Disproportionate Policy Response by Design:
Towards a Conceptual Turn[*]

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Abstract

Since the U.S. response to 9/11 and the federal response to Hurricane Katrina, there has been increasing interest in the concept of disproportionate policy response and its two component concepts—policy over- and underreaction. These concepts are viewed by traditional policy theory as unintentional policy mistakes. This paper highlights a conceptual turn whereby these concepts are re-entering the policy lexicon as types of intentional policy choices. This turn forces policy scholars and policymakers to ignore the negative connotations associated with these concepts and to recognize instead the repertoire of disproportionate policy response and, at times, its success in achieving policy goals. The paper elaborates on this theoretical advancement and concludes by identifying five areas that offer promising possibilities for future research in this subfield: definitional foundations, micro-foundations, levels of analysis, temporality and dynamism, and process research.

Key Words: Disproportionate policy, Overreaction, Underreaction, Crises, Rhetoric, Doctrine

Introduction

The punctuated equilibrium theory suggests that policy responses oscillate between periods of underreaction to the flow of information coming from the environment into the system, and overreaction due to disproportionate information processing (Jones and Baumgartner 2005a). This theory is the bedrock of our understanding of the policy process: We know it is right. But, although we know it is right, there is a great deal in this theory that remains unasked and thus unanswered. For example, the punctuated equilibrium theory implies a relatively high level of policy underinvestment or underreaction but has little to say about policy overinvestment or overreaction (Jones, Thomas, and Wolfe 2014, 146). My view on understanding the next layer of policy reality is derived from the assumption that some of these policy punctuations are a manifestation of intentional policy over- or underreaction. As leverage, I therefore pose the following question: What patterns of policy over- and underreaction emerge within and between policy punctuations?

This paper takes stock of recent studies that present a revolutionary idea: that under certain circumstances, disproportionate policy response may be intentionally designed, meticulously debated, implemented as planned, and at times, successful in achieving policy goals (Maor 2017a; 2017b; 2018; forthcoming; Maor, Tosun, and Jordan 2017). Policy over- and underreaction (Maor 2012; 2014a) are both concepts anchored within the umbrella term of *disproportionate policy response*, which is typically understood to be "a lack of 'fit' or balance between the costs of a public policy and the benefits that are derived from this policy, and/or between a policy's ends and means" (Maor 2017a, 384). This term should not be confused with disproportionate policy outcomes which represents outcomes which are not equally distributed. In other words, a policy may be disproportionate in cost-benefits terms although its outcomes may be equally distributed amongst different segments of society. Numerous examples of policy over- and underreactions have been presented elsewhere (Maor 2012; 2014a; 2017a; 2017b; 2017c). Suffice it to mention the decision made during the 2007-2008 financial crisis by the U.S. Federal Reserve, the Bank of England and the European Central Bank to follow Bagehot's (1873) rule that in a crisis the central bank should lend freely, at a high rate, and on good collateral (Bernanke 2014a, b; Draghi 2013a; King 2010).

The fact that the plausibility of the idea of *disproportionate policy response by design* has been established has two implications. First, the time has come to treat such a response as a

central issue in policy process theories. Scholars should be faced with the challenge to fully explain this complex phenomenon, the information systems that are used to support it, the communication environment that facilitates and sustains it, and perhaps most importantly, the rewards politicians and bureaucrats receive from implementing such a policy response. Second, it is a no-starter to evade this issue any longer by putting all disproportionate policy responses down to policy mistakes or errors, derived from disproportionate information processes (Jones and Baumgartner 2005a), cognitive and emotional biases held by policymakers (e.g., Janis 1989; Jervis 1976; Meyer 2016; Walker and Malici 2011), socio-psychological dynamics in small decision-making groups (Janis 1982; Mintz and Wayne 2016; 't Hart et al. 1997), issue complexity and lack of institutional capacity (Epp and Baumgartner 2017), as well as from flawed decision making processes in government (Allison and Zelikow 1999). By the same token, it no longer seems reaonable to assume that all disproportionate policy responses are bound to fail, even disastrously (e.g., Butler, Adonis, and Travers 1994; Moran 2003; Dunleavy 1995; Hood 1994). For these scholars, disproportionate policy by design does not seem to be a promising field of analysis and perhaps does not even merit academic attention. That is where this paper disagrees, taking a completely opposite stance by presenting an entirely new way of thinking about policy processes.

In this paper, the rationale for intentional disproportionate policy responses is presented. The theoretical value of the concept, what it adds to existing policy theories and what it adds to our understanding of policy processes is explored. Discussed in the process is the claim that, if we want to better explain the phenomenon of intentional policy over- or underreaction, maybe we need to go back to the drawing board and start to challenge some of the assumptions that we have been holding for the last few decades. Perhaps we need to start thinking deeply of other ideas in connection to other areas of science – most importantly in this regard, the emotional context of policy (e.g., Jones, Thomas, and Wolfe 2014; Maor 2014a; 2016), the emotional quality of policy ideas (Cox and Béland 2013), and the role of emotional entrepreneurs (Maor and Gross 2015; Maor 2017d) – that feed into the kind of questions we are asking here. Maybe we need to re-evaluate the emotional dimension of policy success (McConnell 2010) – for example, in terms of attempts by government to reduce policy and contextual risks (e.g., policy aimed at reducing panic and public fears) – as well as the emotional factors that feed into perceptions of successful performance.

Even if a convincing case can be made, one may contend that the measurement problem seems almost insurmountable. This claim is confronted here on two fronts. First, De Francesco and Maggetti (2017) have developed a framework to conceptualize, operationalize, and assess disproportionate policy responses from a cross-sectional perspective, and created a series of indexes to measure policy over- and underreactions among the EU member states that experienced the 2007-2008 banking crisis. In addition, advances in measuring the proportionality of judgment by using behavioral experiments have recently been recorded in the legal domain (Sulitzeanu-Kenan, Kremnitzer, and Alon 2016) and may equally be useful in the policy domain. Second, the difficulty of obtaining direct access to political executives in real time implies great obstacles in observing governmental decision-making leading to intentional disproportionate response. However, not only can we clearly observe its effects but we also have access to disproportionate policy rhetoric and doctrines (Maor 2017c; 2018), and thereby to policymakers' perceptions of the disproportionality (e.g., the overwhelming nature) of their policies before they are implemented.

The paper concludes by identifying five areas that offer promising possibilities for future research in the area of disproportionate policy response by design: definitional foundations, micro-foundations, levels of analysis, temporality and dynamism, and process research.

Disproportionate Policy Response as Unintentional Choice

Disproportionate policy response is comprised of two core concepts: policy overreaction or and policy underreaction (Maor 2017b). Policy overreactions impose costs without producing offsetting benefits (Maor 2012), and policy underreactions provide net utility (i.e., the difference between benefits and costs) which is smaller than a counterfactual net utility (Maor 2014a). One manifestation of policy overreaction (underreaction) is policy overinvestment (underinvestment) by governments, which occurs when they overinvest (underinvest) in a policy instrument beyond (below) its instrumental value in achieving a given goal (Jones, Thomas, and Wolfe 2014, p. 149). Because policy problems and solutions are often loaded with ideational and symbolic elements (e.g. Conlan, Posner, and Beam 2014; Schneider, Ingram, and de Leon 2014), different individuals and groups may perceive disproportionate policy response somewhat differently, and perceptions at one point may differ later as the magnitude of a crisis or policy problem becomes more apparent.

Policy process theories, such as system theory, public choice theory, advocacy coalition theory and multiple-streams theory do not examine the details of policy content or analyze policy characteristics (Schneider and Sidney 2009). Two approaches, however, touch on some aspects of proportionality in public policy: *incrementalism* fosters proportionality in public policy if policy problems change gradually (for example, Lindblom 1959); the *punctuated equilibrium theory* challenges this approach by advancing the policy oscillation thesis (Jones and Baumgartner 2005a). Let us elaborate on the latter approach because (i) it is currently the dominant policy-focused approach (Hacker and Pierson 2014) to understanding why governments do whatever they do, and (ii) its intellectual guideline – tracing attention to various policy priorities over time – sheds light not only on policy but also on politics more generally.

An important issue in policy analysis is the efficiency of policymakers in matching the intensity of their policies to the severity of the policy problems they encounter. The stream of research bearing on this key issue ─ agenda setting in the policy process ─ has been inspired by the imperfect match between the adaptive strategies people devise and the information they receive, resulting in people reacting disproportionately to information (Jones 2001). This inspiration draws on Herbert Simon's (1983) insight that the general oversupply of information in politics, for whatever reason, leads people to prioritize the evaluation of information in light of existing goals over searching for new information.

One of the key findings of traditional landmarks in agenda setting (Schattschneider 1960; Bachrach and Baratz 1962; Cobb and Elder 1972) as well as recent ones (Kingdon 1995; Baumgartner and Jones 1993) is the fundamental dynamics of stability and punctuations. This dynamic is manifested, among others, in policy agendas in the US, the UK and the European Council (e.g., Alexandrova, Carammia, and Timmermans 2012; Jennings and John 2009; John and Jennings 2010; Jones and Baumgartner 2005a, 2005b; Jones, Baumgartner, and True 1998; Jones et al. 2009; see also: Green-Pedersen and Walgrave 2014). Recent developments in macro-level agenda-setting have shown that limited attention spans in government, triggered by cognitive and emotional biases, and the resistance to policy change structured into a governmental system lead to underreaction, when the policy problem is "off the radar" and when rules for making binding decisions make change difficult. Conversely, these may lead to overreaction when the severity of the policy problem has passed some threshold (Jones and Baumgartner 2005a; Baumgartner et al. 2009). A recent addition to this empirical stream

includes a number of qualitative empirical studies that address various aspects of disproportionate policy response (Behn, Fauchald, and Langford 2015; Meyer 2016; Howlett and Kemmerling 2017; Gillard and Lock 2017).

A newly-emerging path in the study of overreaction comprises explanations that see decision-makers as being primarily guided by the "systematic properties of an interacting ecology" (March 1994). Such explanations aim at highlighting the independent effect of structures beyond what can be explained by behavioral political science as well as by behavioral organizational theory (Hammond 1986; 1990). Peters, Jordan, and Tosun (2017) have jumpstarted this research stream by highlighting the implications of the development of the new institutionalism in political science for the disproportionate policy subfield.

The study of the policy process is notoriously difficult. There are times that we understand what is going on in the policy system under investigation; it often happens when policy punctuations are very calm and tame. Policy process theories that were handed us a few decades ago (e.g., system theory, advocacy coalition theory and multiple-streams) could make sense of such moderate punctuations. At times, however, policy punctuations are wild and strong and this, in turn, may indicate that the policy world is much more complicated and counterintuitive than we ever really imagine it could be. Is it possible to gauge regularities when it comes to policy over- and underreaction? And if so, what patterns of policy over- and underreaction emerge within and between policy punctuations?

Although we have elegant theories of the policy process at our disposal, we may not fully understand some of them. To advance our knowledge, we may need to delve deeper into these theories, while keeping in mind that the possibility exists that these elegant theories may break down, for example, when trying to explain wild and strong policy punctuations. Jones and Baumgartner's (2005a, 147) idea, that "[p]olitical institutions impose costs on policy action in direct proportion to how far a policy proposal has proceeded in the law making process," may be less applicable during severe crises when policymakers' immediate response does not go through a legislative process. And even if it does, in times of extended periods of high threat and high uncertainty, the balance between order and other values (such as freedom) shifts to a considerable degree in favor of order – that is, the government's ability to deal with the threats to the national well-being (Gross 2011) and to 'bring things back to normal' (Boin and 't Hart

2003, 3). Consequently, a legislative process may bear relatively little cost on policy action due to swift legislative moves supported by both government and opposition.

Alternatively, to make progress, we may need to undertake a balancing act between increasing our theoretical understanding and finding out how to apply new conceptual insights to the research we are doing. Recent studies have advanced construct clarity by exploring the multi-dimensionality of policy over- and underreaction and have suggested that the two phenomena have unique politics of their own and should therefore be studied in their own right (Maor 2012; 2014a). But these studies together still subscribe to the conventional understanding which is centered on disproportionate policy response as policy mistakes or errors (e.g., Walker and Malici 2011). A substantial reason for this lies in the fact that efficient goal attainment is assumed (uncritically) by scholars in the field of policy analysis and evaluation, which deals with policy instruments and their impact (e.g., Weiss 1998; Williams 1998). Consequently, explanations in this field center around normal fluctuations (e.g., political cycles and cyclical policies), and the more we know about them, the more they are selected for further research. This positive feedback process results in knowledge regarding normal fluctuation being accelerated away from other fluctuation types. The challenge remains therefore to explain patterns of non-normal fluctuations – to which attention now turns.

The Disproportionate Policy Perspective

In a recent conceptual turn, the concepts of policy over- and underreaction have re-entered the policy lexicon as types of intentional policy choices (Maor 2017a; Maor, Tosun, and Jordan 2017), but the actual use of these concepts remains at an early stage. This conceptual turn has emerged in light of four lacunae in the new policy design orientation (Howlett 2014; Howlett and Lejano 2013; Howlett, Mukherjee, and Woo 2015). First, the new policy design orientation focuses on adaptive policymaking thereby treating policy over- and underreaction as risks rather than opportunities for politicians and bureaucrats. Second, this research stream revolves around efficient goal attainment, ignoring the possibility that this normative guideline may be subordinate to the goal of policy effectiveness. Third, the new policy design thinking revolves around designing policy solely for implementation purposes, ignoring the possibility that under certain conditions, disproportionate policy options (e.g., overreaction rhetoric and doctrines) may primarily be designed to be used as signals and/or context-setters. Fourth, this stream

distinguishes between the influence of symbolic frames on policy goals and the influence of cognitive aspects on choices of policy means, ignoring the revolution we are witnessing in how social and behavioral scientists think about how people think and reason. Most notably, the finding that thinking is suffused with feeling (Lodge and Taber 2013, 19; see also Cassino, Lodge, and Taber 2017) and that discrete emotions are strong predictors of policy support (e.g., Smith and Leiserowitz 2012, 2014).

Recent research has articulated a perspective which revolves around the idea that under certain conditions policymakers may face incentives to design and implement disproportionate policy which, at times, may be successful in achieving a policy goal (Maor 2017a). The fundamental strategies include policymakers' prioritizing policy effectiveness over policy costs (e.g., achieving a policy goal 'at-all-costs'), leading to the design and implementation of policy overreaction options, or cost-consciousness over effectiveness, leading to the design and implementation of policy underreaction options. Policy overreaction will be pronounced when the emotional context of policy (e.g., hysteria) may be equally, if not more, important than the substantive nature of the policy problem (e.g., in cases of suspected contagious disease). In addition, the disproportionate policy options may primarily be designed to be used as signaling devices or as context-setters (e.g., the use of policy overreaction rhetoric and doctrine to resolve issues related to the fragmentation of decision making).

This perspective represents a move away from the strongly normative fields of policy analysis and evaluation, which place efficient goal attainment center stage, and advances instead, a more nuanced analysis of disproportionate policy options and actions which is applicable during crisis and non-crisis periods. It directs attention to the policy dynamics at play when policy- over and underreaction options are designed and implemented, and to their consequences for policymakers, target audiences and the general public in the short and long terms.

Policymakers' Motivations

A strategic perspective of disproportionate response in politics and policy see decision-makers as primarily autonomous actors (Maor, forthcoming). When they stand to benefit from over- or underreacting, their decisions may be carefully thought out, carefully developed, meticulously debated, and executed as planned. Specifically, strategic explanations of policy over- and underreaction view decision-makers as boundedly rational individuals who, in some contexts,

may produce substantially rational outcomes (Simon 1985, 294). This may be the case, for example, when decisions involve high stakes, and when decision-makers are motivated to make the right choice (Chong 2013, 97). Strategic explanations thus bring to the fore the assumptions underlying bounded rationality that there is variation amongst individuals and contexts in decision-making processes and outcomes (Simon 1985; 1995). Because individuals differ in their motivations and opportunities to carefully process information, and because contexts differ in their complexity, individuals need not be consistent decision-makers (Lodge and Taber 2000), as rational choice theory assumes (Simon 1995). In policy contexts, this insight implies that decision-makers do not need to place efficient goal attainment center stage in every decision they take. Some individuals operating within particular contexts can, therefore, overcome (the "efficient goal attainment") bias (Lau, Anderson, and Redlawsk 2008) and make "rational"— read "reasonable" or "good enough"—disproportionate policy decisions.

Policymakers may be motivated to overreact in order, for example, to restore confidence in policy in a matter of days during crises involving panic and popular fears; to produce an overwhelming effect as an act of leadership; to abruptly shift the contours of public debate; to create and secure historical legacy, and to apply a grand strategy to policy problems and the public interest, especially over issues about which voters share a common preference, such as security and economic performance (Maor 2017a; 2017b). Motivations for policy underreaction include the wish of top political executives to engage in a surface-level attempt to change policy or to respond to uncertain risk projections (e.g., a slow-moving crisis) in a way that creates net social benefits under all future risk projections, with no or low costs and committed resources, and without involving hard trade-offs with other policy objectives (Maor 2017a; 2017b).

Economic considerations may lead to both types of disproportionate policy response (Maor, Tosun, and Jordan 2017, 602). For example, "policymakers may decide to deliberately enact stricter than necessary regulation to […] shield domestic firms from foreign competition […][[and] to overcome trade restrictions imposed on their industries […] [or they may underreact by] relocating their polluting industries to 'pollution heavens' in parts of the world where the environmental standards are less strict. This can induce governments to deliberately lower their standards to a level below what is possible given the available technology ('race to the bottom'), or to maintain their standards and not increase them further ('regulatory chill') […]" (Maor, Tosun, and Jordan 2017, 602).

Deliberate policy overreaction (or underreaction) may be inferred from a policy decision that is backed by a credibly large (low) amount of committed resources, is perceived by policymakers as an overwhelming (underwhelming) response, and is executed as planned. Key choices in the repertoire of a deliberate disproportionate response are policy over- and underreaction rhetoric and doctrine, as well as selective and non-selective policy overreaction (Maor 2017b, 2017c, 2018; forthcoming).

Policy Overreaction during Crises

Analyses of a policy system already in the throes of a broad panic and public fears reveals that the use of overwhelming power by governments to quell panics may be required in order to achieve a decisive and quick reduction in the uncertainty that is driving the panic. Overwhelming power is understood to be a credibly large amount of committed resources available to use with discretion during a crisis (Gorton 2015). The idea is therefore to use the overwhelming power of the state to cognitively and emotionally overwhelm the target populations in order to convince people that government backing is unquestionably sufficient to solve the crisis. Recent research into the US Federal Reserve's response to the 2007-2008 financial crisis has focused on the implementation of Bagehot's (1873) policy overreaction doctrine (Maor 2018), elaborated earlier. To follow this doctrine, $700 billion was allocated by the U.S. Congress in the framework of the Troubled Asset Relief Program. This move was successful in reducing the banking panic, and consequently, the Dodd–Frank Wall Street Reform and Consumer Protection Act reduced the amount available to address the crisis to $475 billion.

At the rhetorical level, a classic example of policy overreaction is Mario Draghi's (2012) statement that "[w]ithin our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough," as well as his reassertion of this commitment in order to shield the Eurozone from the 2013 surge in U.S. Treasury yield (Draghi 2013b). This statement is an example of a full-fledged policy instrument, termed *forward guidance*, which is used by central banks when communicating their future monetary policy. The choice here has been to formulate a broad, qualitaitve, and not well-specified statement (Draghi 2017) which, at the same time, is overwhelming, unconditional and easily understandable by market participants and the general public. Assessing its success, Draghi (2017) noted that: "The purpose of this forward guidance was protective, not proactive, and it succeeded. It succeeded contrary [...] to

everybody's expectations and assessments at the time [...] We are simple folks, we stayed with simple formulas and it worked."

Two policy overreaction options may be used across complex policy systems in times of crisis, especially during suspected tipping points. *Selective mechanisms*, such as stress tests for banks, separate those individuals or institutions in dire need from those who are not, thereby allowing policymakers to be selective in the use of overwhelming power. *Non-selective mechanisms* allow governments to provide resources for all individuals and institutions in need who come forward and seek assistance. This mode of policy overreaction is generally applied during natural disasters and other catastrophic events (Maor 2017b; 2017c).

The availability of a repertoire of disproportionate policy responses brings to the fore the need to manage such responses. For example, if elected officials wish to quell the hysteria of the general public by announcing that a mass vaccination campaign may immediately be implemented when there is justifying evidence (read, there is enough stock to immunize the entire population), they may use a 'put option' when buying the vaccinations. This enables them to make the announcement before justifying evidence exists, thereby reducing panic while maintaining the right to return a specified amount of vaccinations to the manufacturers and be reimbursed.

Policy overreaction becomes a predictable event, for example, once a crisis occurs and a policy overreaction doctrine (Maor 2017b, 2017d) is in place, as evident in the case of contagious diseases. When policymakers face the need to quell panic within the context of a blame culture, the consequence is that elected executives are subject to enormous and intense political pressure to do something in order not to be blamed for doing nothing. Such pressures lead them to adopt the current World Health Organization's doctrine of international response and containment — the main measure of which is border exit and entry screening—although this policy tool has been found to be ineffective at detecting infectious persons and involves intensive use of financial and health staff resources which could be used elsewhere for dealing with more pressing problems (Selvey, Antão, and Hall 2015). Still, when used, this policy has been successful in reducing panic and popular fears.

Policy Undereaction during Crises

Policymakers allocate finite state or federal resources in pursuing different goals, some of which are particularistic (Kriner and Reeves 2015) while others universalistic. Although policymakers will tend to frame their policies as proportionate, an additional layer of their motivations requires the recognition that sometimes they will pursue policies with an eye toward maximizing cost-effectiveness, but at other times, especially in an era of growing scarcity, they will prioritize aggregate cost savings over policy effectiveness. Consider, for example, policy intervention under conditions of uncertain risk projections. In this case, policy intervention may be guided by, as well as justified for, reasons of cost savings and cost avoidance, regardless of other objectives. To do so, policymakers may embrace two policy underreaction doctrines—no-regret and low-regret—according to which these measures taken ostensibly in response to uncertainty must realize other objectives (e.g., Maor 2017b).

For example, the UK government has adopted the no-regret doctrine in its approach to climate change adaptation, which focuses on increasing the nation's resilience to a range of possible futures. A government policy paper has revealed that most climate adaptations in the UK are justified on co-benefits and 'no regret' options (U.K. Department for Environment, Food and Rural Affairs 2005). This implies that any climate adaptation measure that yields benefits, even in the absence of climate change, is considered viable. In the area of flood preparedness, for example, practices such as rainwater harvesting to improve water efficiency and energy efficient devices to reduce waste heat provide net social benefits under all future risk projections. But these adaptation measures are not designed to perform optimally in any scenario of climate change because they are not tailor-made to address future climate variability and extremes. Indeed, policy underreaction has been evident as practices adopted have failed to deliver when projected climate change predictions regarding winter floods have materialized (Committee on Climate Change 2014).

Measurement

To prove conclusively that disproportionate responses have been chosen by design, rather than being a product of error, scholars should aim at demonstrating that (i) policy options are perceived by policymakers to be disproportionate, (ii) policy instruments are calibrated in a way that is highly likely to produce disproportionate response, and (iii) that the decision to design such options is carefully thought out, carefully developed and meticulously debated. Elite

interviews as well as content analysis of policymakers' rhetoric and doctrines may be employed to gauge policymakers' perceptions. Scholars may also adopt a social constructionist perspective to explain how policymakers engage in competition and meaning wars (Maor 2017e) over the criteria by which the proportionality of their policy response will be judged. They may analyze the content of policymakers' press releases and contrast it with the content of media coverage to show how policy criteria regarding the proportionality of outcomes have emerged and are challenged, influenced, and embraced by policymakers, target groups and the general public.

Objective indicators that scholar could rely on when gauging policy calibration include reliable indicators of the severity of the policy problem and data regarding policy investment. Attention should also be devoted to the wide range of decision support tools employed by policymakers during the design of disproportionate policy options, and to the determination of (policy) tool strengths, weaknesses, and applicability to various settings. Scholars may focus, for example, on the tradeoff that exists between using tools that are transferrable to new geographic and decision contexts, versus using existing mapping or modeling approaches that are locally known and trusted by decision makers. This may be undertaken while paying attention to the context within which policymakers operate.

At the experimental level, scholars may employ vignette survey experiments, for example, using policymakers across policy sectors and countries. This methodology has been widely used in the social sciences and its findings have been found to have strong external validity in predicting behavior of both citizens (Hainmueller, Hangartner, and Yamamoto 2015) and professionals (Peabody et al. 2004). In addition, scholars may undertake experimental manipulations using risk unfolding over time, combined with varying types of warnings, which may be classified, for example, as tactical or strategic (Davis 2009, 173), as a point estimate or a range, or as qualitative or quantitative (Bulkley and Herrerias 2005, 604), and according to their level of credibility.

Two recent developments nicely demonstrate the importance of engaging with the phenomenon of (dis)proportionality in public policy despite criticism that the measurement problem seems almost insurmountable. De Francesco and Maggetti (2017) have created a series of indexes to measure policy over- and underreactions among the EU member states that experienced the 2007-2008 banking crisis. And scholars of legal proportionality have studied the factors that play a role in the formation of proportionality judgments. Specifically, in an

experiment with a sample of 331 legal experts (lawyers and academics) in the policy domain of the anti-terrorist military practice of targeted killings, they found that respondents tended to judge the proposed plan as more proportional with the increase of the normative importance of its goal and the decrease in the infringements of human rights it entailed, and that there is strong correlational evidence for the effect of ideological preferences on such judgments. They concluded that proportionality judgments are anchored jointly in the experts' policy preferences and the facts of the case (Sulitzeanu-Kenan, Kremnitzer, and Alon 2016).

The newly emerged disproportionate policy perspective will require substantial advancements in the adoption of quantifiable measures in order to encompass the richness of disproportionate policy response, the ways it can be effectively managed and its intended and unintended consequences. Advancements in the adoption of quantifiable measures is also required in order to capture sustained patterns of such policy response within positive self-reinforcing environments, termed policy bubbles (Jones, Thomas, and Wolfe 2014; Maor 2014b; 2016). While trying to measure policy over- and underreaction may be a difficult task given its intangible, multidimensional and context-sensitive nature, it is important that we try. Greatly improved understandings are inevitable. The funding required for progress in this complex area would be trivial compared with the human, financial, environmental and other potential costs of disproportionate policy response, especially badly managed ones.

Future Research

It is remarkable that most of the work in policy sciences makes no reference to disproportionate policy response. Indeed, at the present time, this phenomenon is considered by many as a policy mistake which is therefore not worth academic attention. My view is completely different. At the outset, scholars who try to give pride of place to the exercise of government authority rather than the conduct of elections in order to better understand why governments do whatever they do are currently encountering three problems. The first is to trace attention to various policy priorities over time (e.g., Jones and Baumgartner 2005a) and therefore to assess not only policy but also politics more generally. The second problem is looking at information, preferences and institutions (e.g., Green-Pedersen and Walgrave 2014) in order to generate a dialogue about the relative impact of preferences on political processes and outcomes (Hacker and Pierson 2014). But the real difficulty, in my opinion, is how to account for the full spectrum of policy types in

terms of the mechanisms involved without pretending some types are bound to be mistakes, as one often does when dealing with the first problem, and without trying to account for why some of these types are the result of information misestimation, erroneous preferences, flawed institutions or a mix of these factors, as one often does when dealing with the second problem.

The premise underlying this paper is that the newly emerging area of disproportionate policy response by design is theoretically meaningful because it contributes to our basic understanding of fundamental policy processes, and it is practically important because, under certain conditions, such a policy response may create substantial value for policymakers. But we still lack a thorough understanding of the processes by which this type of response occurs and is managed, and we still lack clarity regarding how that value is created. There are a few areas that offer the most promising possibilities for future research in the subfield of disproportionate policy response by design: (1) definitional foundations; (2) levels of analysis other than the individual and governmental levels; (3) time and dynamism; and (4) process research.

Regarding definitional foundations, although some advances have been made in defining and dimensionalizing policy over- and underreaction, much work still needs to be done. More dimensions could be identified, tested, refined and clarified in order to enhance measurement precision. Similarly, research that empirically differentiates rhetoric and doctrines of disproportionate policy response and explores the relationships among these constructs will also be theoretically and practically valuable.

Regarding levels of analysis, given that intentional disproportionate policy response is an individual (leader)- and government-level constructs, most research is expected to be undertaken at these levels. However, intentional disproportionate policy response can affect, and may be affected by the institutional and contextual factors within which it is formulated. For example, disproportionate policy response may be triggered by public demand (Maor, Tosun, and Jordan 2017). Research may also consider how inter-agency interaction or bureaucratic units within government departments influence and are influenced by the design of disproportionate policy response. Future research that develop and employ multilevel theorizing and analytical techniques can enhance our understanding of the rich interplay of policymakers and bureaucratic agencies that are involved in the design and calibration of disproportionate policy response across levels of analysis.

Regarding time and dynamism, future research should pay attention to issues of time, temporality, and timescapes (Howlett and Goetz 2014; Skowronek 1993, 2008). Given that incentives, motivations, actors and contexts may vary over time, future theorizing and empirical research must pay greater heed to the role of time in designing such policy response, and consider how and why policymakers tend to design disproportionate policy response in particular time periods, how and why incentives and motivations for designing such policy response change and evolve over time, how the changes in the institutional forces of presidential and prime ministerial power (e.g., as leaders of their parties) and in the personalization of politics affect their motivation to design such policy response, and how different macro-social factors influence the design of such policies and their effects in different historical periods.

Regarding process research, scholars should delve into processes through which deliberate disproportionate policy response are built, maintained, and calibrated. To fully understand how to manage such types of policy response effectively, more work needs to be done primarily through qualitative research which offers the benefits of thick description and inductive theorizing.

The aforementioned avenues leave a broad agenda for research on disproportionate policy response. In my opinion, these are the most useful ways to proceed

References

Alexandrova Petya, Macello Carammia and Arco Timmermans. 2012. "Policy Punctuations and Issue Diversity on the European Council Agenda." *Policy Studies Journal* 40(1): 694–88.

Allison, Graham and Philip Zelikow 1999. *Essence of Decision: Explaining the Cuban Missile Crisis*. Boston, MA: Little, Brown and Company.

Bachrach, Peter and Morton Baratz. 1962. "The Two Faces of Power." *American Political Science Review* 56(4): 947–52.

Bagehot, Walter. 1873. *Lombard Street: A Description of the Money Market*. London: Henry S. King.

Baumgartner, Frank R. and Bryan D. Jones. 1993. *Agendas and Instabilities in American Politics*, Chicago: University of Chicago Press.

Baumgartner, Frank R., Christian Breunig, Christoffer Green-Pedersen, Bryan D. Jones, Peter B. Mortensen, Michiel Nuytemans and Stefaan Wlagrave. 2009. "Punctuated Equilibrium in Comparative Perspective." *American Journal of Political Science* 53(3): 603-620.

Behn, D., Kristian Fauchald, O., & Langford, M. (2015). Bursting Policy Bubbles: The International Investment Treaty Regime. PluriCourts Research Paper, No. 15-15.

Bernanke, Ben. 2014a. Central Banking after the Great Recession: Lessons Learned and Challenges Ahead: A Discussion with Federal Reserve Chairman Ben Bernanke on the Fed's 100th Anniversary. Brookings Institution (January).

Bernanke, Ben. 2014b. The Federal Reserve: Looking Back, Looking Forward. http://www.federalreserve.gov/newsevents/speech/bernanke20140103a.htm.

Boin, Arjen and Paul 't Hart. 2003. "Public leadership in times of crisis: Mission impossible?" *Public Administration Review* 63, 544–53

Bulkley, George, and Renata Herrerias. 2005. "Does the Precision of News Affect Market Underreaction? Evidence from Returns Following Two Classes of Profit Warnings." *European Financial Management* 11(5): 603–624.

Butler, David, Andrew Adonis, and Tony Travers. 1994. *Failure in British Government: The Politics of the Poll Tax*, Oxford: Oxford University Press.

Cassino, Dan. Milton Lodge and Charles Taber. (2017). Implicit Political Attitudes: When, How, Why, With What Effects? In Kate Kenski and Kathleen H. Jamieson (Eds.) *Oxford Handbook of Political Communication*. Oxford: Oxford University Press, 649-662.

Chong, Dennis. 2013. Degrees of Rationality in Politics. In L. Huddy, D. O. Sears and J. S. Levy (eds.), *The Oxford handbook of political psychology* (pp. 96-129). 2nd ed. Oxford: Oxford University Press.

Cobb, Roger W. and Charles D. Elder. 1983. *Participation in American Politics*. Baltimore: John Hopkins University Press.

Committee on Climate Change. 2014. *Progress Report 2014.* London: Committee on Climate Change. http://www.theccc.org.uk/wp-content/uploads/2014/07/Final_ASC-2014_web-version-4.pdf.

Conlan Timothy J., Paul L. Posner, and David R. Beam. 2014. *Pathways of Power: The Dynamics of National Policymaking*. Washington, DC: Georgetown University Press.

Cox, Robert Henry & Daniel Béland. 2013. "Valence, Policy Ideas, and the Rise of Sustainability." *Governance* 26 (2): 307–328.

Davis, Jack. 2009. "Strategic Warning: Intelligence Support in a World of Uncertainty and Surprise." In Lock K. Johnson (Ed.) *Handbook of Intelligence Studies*. London: Routledge, 173-188.

De Francesco, Fabrizio and Martino Maggetti. 2017. Assessing Disproportionality: Indexes of Policy Responses to the 2007-2008 Banking Crisis. *Policy Sciences* https://doi.org/10.1007/s11077-017-9309-x

Draghi, Mario. 2012. Speech at the Global Investment Conference, July 26. Available on-line at https://www.ecb.europa.eu/press/key/date/2012/html/ sp120726.en.html.

Draghi, Mario. 2013a. "Building Stability and Sustained Prosperity in Europe." Speech at the event entitled "The Future of Europe in the Global Economy." hosted by the City of London, May 23. http://www.bis.org/review/r130524a.pdf?frames=0.

Draghi, Mario. 2013b. Introductory statement to the press conference (with Q&A), Frankfurt am Main, July 4. Available online at https://www.ecb.europa.eu/press/pressconf/2013/ html/is130704.en.html.

Draghi, Mario. 2017. Panel Discussion. The Central Bank Communications Conference, November 14. Available online at https://www.youtube.com/watch?v=DI7p-g51O8g (starting 7:16).

Dunleavy, Patrick. 1995. "Policy Disasters: Explaining the UK's Record." *Public Policy and Administration* 10: 52-70.

Epp, Derek A., and Frank R. Baumgartner. 2017. Complexity, Capacity, and Budget Punctuations. *Policy Studies Journal* 45(2): 247-264.

Gillard, Rose, and Kathryn Lock. 2017. Blowing Policy Bubbles: Rethinking Emissions Targets and Low-Carbon Energy Policies in the U.K. *Journal of Environmental Policy & Planning* 19(6): 638-653.

Gorton, Gary. 2015. "Stress for Success: A Review of Timothy Geithner's Financial Crisis Memoir." *Journal of Economic Literature* 53(4): 975–995.

Green-Pedersen, Christoffer and Stefaan Walgrave (eds.). 2014. *Agenda Setting, Policies, and Political Systems: A Comparative Approach*. Chicago: University of Chicago Press.

Gross, Oren. 2011. "Chaos and Rules: Should Responses to Violent Crises Always be Constitutional?" *Yale Law Journal* 112: 1011–36.

Hacker, Jacob S. and Paul Pierson. 2014. "After the 'Master Theory': Downs, Schattschneider, and the Rebirth of Policy-Focused Analysis." *Perspectives on Politics* 12(3): 643–662.

Hainmueller, Jens, Domonik Hangartner and Teppei Yamamoto. 2015. "Validating Vignette and Conjoint Survey Experiments against Real-World Behavior." *Proceedings of the National Academy of Sciences of the United States of America* 112: 2395-2400.

Hammond, Thomas H. (1986). Agenda Control, Organizational Structure, and Bureaucratic Politics. *American Journal of Political Science*, 30, 379–420.

Hammond, Thomas H. (1990). In Defense of Luther Gulick's 'Notes on the Theory of Organization'. *Public Administration*, 68, 143–173.

Hood, Christopher. 1994. *Explaining Economic Policy Reversal*. Buckingham: Open University Press.

Howlett, Michael. 2014. "From the 'Old' to the 'New' Policy Design: Design Thinking Beyond Markets and Collaborative Governance." *Policy Sciences* 47(3): 187-207.

Howlett, Michael and Klaus H. Goetz. 2014. "Introduction: Time, Temporality and Timescapes in Administration and Policy." *International Review of Administrative Sciences* 80(3): 477-492.

Howlett, Michael, and Achim Kemmerling. 2017. Calibrating Climate Change Policies: The Causes and Consequences of Sustained Underreaction. *Journal of Environmental Policy & Planning* 19(6): 625-637.

Howlett, Michael and Raul P. Lejano. 2013. Tales from the Crypt: The Rise and Fall (and Re-birth?) of Policy Design Studies. *Administration & Society,* 45(3): 356–380.

Howlett, Michael, Ishani Mukherjee, and Jun Jie Woo. 2015. From Tools to Toolkits in Policy Design Studies: The New Design Orientation towards Policy Formulation Research. *Policy & Politics* 43(2): 291-311.

Janis, Irving L. 1982. *Victims of Groupthink: A Psychological Study of Foreign-Policy Decisions and Fiascos*. 2nd ed. Boston: Houghton Miflin. First published in 1972.

Janis, Irving L. 1989. *Crucial Decisions. Leadership in Policymaking and Crisis Management*. New York: The Free Press.

Jervis, Robert. 1976. *Perceptions and Misperceptions in International Politics*. Princeton, NJ: Princeton University Press.

Jennings, Will and Peter John. 2009. "The Dynamics of Political Attention: Public Opinion and the Queen's Speech in the United Kingdom." *American Journal of Political Science* 53(4): 838–854.

John, Peter and Will Jennings. 2010. "Punctuations and Turning Points in British Politics: The Policy Agenda of the Queen's Speech, 1940-2005." *British Journal of Political Science* 40(3): 561-586.

Jones, Bryan D. 2001. *Politics and the Architecture of Choice*. Chicago, IL: University of Chicago Press.

Jones, Bryan .D. and Frank R. Baumgartner. 2005a. *The Politics of Attention: How Government Prioritizes Problems*. Chicago, IL: University of Chicago Press.

Jones, Bryan D. and Frank R. Baumgartner. 2005b. "A Model of Choice for Public Policy." *Journal of Public Administration Research and Theory* 15: 325-351.

Jones, Bryan D., Frank R. Baumgartner and James L. True. 1998. "Policy Punctuations: U.S. Budget Authority, 1947-1995." *Journal of Politics* 60(1): 1-33.

Jones Bryan D., Frank R. Baumgartner, Christian Breunig, Christopher Wlezien, Stuart Soroka, Martial Foucault, Abel François, Christoffer Green-Pedersen, Chris Koski, Peter John, Peter B. Mortensen, Frédéric Varone and Stefaan Walgrave. 2009. "A General Empirical Law of Public Budgets: A Comparative Analysis." *American Journal of Political Science* 53(4): 855–873.

Jones, Bryan D., Herschel F. Thomas III, and Michelle Wolfe. 2014. "Policy Bubbles." *Policy Studies Journal* 42(1):146-171.

King, Marvyn. 2010. "Banking—from Bagehot to Basel, and Back Again." Speech at the Second Bagehot Lecture, Buttonwood Gathering, New York, October 25. http://www.bis.org/review/r101028a.pdf?frames=0.

Kingdon, John W. 1995. *Agendas, Alternatives and Public Policies*. New York: Harper Collins.

Kriner, Douglas L., and Andrew Reeves. 2015. *The Particularistic President: Executive Branch Politics and Political Inequality*. Cambridge, NY: Cambridge University Press.

Lau, Richard R., David J. Anderson, and David P. Redlawsk. 2008. An Exploration of Correct Voting in Recent U.S. Presidential Elections. *American Journal of Political Science* 52(2): 395-411.

Lindblom, Charles E. 1959. "The Science of "Muddling Through"" *Public Administration Review* 19(2): 79–88.

Lodge, Milton, and Charles Taber. (2000). Three Steps toward a Theory of Motivated Political Reasoning. In A. Lupia, M. McCubbins, and S. Popkin (eds.), *Elements of Reason: Cognition, Choice, and the Bounds of Rationality* (pp. 182-213). New York: Cambridge University Press.

Lodge, Milton and Charles S. Taber 2013. *The Rationalizing Voter*. Cambridge, NY: Cambridge University Press.

Maor, Moshe. 2012. "Policy Overreaction." *Journal of Public Policy* 32(3): 231-259.

Maor, Moshe. 2014a. "Policy Persistence, Risk Estimation and Policy Underreaction." *Policy Sciences* 47(4): 425-443.

Maor, Moshe. 2014b. "Policy Bubbles: Policy Overreaction and Positive Feedback." *Governance* 27(3): 469-487.

Maor, Moshe. 2016. "Emotion-Driven Negative Policy Bubbles." *Policy Sciences* 49(2): 191-210.

Maor, Moshe. 2017a. "The Implications of the Emerging Disproportionate Policy Perspective for the New Policy Design Studies." *Policy Sciences* 50(3): 383-398.

Maor, Moshe. 2017b. "Disproportionate Policy Response." In *The Oxford Research Encyclopedia of Politics*. doi:10.1093/acrefore/9780190228637.013.168.

Maor, Moshe. 2017c. "Policy Overreaction Doctrine: From Ideal-Type to Context-Sensitive Solution in Times of Crisis." In: M. Howlett & I. Mukherjee (Eds.) *Handbook of Policy Formulation*. Cheltenham: Edward Elgar, pp. 539-553.

Maor, Moshe. 2017d. "Policy Entrepreneurs in Policy Valuation Processes: The Case of the Coalition for Environmentally Responsible Economies." *Environment and Planning C: Government and Policy* 35(8): 1401–1417.

Maor, Moshe. 2018. "Rhetoric and Doctrines of Policy Over- and Underreactions in Times of Crisis." *Policy & Politics* 46(1): 47-63.

Maor, Moshe. Forthcoming. "Overreaction in Politics and Policy." In: Alex Mintz and Lesley Terris (Eds.). *Oxford Handbook on Behavioral Political Science*, Oxford: Oxford University Press.

Maor, Moshe and James Gross. 2015. Emotion regulation by emotional entrepreneurs: Implications for political science and international relations. Paper presented at the 73rd Annual Conference of the Midwest Political Science Association, April 16-19, 2015, Chicago.

Maor, Moshe, Jale Tosun and Andrew Jordan. 2017. "Proportionate and Disproportionate Policy Responses to Climate Change: Core Concepts and Empirical Applications." *Journal of Environmental Policy & Planning*, 19(6): 599-611.

March, James G. and Johan P. Olson. 1989. *Rediscovering Institutions: The Organizational Basis of Politics*. New York: Free Press.

Meyer O. Christoph. 2016. "Over- and Underreaction to Transboundary Threats: Two Sides of a Misprinted Coin?" *Journal of European Public Policy* 23(5): 735-752.

Mintz, Alex and Carly Wayne. 2016. *The Ploythink Syndrome: U.S. Foriegn Policy Decisions on 9/11, Afghanistan, Iraq, Syria, and ISIS*. Stanford: Staford University Press.

Moran, Michael. 2003. *The British Regulatory State: High Modernism and Hyper Innovation*. Oxford: Oxford University Press.

Peabody, John W., Fimka Tozija, Jorge Munoz, Robert Nordyke, and Jeff Luck. 2004. "Using Vignettes to Compare the Quality of Clinical Care Variation in Economically Divergent Countries." *Health Services Research* 39: 1951-1970.

Peters, B. Guy, Andrew Jordan, and Jale Tosun. 2017. Over-reaction and Under-reaction in Climate Policy: An Institutional Analysis. *Journal of Environmental Policy & Planning* 19(6): 612-624.

Schattschneider, E. E. 1960. *The Semi-Sovereign People*. New York: Holt, Rinehart and Winston.

Schneider Anne L., Helen Ingram, and Peter de Leon. 2014. "Democratic Policy Design: Social Construction of Target Populations." In: Sabatier PA and Weible CM (eds) *Theories of the Policy Process*. Boulder, CO: Westview Press, pp. 105–150.

Schneider, Anne L., and Mara Sidney. 2009. "What is Next for Policy Design and Social Construction Theory?" *Policy Studies Journal* 37(1): 103–19.

Selvey, L.A., C. Antão, and R. Hall. 2015. "Evaluation of Border Entry Screening for Infectious Diseases in Humans." *Emerging Infectious Diseases* 21(2): 197-201.

Simon, Herbert A. 1983. *Reason in Human Affairs*. Stanford: Stanford University Press.

Simon, Herbert A. 1985. Human Nature in Politics: The Dialogue of Psychology with Political Science. *American Political Science Review*, 79(2): 293-304.

Simon, Herbert A. 1995. Rationality in Political Behavior. In P. K. Moser (ed.), *Rationality in Action: Contemporary Approaches* (pp. 189-204). New York: Cambridge University Press.

Skowronek Stephen. 1993. *The Politics Presidents Make: Leadership from John Adams to George Bush*. Cambridge, MA: Belknap Press of Harvard University Press.

Skowronek Stephen. 2008. *Presidential Leadership in Political Time: Reprise and Reappraisal*. Lawrence: University Press of Kansas.

Smith, Nicholas and Anthony Leiserowitz. 2012. "The Rise of Global Warming Scepticism: Exploring Affective Image Associations in the United States Over Time." *Risk Analysis*, 32(6): 1021–1032.

Smith Nicholas and Anthony Leiserowitz. 2014. "The Role of Emotion in Global Warming Policy Support and Opposition." *Risk Analysis* 34(5): 937-948.

Soroka, Stuart N. 2014. *Negativity in Democratic Politics: Causes and Consequences*. New York: Cambridge University Press.

Sulitzeanu-Kenan, Raanan, Mordechai Kremnitzer and Sharon Alon. 2016. "Facts, Preferences, and Doctrine: An Empirical Analysis of Proportionality Judgment." *Law & Society Review* 50(2): 348-382.

'T Hart, Paul, Erik Stern and Bengt Sundelius (eds.) 1977. *Beyond Groupthink. Political Group Dynamics in Foreign Policy-Making*. Ann Arbor, MI: University of Michigan Press.

U.K. Department for Environment, Food and Rural Affairs. 2005. Adaptation Policy Framework: A Consultation by the Department for Environment, Food and Rural Affairs. London: Defra.

Walker, Stephen G. and Akan Malici. 2011. *U.S. Presidents and Foreign Policy Mistakes*. Stanford: Stanford University Press.

Weiss, Carol H. 1998. *Evaluation: Methods for Studying Programs and Policies*, 2nd ed. Englewood Cliffs, NJ: Prentice-Hall.

Williams, Walter. 1998. *Honest Numbers and Democracy: Social Policy Analysis in the White House, Congress, and the Federal Agencies*. Washington, DC: Georgetown University Press.