig 1983), the financial accelerator (Kiyotaki and Moore 1997), and currency crises (Krugman 1979). Yet, a common thread in this literature is that it is not only squarely focused on financial aspects and thus not easily transposable, but also that it discusses almost exclusively the domestic and economic handling of a crisis (with the notable exception of Kindleberger's notion of 'international lender of last resort', itself transposed from the domestic context). Therefore, this literature would not be immediately applicable to an inquiry into the global dimensions of crisis management.

To summarize, in order to approach the question of how global governance institutions are affected by crises, this section first reviewed the established rational choice approach literature. Despite providing insights on institutional design, choice, and interaction, its applicability to crisis conditions was found wanting due to the way in which fundamental uncertainty is reduced to risk. It then turned to the concept of crisis in IR which, while identifying two key crisis dimensions, has largely failed to draw conclusions about crisis dynamics applicable beyond security issues. This therefore highlights the need to 'unpack' the concept of crisis and move up the "ladder of generality" (Collier and Mahon 1993) in order to tease out its dynamics in the context of global governance.

III. Theoretical framework: From crisis to crisis management: complexity, collective intentionality, uncertainty

By drawing on the general insight that crises have both symbolic and systemic aspects, this section develops a general model of global crisis management by placing uncertainty at the heart of a broader concept of crisis applicable not only to military conflicts, but also to the GFC. To this goal, it proceeds in three parts. First, it examines the systemic dimension of crises drawing on complexity theory and argues that it leads to functional, or causal, uncertainty. Second, it approaches the symbolic dimension of crises through the notion of collective intentionality, which opens the way to consider the role of fundamental, or ontological, uncertainty. In keeping with the need to focus on processes, each of these parts first presents the theoretical tools before then drawing implications about 1) the onset of crisis, 2) the type of uncertainty, and 3) the requirements placed on global governance institutions. Finally, it puts the two dimensions together into a dynamic model of crisis-induced change.

Before proceeding, however, a more precise definition of global crisis is needed. Drawing on the overview above, a global crisis can be described a situation at which both systemic and symbolic aspects are present at the global level, leading to a spike of Knightian uncertainty. A failure in a crucial systemis not enough by itself; it has to be symbolically interpreted as a crisis (Blyth et al. 2007). Equally, the system needs to be global in scope, the shock needs to be worldwide, and the system must provide something of value to global governance. Such systems cover global security arrangements, the global economy, the environment, world health, the internet, and others. The crisis management function of global institutions is to reduce this uncertainty and return the situation to a new 'normal' by providing the two necessary ingredients for governance: "order plus intentionality" (Rosenau1992:5).

a. Systemic Aspects: Complex Systems and Causal Uncertainty

The way theories of institutional choice are able to reduce uncertainty to a much narrower conception related to risk stems from their implicit assumption that they are studying simple systems. This view, grounded in the rationalism stemming from the Scientific Revolution, emphasizes the independence of the observer, who studies direct and linear relationships between cause and effect (Mercay and Borrie 2006:132-136). Such systems are closed and composed of a limited number of components, whilst macro patterns can be extrapolated linearly from the characteristics of the different micro components behaving independently. Given that interests are assumed to be objectively derived from structural positions, studying these components in isolation is both viable and worthy. The main approach is to vary one independent variable holding everything else constant as any ensuing changes in the pattern would logically be the result of such variation; furthermore, any time this independent variable is present it will always have the same effect. Thus, the nature of these systems makes it possible for them to be modelled through rational and game-theoretical approaches. Any uncertainty in such systems is due to lack of information about intentions, strategies or resources of actors rather than about ends-means relationships or interactions. A classic example would be the many models studying the interactions of a limited number of nuclear states (Schelling 1966)[2].

Because of their scope and severity, however, global crisis cannot be reduced to situations of risk as demonstrated and generally occur in what is known as "complex systems". Such systems are characterized by a large number of agents, multiple interactions ('integrative complexity'), and high interdependence ('tight coupling') (see table 1). To use a scientific definition, such systems are "composed of many parts that interact with and adapt to each other and, in so doing, affect their own individual environments and, hence, their own futures. The combine system-level behaviour arises from the interactions of parts that are, in turn, influenced by the overall state of the system. Global patterns emerge from the autonomous but interdependent mutual adjustments of the components" (OECD 2009:5). To put it differently the presence of multiple and highly interdependent micro components means that macro patterns cannot be extrapolated from characteristics of individual components. Instead, the multiple interactions between adaptive agents suggest system properties emerge in unpredictable ways – even very simple rules at the individual level can have unpredictable results at the system level. Furthermore, these systems are characterized by numerous *feedback loops* between interacting agents which amplify or dampen the effect of changes; therefore, changes in such system are disproportionate and unpredictable, or *non-linear* (Kavalski 2007:437-441). In short, the key idea is that due to complex interactions between interconnected agents, collective behaviour is not just linear extrapolation of individual behaviours.Such insights have made significant inroads in IR (Cederman 1997, Urry 2003, Whitman 2005, Harrison 2006) and have been applied by many prominent figures in the field to various topics such as cooperation, conflict resolution, international history, globalization

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[2]Though note that such strategic models conveniently often abstract away in their analysis the potential for human error or miscalculation as beyond the realm of what can actually be studied. Yet, as Sagan (1993) has demonstrated, such error is significant part of empirical reality, increasing the probability of 'normal' accidents

(Axelrod 1997, Jervis 1997, Bueno de Mesquita 1998, Snyder and Jervis 2003, Rosenau 2003)[3]. They have highlighted that the methodological individualism of rational choice approaches is insufficient in addressing dynamics in complex systems as modelling the behaviour of a single state and using this as the basis to predict patterns of institutional choice clearly pertains to the realm of simple systems.

Table 1: Characteristics of different types of systems:

	Simple systems	**Complex systems**
Number of agents	Limited	Multiple
Relationship between components	Mainly independent	Highly interdependent
Type of change	Linear	Non-linear
System patterns result of…	Micro-behaviour	Emergence
Type of uncertainty	Lack of information	Unintended consequences

Such systems, characterized by complex interactions and tight coupling, are prone to crisis, or what Perrow (1984) calls 'normal accidents'. Thus, two or more failures, small by themselves, interact with each other, leading to pattern in which an increasing, or positive (in a non-normative sense), feedback takes the system away from equilibrium conditions. In turn, if delays and slack are not possible, then tight interconnections between system components mean that such failures quickly spread, leading to system-wide "contagion". Global crises similarly usually start with a local disturbance which quickly cascades to global dimensions due to numerous interaction effects and the increasing interdependencies and fragilities brought by globalization (OECD 2011:11-22). Thus, the very fact they have reached global proportions suggests numerous interactions and feedback effects which national systems were not able to contain and which produce a significant threat, calling the attention of all stakeholders.

The nature of crises in complex systems induces causal uncertainty as crisis managers struggle to understand how their actions can lead to the intended effects. The extent of such cause-effect uncertainty is pervasive: "uncertainty is the norm and apprehension the mood" (Rosenau 2003:208). This is a result of the fact that multiple components, non-linear interactions, and multiple feedback patterns make system-level behaviour next to unpredictable (Friedman 2012, Tetlock et al. 2012). The overall effect is that unintended effects are often the norm, making functional action-consequence estimates hard to perform (Kavalski 2007:441). In turn, this highlights the need to revise the assumption of uncertainty-as-risk underpinning institutional choice. Thus, a broader vision of more fundamental uncertainty is needed, which recognizes that "interconnections can defeat purposeful behaviour" (Jervis 1997:18), which is at the core of rational approaches.

These dynamics of complex systems in crisis have important implications for how global governance institutions should reduce causal uncertainty. The crucial difference with simple systems is that order cannot be imposed on a complex system, but has to *emerge* from within it; attempts to impose order on actors are likely to backfire due to multiple second-order effects (Jervis 1997:258-291). What is needed instead first is decentralization in order to both improve the flow of information to crisis managers and to allow for adaptive self-organization to emerge, including through the use of open communication and best practices

[3] For a more comprehensive review of this literature, see Kavalski 2007:442

(t'Hart et al. 1993, Lehmann 2011). The second key function of global institutions is to provide knowledge and advice based on their expertise in order to lessen confusion about cause-effect relationships (Rathbun 2007:548-549). Finally, if resources permit, they can also play a more 'brute' role by countervailing the cascade of destabilizing positive feedbacks through negative feedback effects to reduce fluctuations from equilibrium conditions.

The extent to which global governance institutions will perform these functions successfully depends on several conditions. First, decentralization will only be effective if new information is taken into account and acted upon by crisis managers. Second, the thicker the institutional environment, the larger the chance that institutions with the appropriate knowledge and expertise actually exist. Finally, global governance institutions need obviously dispose of sufficient resources to play a role in stopping positive feedbacks.

In short, a crisis can be understood as a period of heightened complexity in which a significant threat needs to be addressed in a short time. Thus, the leading dynamics are ones of causal uncertainty, which require flexible behaviour and knowledge of the implications of acting in a system. This is consistent with the IR literature on crises, but allows for examination of crisis dynamics arising from structural changes in various fields, not just security[4].

b. *Symbolic Aspects: Collective Intentionality and Ontological Uncertainty*

If the systemic perspective above is focused on managing the 'brute facts' of the crisis and providing the 'order' of global governance, the human-centric aspect of IR crises requires that it is complemented by a recognition of the social nature of reality. This can be done through the second, political-symbolic perspective, which attempts "to map out how crisis managers and the rest of us make sense of the crisis" (Boin 2004:167). The cognitive aspect of this process is well-researched and understood in the literature on crisis decision-making (George 1969, Levy 1992, Mintz 2004, Janis 1982). However, its focus is on shortcuts affecting the perception of an objective but confusing reality, such as heuristics, ideological blueprints or historical analogies (Jervis 1976,Tetlock 1998,Khong 1992). Instead, the political-symbolic aspect of crises indicates a deeper "breakdown in the familiar symbolic frameworks legitimating the pre-existing socio-political order" (t'Hart 1993:39). Therefore, 'governing' a crisis requires establishing new principles of order through various communication tools; the crisis itself becomes an exercise in interpretation, as the framing of its causes and consequences will inform decisions about the actions that need to be taken.In short, the 'brute forces' of the crises need to be narrated socially (Hay 1996).

Symbolically, therefore, a crisis represents a collapse of routines, which are a crucial precondition for human action. Routines provide regularity to social life at the price of taking many questions off the table. Thus, they provide stable understandings of identity, which allow for links between means and ends, which in turn enable human action (Mitzen 2006). A crisis significantly challenges these routines, leading to ontological uncertainty. This idea draws from constructivist scholarship, which suggests that there is no intrinsic meaning to human actions, but that it is instead socially constructed (Wendt 1999). Thus, in order to reduce uncertainty, domestic and international societies "generate shared meanings, which are then reflected in normative rules that constitute identities and interest and define appropriate behaviour" (Rathbun 2007:549). The interaction between social norms and identity lead to shared, or intersubjective, meanings. It follows from this that when these

[4]Indeed, they've been so far largely used in approaching security issues as well (Bernstein et al. 2000, Kavalski 2008).

shared expectations are challenged severely as a result of a crisis there is a need to provide guiding principles for appropriate behaviour.

If a crisis challenges the legitimacy of current norms, then managing the crisis is necessarily an exercise in legitimation of a set of new set of norms, which can only be articulated through collective intentionality[5]. Legitimacy requires the acceptance of something as right rather than its simple imposition. To the extent that this requires collective recognition, John Searle's institutional philosophy could be useful here (Searle 1995, 2011), especially given its fruitful application to global financial governance (Hall 2008). Searle points to the existence of deontic powers, that is, rights, duties, obligations, etc. that arise from collective recognition of status functions. These create institutional facts which are based on constitutive rules of the form "X counts as Y in context C" serving to create the reality they are regulating (for example, the G20 satisfies conditions X which means it counts as 'crisis committee' Y in the context of the GFC, C) (Searle 2011:10). Overall, this leads to the "creation of a reality by representing it as existing" (Searle 2011:93). Such status functions are only made possible by the collective intentionality underpinning their collective assignment. In a crisis situation thus collective intentionality speech acts serve to determine the problems, outline a future reality without them, and sketch a way to bring the world in line with the words. The symbolic dimension of crisis thus presents the intentionality inherent in the idea of global governance.

The question, however, remains as to what processes can be used to 'govern' the symbolic dimension of the crisis, identified as the challenge of delegitimation and ontological uncertainty. Mitzen (2011) has proposed that governing in global governance can be conceptualized as collective intentionality based on two components. First, joint commitment bounds the participants to each other and to the goal, i.e. "participants must both act consistently with the intention and be recognized by fellow participants to be doing so" (Mitzen 2011:58). Second, commitments need to be public, which provides both necessary information on particular commitments and implementation and a way to share authority over the collective intentions.

Using this framework, crisis management can be seenas the expression of collective intentionality in practice through joint and public commitments. Overall, the symbolic dimension exerts centralizing pressure on global governance institutions as norms are more likely to be agreed successfully by a smaller number of actors. Yet, to be successful, these norms require that actors achieve a consensus through deliberation rather than the simple imposition of a preferred set of norms. Finally, to actually 'do' crisis management, these actors will need to assign through speech acts status functions and associated deontic powers to global institutions to 'fight' various aspects of the crisis.

In turn, the effectiveness of symbolic crisis management depends on three key factors. The first is a shared awareness of a crisis; thus, the more actors are simultaneously affected in a deeper manner by one and the same crisis, the greater the awareness would be. Second, the acceptance of the new norms depends on their legitimacy – hence the more representative the deliberating body, the more effective the new norms are set to be, with multilateral fora particularly useful for 'containing' the instability of communicative arguments and streamlining the much needed consensus (Mitzen 2005). Finally, if a crisis becomes

[5]This is not to suggest that all crises lead to substantial changes, but that norms in the wake of the crisis need to take the crisis into account, thus becoming 'new' to at least a minimal degree even if they are just a defense of the (challenged) status quo ante.

discursively linked with historical memories of previous crises, this can provide 'lessons' and serve as a focal point for making 'sense' of the current troubles. .

In short, the symbolic perspective sees a crisis as a destabilizing shock to routines, which leads to ontological uncertainty regarding the norms and identities which constitute order. This ontological uncertainty requires legitimizing a new set of norms through assigning status functions by collective intentionality. Again, while consistent with scholarship on military crisis (Mitzen 2006, Mitzen and Schweller 2011), it can also be used to examine crisis dynamics more broadly.

c. Putting the Two Dimensions Together: a Sequential Relationship

Having elaborated the two crisis dimensions, defended their applicability, and traced the links between crisis, uncertainty, and institutional requirements, it is now necessary to present the model as a whole by focusing on how the two dimensions interact.

In relation to theories of rational institutional choice discussed above, the conceptualization of crisis presented here relies on a notion of uncertainty which, both in its causal and ontological dimensions, goes beyond the idea of risk embodied in current approaches. Such crisis uncertainty is more fundamental as the very relationship between 'objective' reality and behaviour is problematized. In such situations heuristics, logics of appropriateness, and norms are needed to stabilize reality and make action possible (Heiner 1983, Mitzen 2006). Furthermore, uncertainty in human systems is also inherently social and intersubjective as acting involves taking into account as much as possible the expectations of others and creating shared understandings; therefore it's not simply a question of more information or a better 'ability' to manage uncertainty (Best 2008:364).

Even if causal and ontological uncertainty are both fundamental types of uncertainty, it is important to highlight their differences in order to better understand their relationship. Causal uncertainty arises from the non-linear behaviour of complex systems which make it next to impossible that purposive behaviour leads (only) to its intended effects. Ontological uncertainty, however, relates to how such behaviour is socially constructed through norms and identities which provide routines, a necessary ingredient for human action in the first place (Rathbun 2007:545-552). A crisis signifies the collapse of a set of routines and therefore requires an exercise in legitimation of a new set (even if it's just a return to the status quo ante, they still need to take into account the criticism).

The relationship between the two dimensions is logically sequential: a crisis spreads through a 'normal accident' in a complex system, which leads to a breakdown in practices that used to work 'well enough', leading to a spike of causal uncertainty. In turn, the collapse of cause-

Dimension	Problem	Type of uncertainty	Crisis management requirements
Systemic dimension	'normal accident' spreading through global interconnections	Causal: Hard to know what actions would have what effects	• Improve information flows through decentralization • Expert knowledge of interconnections in order to know how to act • Countervail the cascade of positive feedback effects
Symbolic dimension	Collapse of routines; Delegitimation of norms	Ontological: Extreme indeterminacy of appropriate actions	• Centralization in order to forge legitimate new norms through deliberation of key actors • Assigning status functions and deontic powers to deal with the crisis

effect relationships leads to ontological uncertainty about the norms underpinning the routines. When the two ingredients are present, the situation can be described as a crisis. Crisis management then requires collective intentionality in order for key actors to come together and legitimate of new norms; this is done through joint and public commitments in institutions with common goals, which are broadly representative, and which are then assigned particular deontic powers through speech acts. These norms then need to be 'pushed out' by such institutions as new self-organizing principles of the given complex system in which the crisis occurred. Overall, the crisis response needs to be conceived of as holistically as success ultimately is "judged by whether the Titanic hit the iceberg" and not by what actors on the bridge were doing (Wendt 2001:1023).

What are the implications for global governance institutions based on this process story? In response to a crisis, they are looked upon to reduce Knightian uncertainty primarily through providing knowledge of causal effects and by acting as forums to legitimize certain new norms and routines. The extent to which they are successful in performing these uncertainty reduction, either through formal amendments or informal changes in practices, depends on a set of factors: the willingness to allow expert input, the 'thickness' of the institutional context, the presence of resources; the scope (geographical and temporal) of a crisis, representativeness of deliberative bodies, and previous experience with similar crises. Yet, the two roles are in tension as the first function implies decentralization in order to improve knowledge of the particular situation, whilst the second function highlights the importance of centralization in agreeing successfully upon a set of norms. Thus, an important aspect of crisis management becomes how institutions, in their interactions, will manage this tension.

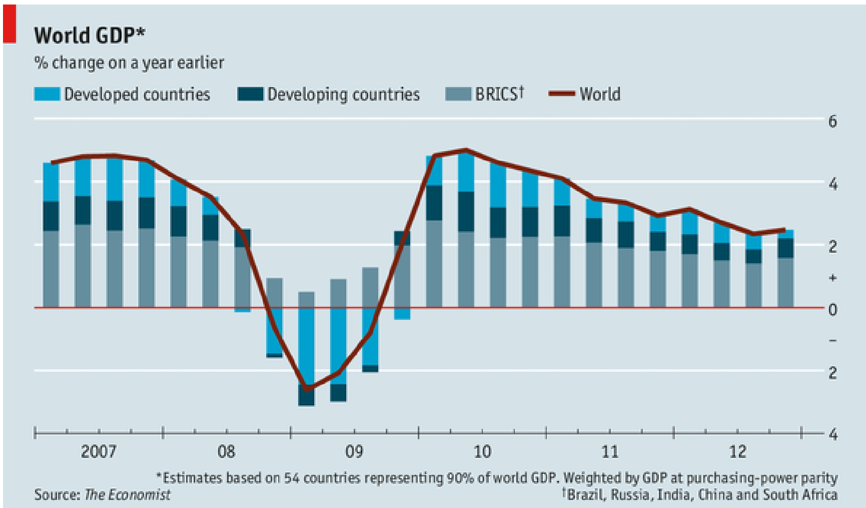
To summarize, drawing on the literature on crises in IR, this chapter has sought to push forward the concept by highlighting its dynamics. Thus, it argued that crises have two main dimensions: a systemic one and a symbolic one, which can be understood through the notion of complex system behaviour and collective intentionality respectively. Consequently, global governance institutions managing such crises need to deal with the causal and ontological uncertainty which flow from these dynamics. In turn, this puts pressure on global governance institutions to perform their roles of knowledge providers and norm legitimizers, while the extent in which they are successful in this depends on a set of exogenous factors.

IV. The GFC – Managing Causal and Ontological Uncertainty

After sketching a theoretical model that opens the 'black box' of the relationship between crises and global institutions by focusing on uncertainty, this section empirically demonstratesits applicability to the GFC.Such a "hypothesis-generating" single case study[6] design is particularly appropriate for process tracing studies as it allows for an in-depth empirical demonstration of the causal mechanisms (Bennett and George 2005). Meanwhile, the sequential examination of a causal chain also serves as a way to provide some intra-case variability. Of course, this involves certain tradeoffs such as increasing the risk of selection bias and limiting generalization, tasks to which quantitative approaches are somewhat better suited. However, the impact of the GFC makes such a case inherently important to study, while the presence of both a global crisis and institutional transformations provides an opportunity to test the extent to which the model correctly specifies causal mechanisms.

[6]This approach is common in IPE and is behind such landmark works as Kindleberger's (2011) study of the Great Depression (Odell 2007).

The GFC, as any other crisis, had three phases – pre-crisis prevention, crisis management, and ongoing post-crisis recovery. The focus here is squarely on the middle period of acute crisis, in recognition of both its importance for subsequent evolution (Archer 2009) and the fact that the 'big bang' institutional changes actually occurred during this period. This period began with the emergence of the full-blown global crisis following the collapse of Lehman Brothers in September 2008 and receded in mid-to-late 2009 as the GDP collapse bottomed out (Figure 1). G20 leaders started talking about a "transition from crisis to recovery" and "a sense of normalcy" (G20 2009b), while "a period of extreme systemic uncertainty began moving into the realm of bad and fading memory…risks were calculable again" (Pauly 2009:956). In addition to focusing on the crisis management phase, for reasons of space this section also focuses on tracing the changes in the G20, the FSB, the IMF, and the WTO – the key global economic governance institutions, leaving aside similar transformations in World Bank structures, BIS, and the Basel Committee on Banking Supervision, as well as private



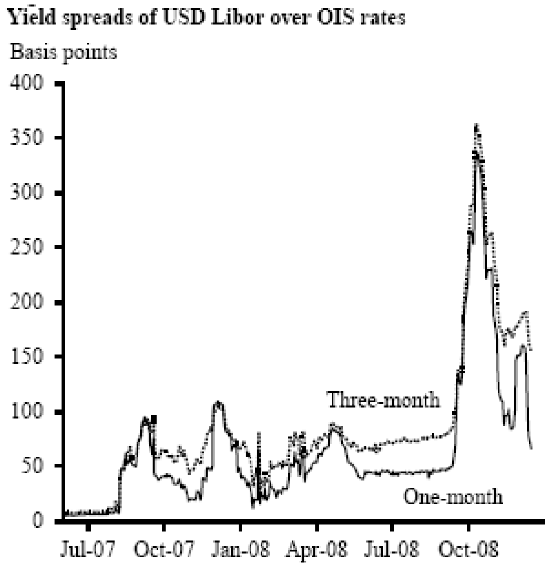
standard-setting bodies such as IOSCO and the IASB.

(Figure 1: World GDP growth; source: Economist, 2013)

The GFC as a 'normal' accident in a complex system and causal uncertainty

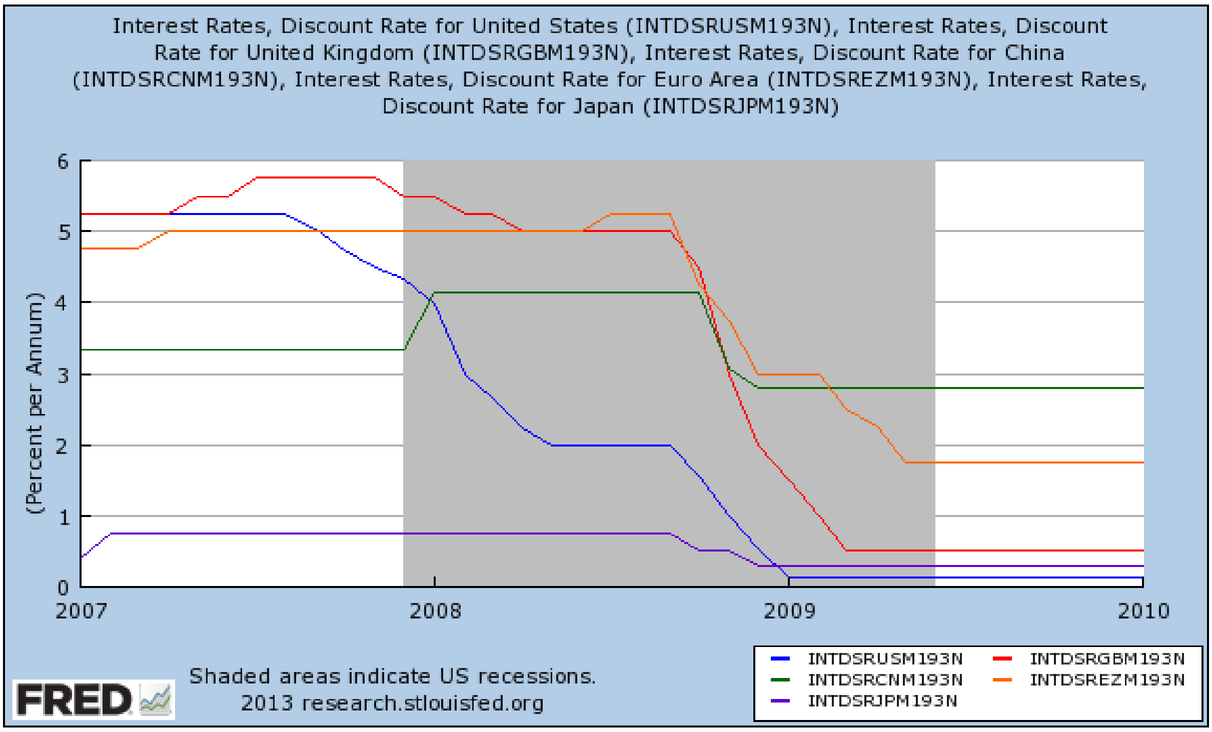
It was hypothesized that a crisis exists when there is both a systemic and symbolic dimension leading to uncertainty. On the systemic side, a crisis is understood as a 'normal accident' in a complex system spreading through global interconnections. Such dynamics are easy to see in the GFC which began with problems with U.S. subprime loans, but quickly cascaded to the whole of the U.S. housing market and consequently banking sector, real economy and, eventually, world economy. In this scenario, the role of exploding ratios of leverage, the use of off-balance sheet entities, and the development of securitization through collateralized debt obligations (CDOs), OTC derivatives, credit default swaps (CDS), and other poorly-understood "weapons of financial mass destruction" in the words of Warren Buffett (BBC 2003), was central. The causes of the crisis, from artificially low interest rates, global imbalances, inadequate risk models and capital requirements, and misaligned banker incentives through to structural inequality, debt-fuelled consumption, and desire to expand home ownership (Rajan 2010) were equally multifaceted and interacted in unforeseen ways, confirming Jervis' aphorism that "you can never do merely one thing". Indeed, the crisis is often seen as caused by policies aimed at increasing home ownership among poor buyers, but the use of GSEs for this purpose led to a string of unintended consequences, from attracting hot money flows from Asian central banks to loosening the lending requirements for mortgages. Economists have also explicitly applied the tools of complexity to the genesis and development of the GFC (Gai et al. 2011, Caballero and Simsek 2009).

The ensuing causal uncertainty is well-illustrated by two of the hallmarks of the initial policy response. First, the decision to eventually let Lehman Brothers fail assuming that its relatively small size and well-known difficulties have prepared the markets for such an outcome had a much more deleterious effect. Instead, the sheer number of counterparties and the impossibility of valuation of assets in a situation where the market for housing has essentially disappeared caused uncertaintyto spike as banks simply knew neither how trustworthy their counterparts were nor the extent of their own exposure to 'bad debts'. Thus, the Libor-OIS spread, a traditional measure of volatility representing the difference in the rate banks are willing to lend to each other (LIBOR) as opposed to the central bank rate (OIS), spiked to an all-time high of 364 basis points, more than 35 time its historical value (see Figure 2).



(Figure 2: Federal Reserve Bank of San Francisco, 2009)

A second example is the very limited direct impact of extensive central bank efforts coordinated through the BIS (Bayne 2008, cf. Wessel 2009). Central banks aggressively cut down interest rates, and even provided liquidity through quantitative easing in certain



countries; this was done in a sharpand strikingly coordinated manner, which was supposed to amplify the effect (see Figure 2). The expected overall impact was for banks to start lending again, overcoming the 'credit crunch' and spurring growth in the real economy. Instead, banks conscious of the likelihood of continuous period of cheap money in a disinflationary environment chose to deleverage, undermining the policy effect. More generally, there seems to have been a lack of understanding of not only regulation and risk, but also general links between global finance and the real economy.

(Figure 2: Interest Rates Movements, 2007-2010, Source: Federal Reserve Economic Data)

The GFC as a collapse of routines and ontological uncertainty

There was however also a corresponding symbolic dimension to the GFC. A crisis arises when such a normal accident in a complex system cannot be corrected through better information alone and leads to a collapse of routines and delegitmation of norms – necessary elements for both cognitively 'capturing' the social world and preconditions for action. The most significant 'cognitive punch' delivered by the crisis was its origin in a (supposedly) sophistically regulated financial sector of a developed country. Much of the previous crises in the 1980s and 1990s, such as the Mexican financial crisis and the Asian financial crisis were blamed on the 'crony capitalism' of governments in developed countries. The 'cure' therefore was to bring their financial systems in line with the West based on numerous standards and backed by IMF conditionality. Yet, the fact that the crisis occurred in the heart of the private sector of a financial superpower meant that the previous 'script' of resolving global crisis cannot be followed. A second important 'punch' was delivered to the idea of the efficient market, and the associated faith in self-regulation. The apparent failure of key private regulation institutions such as Value-at-Risk models embedded in Basel II requirements and the ‘gatekeeper’ role of credit rating agencies prompted rethinking of the role of public authority in regulatory regimes. Overall, much of the self-congratulatory narratives such as Ben Bernanke’s ‘Great Moderation’ were thrown in sharp relief.

This ‘collapse of intersubjective expectations’ following Lehman’s bankruptcy (Talbot 2011) naturally led to ontological uncertainty regarding the appropriate norms on which to base new routines. Even the ‘maestro’ of central banking and free markets, Alan Greenspan, admitted a “flaw” in the model and said that “those of us who have looked to the self-interest of lending institutions to protect shareholders’ equity, myself included, are in a state of shocked disbelief” (Andrews 2008). A key question emerged – if markets could not be trusted to adjust automatically, how can the global financial system be stabilized? This raised a number of interrelated questions which needed quick answers. First, in light of the weakness of the United States and the seeming irrelevance of the IMF, it was unclear who would play the crucial expected role of international lender of last resort (Kindleberger 2010). Second, there was uncertainty about the role of public authority, not only to the extent to which it can claim to comprehend and thus regulate a complex system such as finance, but also to potential slumps to economic nationalism and protectionism. Another example of this ontological uncertainty can be seen at a national level, where central banks debated the adequacy of focusing solely on inflation targeting as opposed to promoting employment in times of economic slumps. In short, the beleaguered Washington Consensus all but disappeared.

Managing the GFC: Legitimizing new norms through collective intentionality

It was hypothesized that the failure of previous routines and the ensuing spike of ontological uncertainty puts pressure on global governance institutions to provide an ‘instruction sheet’ for crisis response (Blyth 2003) so that ‘appropriate’ action in accordance with ‘rational interests’ can be taken. In practice, therefore, institutions need to forge legitimate new norms and assign status functions to institutions through joint and public commitments.

The emergence of the G20 summit, at least in its role as ‘crisis committee’ in its first three meetings in Washington, London, and Pittsburgh (Cooper 2010), was indeed a response to pressure for a legitimate deliberative body to provide such ‘instructions’. Prior to the GFC, there were many disparate forums for global economic governance; however, the crisis exhibited strong centralization pressure towards the creation of one common, yet representative forum. Thus, the relatively successful financial G20 was elevated to a summit just as the sharp economic downturn was beginning in the last quarter of 2008, becoming officially the “premier forum for international economic cooperation” in 2009 (G20 2009b). Thus, the G20 acted as an ‘apex policy forum’ which deliberatively crafts consensus about what the global financial architecture should be and set objectives and priorities (Baker 2010). Its legitimacy in its new role was doubly enlarged by the infusion of political accountability of national leaders as well as the enlargement of membership towards the emerging countries. As such, the G20 leaders now represented two thirds of the world population, 85% of world GDP, and 80% of world trade (Broome 2012:16) - a fitting response to criticism of exclusivity and declining relevance faced by the G8 (Germain 2001, Drezner 2007). Moreover, the pressure for more legitimate forums in the wake of their failure to prevent the financial crisis was channeled through the G20 to the other key IFIs. Overall, these institutions strengthened the presence of underrepresented members, and especially the voice of BRIC countries: the IMF agreed to a 5.4% shift in quotas (IMF 2008); there was a 4.59% shift in voting power in the IBRD and 6.07% in the IFC (World Bank 2010); FSF membership was increased twofold to comprise all previously non-represented members of the G20 (FSB 2009).

Following these structural transformations, the G20 communiqués did indeed deliver the expected joint and public commitments to serve as normative guides in three key areas: macroeconomic policy, financial reform, and resisting protectionism. On macroeconomic policy, the Washington summit reached an agreement that countries will "use fiscal measures to stimulate domestic demand to rapid effect" (G20 2008) despite German and Chinese reluctance at the time; indeed, between the first two G20 summits, countries increased commitment to fiscal stimulus by up to overall 1.8% of GDP (Cooper 2010:741). This commitment was furthered in London, when countries declared "undertaking an unprecedented and concerted fiscal expansion…necessary to restore growth", and in Pittsburgh, where it was agreed countries needed to "continue to implement our stimulus programs…until recovery clearly has taken hold" (G20 2009a, G20 2009b). On financial reform, the first Washington summit opened with a joint pronouncement on the roots of the crisis, followed by an explicit set of Common Principles for Reform of Financial Markets in response[7]. At London, "Strengthening Financial Supervision and Regulation" was again discussed along with particular commitments[8]; at Pittsburgh "Strengthening the International Financial Regulatory System" was again a central part[9], albeit of a much more crowded agenda. Finally, the G20 was also vocal on resisting protectionism from the first Washington meeting, which included and explicit Commitment to an Open Global Economy, reaffirmed in London with specific references to the WTO under the banner of "Resisting Protectionism and Promoting World Trade and Investment", and again in Pittsburgh under the headline "An Open Global Economy" (G20 2008, 2009a, 2009b).

Finally, the G20's collective intentionality was also demonstrated by its assignment of deontic powers to other global governance institutions through its speech acts, or what can be referred to as governance through government networks (Gstohl 2007). Thus, from Washington onwards leaders clearly put the IMF in the driving seat by stressing its "important role in crisis response" (G20 2008) as evidenced by the fact that G20 communiqués devoted by far the most attention to it in terms of delegation and references. The second institution which received much attention was the financial-oriented FSF, now transformed into the FSB in London. It was tasked alongside the IMF to "work to better identify vulnerabilities, anticipate potential stresses, and act swiftly to play a key role in crisis response" (G20 2008). Finally, the WTO was often referred to in the context of resisting protectionism, both in pledges to refrain from "implementing WTO-inconsistent measures" and in relation to its the capacity to "monitor and report publicly" on adherence to these pledges (G20 2008, 2009a).

In short, the emergence of the G20 was a key institutional outcome of the pressure for a legitimate apex forum where collective intentionality can operate. Such intentionality was then expressed through joint and public commitments, which produced a set of norms to guide the policy response. Finally, the G20 collective intentionality underpinned the assignment of status functions through which the norms were 'pushed out' to other more specialized and less overtly political global governance institutions, producing in turn transformations in their behavior.

Managing the GFC: 'Doing' crisis management in a complex system

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[7] The principles for the reform of the financial sector included: strengthening transparency and accountability, enhancing sound regulation, promoting integrity, reinforcing international cooperation, and reforming IFIs.

[8] The focus shifted to issues of prudential regulation, the scope of regulation, compensation, tax havens, CRAs and accounting standards.

[9] Key objectives now included building high-quality capital, mitigating pro-cyclicality, reforming compensation practices, improving the OTC derivatives market, and addressing cross border resolution.

If the G20 provided a set of norms to guide the crisis response, it was left to the IFIs to actually carry out these 'instructions'. Following this reduction of ontological uncertainty, it was assumed that 'knowledge' institutions will take central stage in reducing causal uncertainty in the complex financial system through providing policy advice, facilitating information flows regarding interconnections, and stabilizing, or negative, feedbacks. This section demonstrates how the IMF, the FSB, and the WTO responded to these stimuli and the way their response transformed them.

- *The IMF: Rediscovering Crisis Management*

The institution most dramatically affected by the GFC was the IMF, which after years of declining relevance and resources[10] was thrust center stage as the international lender of last resort responsible for countervailing the crisis through negative feedback in the form of loans. Initially, crisis management was handled through finance ministries and central banks; the IMF's 'phoenix' only rose *after* the G20 assigned it a central status (Joyce 2013:1). The G20 equally provided the resources for such expanded action by tripling the Fund's reserves to $750,000 billion at the London summit, prompting its managing Director Strauss-Kahn to declare that "the IMF is back" (Walker 2009). During the crisis period between November 2008 and mid-2009, the IMF signed 25 new loan agreements, among which several with middle-income and European countries such as Hungary, Ukraine, Romania and Iceland (Woods 2010:58). The need for IMF resources clearly outweighed any considerations of the previous "stigma" attached to it (Broome 2012:17). Overall, as these loans were accompanied by IMF recommendations, this also highlighted the way expert policy advice was expanding its influence through Article IV consultations with borrowers, as well as more broadly through annual reports such as World Economic Outlooks and Global Financial Stability Reports.

Beyond the provision of stabilizing negative feedbacks, the IMF also played an important role as a facilitator of self-organizational processes. Its flexible response during the GFC represented a "significant break form its policies during previous global financial crises" (Joyce 2013:2). Thus, a new Short-Term Lending Facility was set up to provide "quick-disbursing financing for countries with strong economic policies that are facing temporary liquidity problems" (IMF 2008a), followed by similar lending facilities with low conditionality such as the Flexible Credit Line and a Precautionary and Liquidity Credit Line. Its shift away from austerity measures, a larger acceptance for countercyclical policy, and recognition of the role of social spending were already reflected in its loans to Pakistan and Latvia (IMF 2008b, IMF 2009). Capital control liberalization was no longer insisted upon unconditionally by IMF staff (Ostry et al. 2010). In this way, the IMF shifted from trying to impose an order on complex systems such as the financial one to providing resources in a flexible manner.

- *The FSB: The Newcomer*

The other significant crisis-induced transformation is undoubtedly the emergence of the FSB as "in effect a fourth pillar"(White House 2009) of the international financial architecture out of the relatively obscure FSF. Indeed, on the one hand its mandate includes expert functions, such as assessing vulnerabilities, conducting early warning exercises, and assisting cross-border resolution of systemically important firms. On the other hand, it also covers

[10] In 2007, just 12 new lending agreements were agreed, 10 of which with poor members with no other access to financing (Joyce 2013:1). Meanwhile, the IMF was having financial difficulties itself and lying off staff to cover the shortfall (Woods 2010:53).

information flow functions such as promoting coordination, monitoring markets, and generating best practices[11]. Its small staff and lack of resources to intervene in financial markets meanwhile render the criteria of negative feedback inapplicable.

In terms of expert advice, the FSF/FSB played a key role in setting the debate on global financial regulation. In particular, its April 2008 report, in the works for a number of months, was crucial. The report itself presented the underlying weaknesses and causes of the GFC, before going on to make numerous recommendations on capital requirements, risk management, OTC derivatives, off-balance SIVs, CRAs, and the role of regulators and central banks (FSF 2008). What is most striking however is the extent to which these recommendations informed the bulk of the Washington G20 summit communiqué in November 2008 (Helleiner and Pagliari2009). Following this, the FSB carried on producing reports on implementation and standards, which put it in the center of global economic governance due to the demand for technical knowledge of the complex nature of financial regulation, particularly as the importance of macroprudential regulation grows (Baker 2012).

The FSB was also fairly successful in facilitating information flows. Here, the highlight was making the FSAP mechanism compulsory for 25 systematically important countries, including the United States and China, and putting the FSF in charge of its peer review mechanism (Gnath et al. 2012:24). Despite concerns over smaller staff and impediments to 'straight-talking', this does put the FSB on par with the IMF in terms of providing information about the financial sectors of member states (Griffith-Jones et al., 2010). Finally, the FSB also carries out important work in compiling and diffusing key standards, thus allowing for self-organization of the financial system around accepted bottom-up principles[12].

- *The WTO: Resisting Protectionism*

During the management of the GFC the WTO also played an important role in terms of expert advice and facilitating the flow of information. Less discredited than the IMF, the WTO was nevertheless hit by the inability to finalize the Doha Round, which, however, quickly receded in memory as it too rediscovered its role as a bulwark against protectionism. In terms of expertise, the Dispute Settlement Mechanism based on WTO-accepted definitions of trade restrictions clearly provided an important role. An initial rise of protectionism reflected most clearly in the spike of antidumping cases in late 2008 and early 2009 (Gamberoni and Newfarmer 2009), led to widespread fears that countries will veer towards 1930s-style 'beggar-thy-neighbour' policies under political pressure (Ahearn 2009, Economist 2009); however, such fears have not materialized (Bussiere et al. 2011, Wolfle 2012). Indeed, the impact of protectionist measures in the first year of the crisis is estimated at less than 0.8% of global trade despite some concerns about undetected 'murky protectionism' (Ali et al. 2011:3, Baldwin and Evenett 2009), while the number of antidumping initiations receded quickly (Drezner 2012:6). There is a consensus that the WTO among other international institutions played a key role in mitigating the consequences of the GFC (Baccini and Kim 2012).

Additionally, the WTO also facilitated information flows through its surveillance capabilities. Having been explicitly tasked by the G20 to monitor trade measures during the crisis, attention to its Trade Policy Review Mechanism has risen. Pressure for more information on trade has led to the introduction of a new set of Reports on Trade and Investment Measures of the G20 jointly with the OECD and UNCTAD as general part of the use of transparency as a

[11] http://www.financialstabilityboard.org/about/mandate.htm
[12] http://www.financialstabilityboard.org/cos/index.htm

governance tool (Collins-Williams and Wolfe 2010). Finally, as the WTO does not dispose of resources to intervene on the financial markets, the negative feedback criterion is again inapplicable here[13].

Explaining the outcome: factors for success

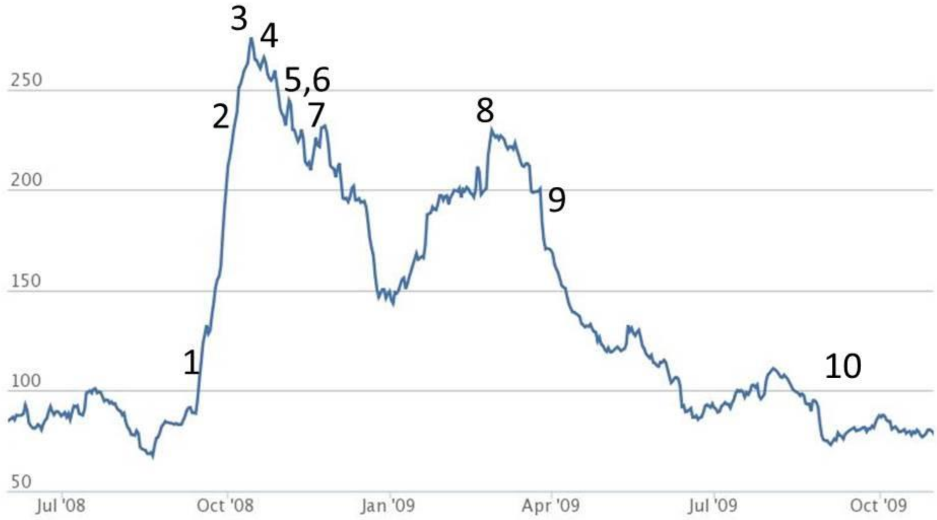
When considering the crisis management phase of the GFC, there is a broad consensus that global governance institutions performed very well (Drezner 2012, Broome 2012). Given that the scale of the crisis was at least commensurable with the Great Depression (Eichengreen and O'Rourke 2012) and that global financial crises tend to lead to prolonged downturns (Reinhart and Rogoff 2010), the short-term recovery has been remarkable despite significant and valid doubts at the time of the actual downturn (Altman 2009). The successful reduction of uncertainty can be demonstrated empirically by two standard measures of macroeconomic uncertainty: implied stock volatility in equity prices on the S&P 100 (Figure 4) and the media mentions of "uncertainty" and "economic policy" (Figure 5). They illustrate vividly both the spike of uncertainty during the crisis and its reduction following announcements of G20 meetings, financial ministerials preparing G20 summits, and actual G20 summits.

Figure 4: Chicago Options Volatility Index (S&P 100 VIX) – Jun 2008-Oct 2009

1. 15 Sept 2008: Collapse of Lehman Brothers
2. 3 Oct 2008: TARP announced
3. 22 Oct 2008: Bush announces G20 summit
4. 28 Oct 2008: IMF loan to Hungary
5. 4 Nov 2008: US Presidential Election
6. 6 Nov 2008: IMF Loan to Ukraine
7. 14-15 Nov 2008: Washington G20 summit
8. 14-15 Mar 2009: G20 financial ministers' meeting, London
9. 2 Apr 2009: London G20 summit
10. 24-25 Sept 2009: Pittsburgh G20 summit

[13] The important role the WTO and the FSB played despite not having formal resources as the IMF and the WB demonstrate that negative feedbacks can be useful, but not sufficient to manage a crisis.

Figure 5: Daily News-based Economic Policy Uncertainty, Jun 2008-Oct 2009
(Source: Economic Policy Uncertainty Index, http://policyuncertainty.com)



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This performance, at least at the global level, can be attributed to the presence of nearly all factors for success hypothesized earlier. Thus, on the systemic side, policymakers clearly took in expert advice from technocratic institutions, particularly the FSB. Furthermore, the ever-thickening institutional environment of global economic governance meant that there were a number of institutions to draw upon, even if some of their governance arrangements needed to be tweaked. Finally, states were willing to provide additional resources, such as more than $1 trillion pledged to the IMF and development banks in London. On the symbolic side, the incredibly synchronized collapse of capital and trade flows (Ferretti and Tille 2011, OECD 2010) created a 'crisis mentality' among all key actors simultaneously and on a global scale. Additionally, ongoing pressure from before the crisis period made institutions more willing to expand membership for legitimacy reasons. Another contributing factor was that the Great Depression readily presented itself as a parallel with instructive consequence of certain policies (Samman 2012). Overall, the combination of top-down delegation of tasks and deontic powers and the bottom-up provision of monitoring compliance provided a creative way to manage the tension between norm-induced centralization and the decentralization required for better information flows.

Nevertheless, the process was not perfect and certain important issues were not resolved. Discussions of a key contributing factor to the GFC - global imbalances and exchange regimes, particularly in relation to the underappreciated Chinese renminbi, were simply not reflected in communiqués and actions. From a systemic perspective, this omission reflects reluctance by states to accept IFIs expertise on monetary policy viewed as a sovereign prerogative, coupled with lack of understanding of how exactly imbalances influenced the financial system and whether this influence was benign or not. On the symbolic side, the fact that China was among the least hit countries and the often muted high-level discussion of the issue before the crisis were obstacles to its inclusion in the crisis management response.

To summarize, the crisis dynamics of the GFC led to the expected transformations in global economic governance institutions and provide tentative support for the validity of the sequential model presented above. The GFC originated and spread as a 'normal' accident in the complex system of global finance, leading to causal uncertainty; in turn, this undermined many of the routines and beliefs underlying governance arrangements, leading to ontological uncertainty, and thus to a crisis situation. Crisis management was first carried out symbolically through the G20 in order to reduce ontological uncertainty by providing a set of legitimate norms, or 'instructions' about how the system should be governed and assign crisis management duties to other institutions. These institutions, especially the IMF, the FSB, and the WTO, then stepped in to mitigate the causal uncertainty of the crisis. In the process, all were transformed by the dual pressures for performing a mix of intellectual and normative tasks.

IV. Conclusion

This paper sought to examine how the dynamics of global crises lead to transformations in global governance institutions during the crisis management phase. In light of the limits of rational models of institutional choice and narrow conclusions of IR research on crises, it put crisis-induced uncertainty at the centre of the explanation, deriving a sequential model theorizing the causal mechanisms linking crisis dynamics to institutional change. Crisis management proceeds from the need to reduce through knowledge and norms the causal and ontological uncertainty engendered by the systemic and symbolic dimension of crises. The process unfolds in four sequential steps: 1) a 'normal' accident in a complex system changes the 'brute facts' and engenders causal uncertainty, which in turn leads to 2) a collapse of routines and ensuing ontological uncertainty, which initiates the crisis; in turn, the response requires first that 3) new norms are legitimized through collective intentionality and 'pushed out' through interaction characterized by a tension between centralization and decentralization to the institutions which 4) perform the actual crisis management based on expertise, information flows and resources. Finally, the validity of the model was preliminary tested empirically against the case of the GFC and the ensuing transformations in key global economic governance institutions such as the G20, the IMF, the FSB, and the WTO.

This model has important implications beyond conventional debates about the trade-offs between legitimacy and effectiveness in global governance. First, following one would expect that global crises lead to enhanced roles for forums for legitimate deliberation at the global level, putting in particular pressure on institutions to expand their membership and produce joint and public commitments. Additionally, *following* the provision of normative 'instructions', attention should be directed to how effective expert institutions are in facilitating information flows and providing policy advice, and the necessary adjustments in their roles, resources, and governance that this entails. Throughout, a central question is how the tension between (normative) centralization and (systemic) decentralization is managed. Overall, these dynamics contribute to our understanding of why institutions tend to become 'sticky' and expand, at least during times of crisis.

However, there remain significant areas for further refinement of the model. One promising area is to focus on understanding better how variation in the factors for success affects the extent to which transformations will actually occur in response to crisis-induced pressure. Additionally, variation in how successfully the tension between centralization and decentralization is managed is also likely to affect the outcome in particular ways. Another area of potential research is to look more closely at the sequential mechanisms to understand better how the failure of crisis prevention shapes crisis management which in turn locks in certain patterns of crisis recovery. The tipping point at which a 'normal' accident in a complex system leads to a collapse of routines is also worthy of particular attention. A particularly promising avenue to explore is the effectiveness of spending resources on administering negative feedbacks, versus the more 'low-cost' but potentially more crucial functions of the facilitation of information flows and provision of expert advice. Finally, overcoming the methodological challenges to incorporating the role of private actors and informal institutions in the model would be a major advancement in providing a more complete picture of crisis dynamics.

Overall, the model proposed here aims to begin opening up the 'black box' of the causal processes through which crises have historically shaped and will continue to shape change in global governance. The GFC serves as a useful reminder to both the persistence of crises despite human progress and to their power to transform an ossified international architecture. To be sure, crises are not the only source of transformation, and changes in the distribution of power or global norms undoubtedly also affect global governance. Nonetheless, within its focus on the global level and on the crisis management phase, the model proposed here is a first step down the road of a fuller understanding of the dynamics of crises which also comprises the original notion of an opportunity for positive change.

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