The implications of the emerging disproportionate policy perspective for the new policy design studies

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Published online: 19 July 2016
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Abstract This paper articulates the *disproportionate policy perspective* and uses it to mount four challenges for the new policy design orientation. First, in contrast to the new policy design thinking, disproportionate policy options may be systematically designed, and at times, successfully implemented. Second, in contrast to the new policy design thinking, there are certain conditions under which policymakers may tend to develop effective response, with cost considerations becoming only secondary in importance if at all (read, policy overreaction), or cost-conscious response, with effectiveness considerations becoming only secondary in importance if at all (read, policy underreaction). Third, in contrast to the new policy design thinking, disproportionate policy options may be designed for purposes other than implementation (e.g., to be used as signaling devices or as context-setters). Fourth, in contrast to new policy design thinking, there are certain conditions under which the emotional arena of policy may be equally, if not more, important than the substantive one. The paper concludes that so far the literature on new policy design has not responded to the emergence of the disproportionate policy perspective, but a robust research agenda awaits those answering this paper's call for action.

Keywords Disproportionate policy · Policy design · Policy overreaction · Policy underreaction · Emotions

An earlier version of this paper was presented at the *International Workshop on Designing Governance for Policy Effectiveness*, Lee Kuan Yew School of Public Policy, National University of Singapore 25–26 February 2016. I would like to thank the workshop participants and the anonymous reviewers for very insightful comments.

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Introduction

In recent years, the new policy design orientation has been articulated as the road map for policy design scholars (Howlett 2014; Howlett and Lejano 2013; Howlett et al. 2015). At the same time, an approach has emerged that aims at explaining the phenomenon of *disproportionate policy response*, which is 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 2016a, 3; see also b). The foundational patterns of disproportionate policy response include policy over- and underreaction (Maor 2012, 2014a). Sustained patterns of these policy responses are termed policy bubbles (Jones et al. 2014; Maor 2014b, 2015, 2016c). Not only has disproportionate policy response been a focal point for policymakers seeking radical policy change—which is tantamount to Hall’s (1993) third-order paradigmatic policy change—or no change at all (McConnell and ’t Hart 2014) under conditions of uncertain risk projections, but such action has time and time again also made a dramatic impact upon the direction and the character of policy and politics (e.g., the U.S. response to 9/11). However, little attention has so far been devoted to the implications of the emerging area of disproportionate policy response for the new policy design studies. The reason may have been that disproportionate policy response is an anomaly which, in addition to its rarity, poses methodological challenges because it is both context-sensitive and has a problematic counterfactual, that is, proportionate policy response. To bridge this gap, this paper articulates the *disproportionate policy perspective* and uses it to mount four challenges for the new policy design orientation.

The paper draws on insights derived from recent attempts to connect the policy design agenda with the idea of disproportionate policy response by defining and illustrating a repertoire of *disproportionate policy options*, namely, *policy over- and underreaction rhetoric and doctrines* (Maor 2016a; forthcoming). These studies have advanced the arguments that disproportionate policy options are part and parcel of the policy menu faced by policymakers, and that during precrisis and in-crisis periods, policymakers may deliberately formulate disproportionate policy options in order to signal policymakers’ preferences to the target populations and/or to deliver the disproportionate policy responses sought by policymakers. These arguments challenge the prevalent views that disproportionate policy responses are solely the result of unintentional actions (Walker and Malici 2011), disproportionate information processing (Jones and Baumgartner 2005), policymakers’ overconfidence (Maor 2012), misestimation of risk (Maor 2014a), or flawed decision-making processes such as Groupthink (Janis 1982) and Polythink (Mintz and Wayne 2016).

The *disproportionate policy perspective* articulated here highlights four lacunae in the new policy design orientation. First, in contrast to the new policy design thinking that focuses on the need by policymakers to cope with the risk of under- and overreaction, the disproportionate policy perspective revolves around the idea that under certain conditions policymakers may face incentives to design and implement disproportionate policy options, and that, at times, the implementation of these options may be successful in achieving a policy goal.

Second, in contrast to the new policy design thinking that revolves around the design of effective and efficient policies, the disproportionate policy perspective emphasizes certain conditions under which policymakers may tend to develop effective response, with cost considerations becoming only secondary in importance if at all (read, policy overreaction),

or cost-conscious response, with effectiveness considerations becoming only secondary in importance if at all (read, policy underreaction). Whereas the Federal Reserve response to the crisis of 2007–2008 provides an example of the former, a no-regrets carbon reduction policy (or any other policy in the area of climate change mitigation that is worth undertaking on economic grounds whether or not there are climate-related reasons for doing so) provides an example of the latter.

Third, in contrast to the new policy design thinking that revolves around designing policy for implementation purposes, the disproportionate policy perspective emphasizes that disproportionate policy options may primarily be designed to be used as signaling devices or as context-setters which enable policymakers to resolve issues related to the fragmentation of authority.

Fourth, undermining new policy design thinking that distinguishes between the influence of symbolic frames on policy goals and the influence of cognitive aspects on choices of policy means, the disproportionate policy perspective takes more seriously the finding that thinking is suffused with feeling (Lodge and Taber 2013, 19) and that discrete emotions are strong predictors of policy support (e.g., Smith and Leiserowitz 2014). It thus argues that the emotional arena of policy may be equally, if not more, important than the substantive one. The paper concludes that so far the literature on new policy design has not responded to the emergence of the disproportionate policy perspective, but a robust research agenda awaits those answering this paper's call for action.

I begin by presenting the definitions of the terms discussed here and the main tenets of the disproportionate policy perspective. The next four sections then elaborate on four challenges posed by the disproportionate policy perspective for the new policy design orientation. The last section concludes. Readers should note that the paper places high emphasis on theory. Borrowing Lasswell's (1971) distinction between policy research as a function of "knowledge in" and "knowledge of" the policy process, the paper intentionally focuses on the challenges for the new policy design studies evolving from "knowledge of" disproportionate policy responses. In addition, throughout the text, "status quo" refers to a dynamic status quo because of the constant changes in one or more of its dimensions (e.g., the policy parameters, domain, context, target population, and so on) and the derived learning of the relevant policy actors.

The definition ground

Disproportionate policy design refers to the articulation of policy over- or underreaction goals as well as to the means or mechanisms through which such goals are given effect. It largely takes place at the formulation stage of the policy cycle and deals with plans for the implementation stage—how forcefully or weakly policy instruments are implemented, and with the communication of these plans to target populations. Disproportionate policy response can take one of two forms: policy overreaction or policy underreaction. *Policy overreactions* "are policies that impose objective and/or perceived social costs without producing offsetting objective and/or perceived benefits" (Maor 2012, 235). These costs and benefits may be incurred by policymakers, target populations and/or the general public, depending on the perspective taken by the researcher. One manifestation of policy overreaction is the concept of policy overinvestment, which occurs "when government overinvests in a single policy instrument beyond its instrumental value in achieving a policy goal [...]" (Jones et al. 2014, 149). A similar distinction applies in the case of *policy*

underreaction, which refers to “systematically slow and/or insufficient response by policymakers to increased risk or opportunity, or no response at all” (Maor 2014a, 426). This implies that it is “a policy whose actual net utility [...] is smaller than a counterfactual net utility [...]” (Maor 2014a, 428). Adapted from Jones et al. (2014), policy underinvestment occurs when policymakers underinvest in a single policy instrument below its instrumental value in achieving a policy goal. Whereas the definitions of policy over- and underreaction appeal to considerations of public interest broadly defined, including economic efficiency, social welfare, social justice, sustainability and individual well-being, the definitions of policy over- and underinvestment, although easily measurable and tractable, often appeal to narrow considerations of economic efficiency.

Building on the aforementioned concepts and on the approach that views policy design as policy content (Schneider and Ingram 1997), Maor (2016a) has defined and illustrated a repertoire of *disproportionate policy options*, that is, policy options which lack “fit” between policy costs and benefits and/or between policy ends and means; which are perceived by policymakers to be disproportionate; or which are grounded in the language of disproportionality, for example, as a form of drama (e.g., Hilgartner 2000). Let me define key policy options in this repertoire. *Policy overreaction doctrine* refers to “a coherent set of policy principles which presents an ‘all or nothing’ policy commitment in pursuit of a policy goal no matter what the costs are” (Maor 2016a, 10). *Policy overreaction rhetoric*, a subset of policy overreaction doctrine, refers to “arguments that policymakers employ to reach and persuade the target populations of their ‘all or nothing’ policy commitment to achieve their policy goal, no matter what the costs are” (Maor 2016a, 11). *Policy underreaction doctrine* refers to “a coherent set of policy principles which presents a conditional commitment for achieving a policy goal based primarily on policy costs considerations” (Maor 2016a, 12). *Policy underreaction rhetoric*, a subset of policy underreaction doctrine, refers to “arguments employed by policymakers to reach and persuade the target populations of the former’s conditional commitment to respond to a policy problem based primarily on policy costs considerations” (Maor 2016a, 12). These concepts—which are supported by pertinent examples—allow scholars to address upfront the idea that, at times, disproportionate policy options are deliberately designed. This insight, in turn, provides a convenient starting point for the articulation of a disproportionate policy perspective which brings to the fore the core elements of the phenomenon of disproportionate policy response.

The *disproportionate policy perspective* has four central tenets: (1) that under certain conditions policymakers may face incentives to design and implement disproportionate policy options, and that, at times, the implementation of these options may be successful in achieving a policy goal; (2) that under certain conditions policymakers may prioritize policy effectiveness over policy costs, leading to the design of policy overreaction options, and under other conditions, cost-conscious response over an effective one leading to the design of policy underreaction options; (3) that under certain conditions disproportionate policy options may be designed to be used as signaling devices, context setters, or for purposes other than implementation on the ground, and (4) that under certain conditions the emotional arena of policy may be equally, if not more, important than the substantive one. Each of the major tenets of the disproportionate policy perspective—which will be elaborated in the next four sections—poses a challenge to the new policy design orientation to which attention now turns.

Embracing the benefits of policy over- and underreaction

Perhaps the most central idea underlying the new policy design studies is “*adaptive policy-making*” (Hoffmann 2011), understood as the need “[...] to cope with the risk of under-investing and over-investing (or wrongly investing) in future policies” (Walker et al. 2010, 922). It is certainly not obvious that policymakers will engage in designing disproportionate policy options. In fact, there is an impression that policy overreaction or overinvestment is a policy mistake. For example, US presidents’ foreign policy mistakes were categorized into “too much” policy, which occurs following a mistake of commission in the diagnosis stage of decision-making, and policy that is implemented “too soon,” which is the result of a mistake of omission in the prescription stage of decision-making (Walker and Malici 2011). And if disproportionate policy responses are mistakes or errors, there is little need for policy design scholars to devote scholarly attention to this topic.

But there is evidence that disproportionate policy response is one of many competing responses to policy problems; that policymakers do engage in the design of disproportionate policy options, that there is social demand for disproportionate policy responses (e.g., death penalty), and that these policy responses may at times be successful in achieving policy goals (Maor 2016a, b; forthcoming). Regarding the design of disproportionate policy options, policymakers wishing to decisively and swiftly end a crisis, especially one that involves panic and popular fears, may use *policy overreaction rhetoric and doctrines* in order to communicate to target populations or to implement an all-or-nothing policy approach aimed at resolving the policy problem no matter what (Maor 2016a; forthcoming). In addition, policymakers wishing to respond to uncertain risk projections in order to create net social benefits under all future risk projections, with no or low costs and committed resources, and in a way which can be framed as cost-effective without involving hard trade-offs with other policy objectives, may use *policy underreaction rhetoric and doctrines* (Maor 2016a). Disproportionate policy response may therefore be an articulated policy choice.

Framing disproportionate policy response as risks, as Walker et al. (2010, 922) do, automatically limits the range of imagined policy options faced by policymakers while assuming that policymakers wishing to radically change the status quo can always do it over the long term by employing a proportionate response, and each time, successfully so. But at times, policymakers may wish to radically change the status quo in a matter of days or a few weeks and/or to bring about policy benefits lasting for years or perhaps decades, no matter what the costs are. Such policy changes may range from changes in the policy core aspects of the policy subsystem which are associated with changes in the policy core beliefs of a belief system—read major policy change in the advocacy coalition framework (Sabatier and Jenkins-Smith 1993), to a complete paradigmatic transformation (Hall 1993). Radical policy change may be sought by policymakers at critical junctures or during windows of opportunity (Kingdon 1995), such as in times of crises requiring drastic measures, or when positive feedback reinforces political forces (Baumgartner and Jones 2002). It may derive from the emergence of a new paradigm (Hall 1993), ideas (Peters et al. 2005), and core beliefs (Sabatier and Jenkins-Smith 1993), as well as a new policy image (Baumgartner and Jones 2002), policy discourse (Hajer 1995), and policy frame (Schön and Rein 1994).

The rationale for policy overreaction, no matter what the costs are, becomes clear when one considers the spectrum of policy responses and the estimated reaction to that response by the target population. According to Maor (2014a, n5),

[...] Responding to risk by policy underreaction, if perceived as such by the target populations, is not likely to change the status quo. The same outcome may be reasonably expected when policymakers respond in (what they perceive as) a proportionate manner, which may be wrongly perceived by the target populations as underreaction [especially if the target population overestimate the power of the initiators of the policy response]. By contrast, if policymakers aim at changing the status quo, policy overreaction at the core of the policy problem is likely to leave no room for interpretative error by the target populations regarding the intention of those who overreact.

Policymakers may be aware of this calculation and, when confronting potential threats, may wisely act to design off-the-shelf options of disproportionate policy response before the need arises. The design of disproportionate policy response therefore requires an active effort by policymakers, as well as information, time, and resources.

To illustrate, consider how disproportionate policy thinking penetrates cabinet discussions regarding policy response in security matters. Israeli policymakers have sought to contain the Hezbollah threat since the unilateral withdrawal of Israel from Lebanon in May 2000. On July 12, 2006, Hezbollah terrorists attacked an Israeli patrol on the Israeli side of the border and abducted two soldiers. In the ensuing discussion that took place in the Israeli cabinet, Prime Minister Ehud Olmert and Defense Minister Amir Peretz preferred a forceful reaction. One alternative suggested by the Israel Defense Force (IDF) Chief of Staff Dan Halutz revolved around the use of disproportionate force directed at Hezbollah's host, Lebanon. According to Halutz,

The response of a democratic state in the fight against terror must be a response of the sort of “the landlord [read, policymakers] gone mad”. The [policy] recommendation that was crystallized was to opt for a large-scale act that would damage Lebanon's national infrastructures [...] I thought, by the way, that that would trigger a rush of all the international community to this area in order to stop the Israeli who had “gone mad”. Certainly we would have attained a significantly better achievement (TV Interview by Raviv Drucker, Lebanon 2, Hamakor, 12.5.15).

This option was later rejected in favor of another policy overreaction option: to flatten the Hezbollah stronghold, the southern residential suburb of Beirut known as the *Dahiyah*, that was home to Hezbollah leadership as well as to Shiite supporters of this terror organization. This strategy has proved highly successful in transforming the status quo. According to Amos Yadlin (2015), former IDF Head of Intelligence, “[t]wo significant moves—impairing Hezbollah's rocket launching ability and destroying its headquarters in Beirut's Dahiya[h] Quarter—were essential components in the restoration and intensification of the Israeli deterrence in 2006”.

A related example in the same context is the *Dahiyah Doctrine* which arose following the perceived failure of the Israel Defense Forces (IDF) during the Second Lebanon War to bring an end to the launch of rockets against Israeli civilian areas by Hezbollah (in Lebanon) and Hamas (in Gaza) although the Israeli army had the advantage of its military weight. In this context, the flattening of the *Dahiyah* has been seen as a relevant model. The doctrine refers to a military strategy that focuses on using disproportionate air power and artillery to punitively destroy the entire area from which rockets are fired rather than hunting down individual missile launchers. Gadi Eisenkot, the then IDF Head of Northern Command, threatened Hamas and Hezbollah by stating that “[w]hat happened in the Dahiya[h] quarter of Beirut in 2006 will happen in every village from which Israel is fired

on [...] We will apply disproportionate force on it (village) and cause great damage and destruction there. From our standpoint, these are not civilian villages; they are military bases” (Eisenkot, quoted in Nahmias 2008). “This is not a recommendation. This is the plan and it has been approved” (Eisenkot, quoted in Fishman and Ringel-Hoffman 2008). This position was confirmed by the then Prime Minister, Ehud Olmert, who was quoted in the *New York Times*: “The government’s position was from the outset that if there is shooting at the residents of the south, there will be a harsh Israeli response that will be disproportionate.”¹ This strategy was employed during Operation Cast Lead in Gaza (December 2008–January 2009), which aimed at stopping both rocket fire into Israel and weapon smuggling into the Gaza Strip. The total number Palestinian noncombatants who died during the operation ranges from 295 (IDF figures, quoted in Lappin 2009) to 926, according to human rights NGOs.

Israel made several tangible gains during the Gaza campaign, especially the significant decline in the scale of terrorism and the number of rockets and mortar shells launched from Gaza (Israel Security Agency 2010, 2–3). Although these Israeli defense examples have been self-labeled as disproportionate, they actually might have been viewed by advocates as cost-conscious because of their deterrent effects. However, this view can be easily refuted by the claim that the deterrence gained could have been achieved by performing the *powerful* and *relevant* military actions during a period of 7 days, rather than a few weeks (Kober 2008; Laish 2011; Malka 2008).

The need for new policy design studies to embrace the benefits of designing policy overreaction responses is not restricted to the military domain. Take, for example, the transboundary threats posed by some of the world’s most dangerous pathogens for which few or no medical countermeasures exist, and the impact these threats have both at the substantive and the emotional arena of policy. When contagious epidemics arise in various countries, there is an increasing possibility that infected travelers will spread the disease. The design of the primary mitigation strategy to reduce this risk revolves around exit/entry screening of all persons at international borders for unexplained symptoms of illness which may be associated with the disease. This policy design, recommended by the World Health Organization (WHO 2003, 2014), focuses on those individuals at the highest risk, traveling to and from those countries at highest risk, and involves a combination of screening, quarantine, isolation and communications. However, when contagious epidemics arise, the derived public fears and panic may pose a problem which may be equally, if not more, important than the substantive one. The need faced by policymakers to reduce public fears and panic often leads them to adopt exit/entry screening although it is common (professional) knowledge that these measures are ineffective at detecting infectious persons and involve intensive use of resources and relatively high opportunity costs, financially and in terms of the use of scarce public health staff resources during a time of high need (Selvey et al. 2015, 197). For example, during the SARS outbreak of 2003, despite the institution of a combination of border measures in Australia, Canada, and Singapore, no confirmed SARS cases were detected (Selvey 2015, 199). During the influenza pandemic of 2009, of the influenza cases that might have been acquired during travel overseas, only 12.9 % (15/116) were detected in Singapore as a result of border screening, and in Japan 6.6 % (10/151), in New South Wales, Australia 6.7 % (3/45), and in Auckland, New Zealand 5.8 % (4/69) (Selvey et al. 2015, 198). And during the Ebola crisis of 2014, entry screening programs at five US international airports detected no confirmed cases (Brown et al. 2014).

¹ http://www.nytimes.com/2009/02/01/world/africa/01iht-mideast.3.19845135.html?_r=0 (accessed 5.7.2016).

Although border screening provides a classic example of policy overreaction, it has been implemented time and time again as an off-the-shelf mitigation strategy.

It is reasonable to argue therefore that the dilemma “to screen or not to screen” in cases of viruses for which few or no medical countermeasures exist, has so far been resolved in favor of screening, that is, in favor of deliberately overreacting, probably in order to reduce panic and popular fears of dreaded diseases, to avoid blame directed at the president or prime minister of not doing whatever he or she can to prevent the spread of the disease, and to gain favorable media coverage, thereby increasing policymakers’ political capital. Policy overreaction may be politically beneficial for policymakers as well as other policy actors in the aforementioned circumstances and thus, should be considered as a viable policy alternative which is highly likely to occur in cases of Ebola, Marburg, severe acute respiratory syndrome, Middle East respiratory syndrome, Nipah, Lassa fever, Rift Valley fever, and Crimean–Congo hemorrhagic fever—all of which are “likely to cause severe outbreaks in the near future” (World Health Organization 2015).

Embracing the efficiency-effectiveness conundrum

A central idea underlying the new policy design orientation is the development of more or less *efficient and effective* policies that are likely to succeed in attaining their desired goals (Bobrow and Dryzek 1987; Bobrow 2006; Montpetit 2003). Economic efficiency refers to the optimal allocation of resources while minimizing waste, and effectiveness, to the achievement of the goal a policy is supposed to attain. Governments are therefore assumed to apply knowledge and experience about policy issues in such a way as to ensure that their goals are effectively achieved with a minimum of effort and cost (Weimer 1993) or, more or less, in an efficient and effective way (deLeon 1999; Potoski 2002). This approach primarily emphasizes normative concerns which emerge during routine policy design. However, according to the disproportionate policy perspective, there are certain conditions under which policymakers may tend to develop *effective response* no matter what the costs are, or *cost-conscious response*, with effectiveness considerations becoming only secondary in importance if at all. Specifically, although policymakers should ideally pursue cost-conscious behavior that results in the highest net benefit for the public, at times, they may prioritize the immediacy of the policy outcome (i.e., use of the overwhelming power of the state with the expectation that the policy problem will be resolved or significantly minimized in a matter of days or a few weeks, rather than months and years) or the durability of policy outcomes (i.e., with the expectation that the policy benefits will last for years or perhaps decades due, for example, to deterrent effects) over other considerations, such as the policy costs. At other times, they may prioritize the creation of net social benefits under all future risk projections, with no or low costs and committed resources, over other considerations, such as the optimal performance of the policy in any risk scenario. In other words, what the disproportionate policy perspective adds to the discussion of policy underreaction is the view of this type of policy as a preference, rather than as an unintentional error, derived from disproportionate information processing, policymakers’ overconfidence, misestimation of risk, or flawed decision-making processes.

Take, for example, a catastrophic crisis involving panic and popular fears. Under these circumstances, the need may arise for policymakers to cognitively and/or emotionally overwhelm the target population/s so that the panic will be quelled and the policy system stabilized, and that this outcome will be publicly visible and easily understandable. In such

cases, policymakers may tend to develop effective response no matter what the costs are (read, policy overreaction), in the substantive and emotional arenas of policy, with cost considerations becoming only secondary in importance if at all. A successful policy design under these circumstances may point at policy tools that, after their initial impact, can be easily calibrated in accordance with policy outcomes (Howlett and Cashore 2009).

By contrast, under conditions of uncertain risk projections, especially in the context of no-regret potentials, policy intervention may be justified for reasons of cost savings and cost avoidance, regardless of other objectives (Ostertag 2002, 157). For example, in the area of climate change adaptation, the “no-regrets” doctrine implies that any climate adaptation measure that yields benefits even in the absence of climate change is considered viable within this doctrine. So, in the area of flood preparedness, for example, practices such as rainwater harvesting to improve water efficiency are justified on economic grounds, regardless of objectives to mitigate climate change. Under conditions of uncertain risk projections, therefore, policymakers may tend to develop cost-conscious responses, with effectiveness considerations only secondary in importance if at all (read, policy underreaction). A successful policy design under these circumstances may point at policy tools that, after their initial impact, create net social benefits under all future risk projections, with no or low costs and committed resources, in a way which can be framed as cost-effective and does not involve hard trade-offs with other policy objectives.

The response of the US federal government to the financial crisis of 2007–2008 illustrates the point regarding policy overreaction. In the financial crisis, 12 out of 13 of the most important financial institutions in the USA were at risk of failure within a period of a week or two (Ben Bernanke, quoted in the Financial Crisis Inquiry Commission 2011, 354). Perhaps more important was the resulting panic due to concerns about the solvency of the US financial institutions (Ben Bernanke, quoted in the Federal Open Market Committee Minutes 2008, 149). Bernanke’s response was to follow a policy overreaction doctrine, namely, Bagehot’s (1873) rule that, in a crisis, the central bank should lend freely, at a high rate, and on good collateral (Benrnanke 2014a, b). A press release issued on August 10, 2007, by the Federal Reserve stated that it would provide reserves as necessary due to the “unusual funding needs because of dislocations in money and credit markets.”² The source of the funding necessary to follow Bagehot’s rule originated within a month of Lehman’s bankruptcy, when Congress passed the Troubled Asset Relief Program (TARP). In the framework of TARP, \$700 billion were allocated by Congress to address the banking crisis; the bill passed on October 3, 2008. However, only \$125 billion were actually injected as a first step into the nine largest financial institutions in the US banking system (Gorton 2015). Once the banking sector and the economy had stabilized, calibration of the disproportionate policy response took place. Although Congress initially authorized \$700 billion for TARP, that authority was reduced to \$475 billion by the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act).

An example where economic considerations triumph over effectiveness is the case of climate change adaptation in the UK. Although there is scientific evidence pointing at a change in the world’s climate as a result of human activity, the precise impacts on the UK are still uncertain. Therefore, the emphasis of adaptation to climate change has been on increasing the nation’s resilience to a range of possible futures by adopting the no/low regret doctrine. Indeed, if one looks at the justification of “[...] activities which have taken place as a direct result of climate change or weather related incidences [...],” one can find that “[m]ost current adaptations are justified on co-benefits and/or are ‘no regret’ options”

² <http://www.federalreserve.gov/newsevents/press/monetary/20070810a.htm> (accessed 5.7.2016).

(U.K. Department for Environment, Food & Rural Affairs 2005, 8). According to a recent report, however, climate change adaptation measures pursued so far have failed to deliver when projected climate change predictions regarding winter floods had materialized (Committee on Climate Change 2014).³ Specifically, although the 2013 floods were “consistent with the projected consequences of climate change” (Committee on Climate Change 2014, 8), these “[e]vents [...] illustrate the costs of a lack of resilience, with many thousands of people forced to leave their homes, businesses and transport disrupted, with the associated costs to the economy and to well-being” (Krebs, in Committee on Climate Change 2014, 4). In a context of uncertain risk projections, therefore, policy options which are based on no-regret doctrine are in fact policy underreactions as the policy is not designed to perform optimally in any scenario.

Embracing the idea that a policy may be designed for purposes other than implementation

Another central idea underlying the new policy design orientation is that the design of policies is undertaken in order to improve government actions through the selection of tools for policy implementation (Howlett 2014). An example is the idea of public interest nudges, which advance the construction of default rules in order to insulate individuals’ decision-making from psychological and contextual effects (Thaler and Sunstein 2008; Leggett 2014). This is undertaken by a choice architect—“[anyone who] has the responsibility for organizing the context in which people make decisions” (Thaler and Sunstein 2008, 3)—with the aim of “influenc[ing] people’s behaviour in order to make their lives longer, healthier and better [...] to steer people’s choices in directions that will improve their lives” (Thaler and Sunstein 2008, 5).

However insightful these ideas are, they rely on the implicit assumption that government designs policies to be implemented on the ground. This assumption ignores the possibility that policymakers may design disproportionate policy options to be used as signaling devices (Spence 1973), that is, as means of deterrence or insurance for a rainy day. A policy overreaction doctrine, for example, acts first and foremost, as a signaling device. It is designed, among other reasons, in order to reduce information asymmetry between policymakers and target populations. During the process by which policy content is produced, termed *policy designing* (e.g., Linder and Peters 1988), policymakers signal their unobservable mindset to target audiences via the observable quality of their doctrines as well as via other elements, such as the identity of the ministry or department in charge of policy implementation, the ethical constraints imposed on those in charge of policy implementation, or their lack thereof, and others (Maor forthcoming). A policy overreaction doctrine is successful, among others, if it produces the desired effect without the need for its implementation on the ground (Maor 2016a; forthcoming).

Further, policymakers may design a policy overreaction doctrine primarily in order to enable them to undertake radical changes to the way that decisions are made and government operates in the relevant sector. A policy overreaction doctrine may enable policymakers to resolve issues related to the balkanization of their authority in the relevant policy sector which occur when different tools are in the hands of different officials with

³ The Committee is an independent, statutory body established under the Climate Change Act 2008, which advises the UK Government and Devolved Administrations on emissions targets and report to Parliament on progress made in reducing greenhouse gas emissions and preparing for climate change.

different strategies and different perceived responsibilities (Geithner 2014, 224). Policy-makers may therefore use a crisis as well as a manufactured sense of urgency (van Wijk and Fischhendler 2015) to concentrate authority.

A relevant example of formulating a policy overreaction doctrine for the purpose of signaling policymakers' mindset is the US military doctrine of massive retaliation by strategic nuclear attacks. This doctrine emerged in spring 1953 following growing unease with rapidly rising government spending. The administration's statement of Basic National Security Policy concluded that "the risk of Soviet aggression will be minimized by maintaining a strong security posture, with emphasis on adequate offensive retaliatory strength and defensive strength" based on "massive atomic capability" as well as conventional readiness. It was also added that this security posture would have to be achieved "at the lowest feasible cost" for economic reasons (NSC 161/2 quoted in Rosenberg 1978, 267).

Embracing the inseparable link between thoughts and feelings

A central idea underlying the new policy design orientation is that symbolic frames and public sentiments influence policy goals (Stimson 1991; Suzuki 1992; Durr 1993; Stimson et al. 1995), whereas cognitive aspects such as policy paradigms and programmes influence choices of policy means (Stone 1989; Hall 1993). Current wisdom disputes this view. At the outset, scholars have examined several variables that influence public responses to risks. The "risk as analysis" paradigm, for example, focuses on the use of cognitive deliberation to assess risk while pointing at heuristics and biases used to process and understand risk information (e.g., Slovic 1987; Stedman 2004). The "risk as feelings" paradigm argues that people often rely more on affect and emotion than cognition when making risk judgments and decisions (Loewenstein et al. 2001; Finucane 2008).⁴ This paradigm identifies an "affect heuristic" which is strongly associated with risk perceptions and policy support for a range of risk issues, including global warming (Smith and Leiserowitz 2012; Siegrist et al. 2006). And recently, Lodge and Taber (2013) found that "[...] all thinking is suffused with feeling, and these feeling arise automatically within a few milliseconds [...] of exposure to a sociopolitical object or event" (p. 19). The affect heuristic combined with Lodge and Taber's (2013) finding undermine the aforementioned distinction made by the new policy design orientation.

A further blow to this distinction emerges from a recent development in the subfield of emotion and risk: the move away from analysis of affect and affective imagery and toward an analysis of the influence of discrete emotions. For our purpose, two studies addressing the role discrete emotions play in public support for climate change policy are of interest. Sjöberg (2007) has found that positive emotions, including interest, satisfaction, and optimism, were stronger positive predictors of attitudes toward nuclear waste repositories than negative emotions. Additionally, Smith and Leiserowitz (2014) have found that discrete emotions were stronger predictors of global warming policy support than cultural worldviews, negative affect, image associations, or sociodemographic variables. In particular, worry, interest, and hope were strongly associated with increased policy support.

⁴ Forgas (1992) defines emotions as "intense and short-lived" with a "definite cause and clear cognitive content" (p. 230). Affect, however, refers to a more general positive (good) or negative (bad) feeling (Slovic et al. 2002).

These findings undermine the aforementioned distinction because people (read, policymakers) may feel a variety of emotions when thinking about policy goals and policy means, and may also assume a variety of emotions held by target populations as well as a variety of potential emotions that may be intensified or deintensified once the policy at hand is made public. And if discrete emotions are indeed the strongest predictors of support for policy across policy areas, it is reasonable to argue that they may be equally influential in cases of policy goals as well as policy means. Further, discrete emotions may be strategically manipulated by *emotional entrepreneurs*—“individual and collective actors that attempt to advance a political and/or policy agenda by regulating expected or actual emotions generated during political and policy processes” (Maor and Gross 2015, 4). Embracing the inseparable link between thoughts and feelings as well as the idea of emotion manipulation would enable new policy design scholars who adopt the disproportionate policy perspective to better understand the processes by which policymakers and the policies they design may become overvalued or undervalued for reasons unrelated to their ability to affect goals (Jones et al. 2014; Maor 2014b, 2016c, d).

The prevention of juvenile crimes by juvenile curfews provides an example of a case where the emotional arena of policy may be equally, if not more, important than the substantive one. These policies are built around the idea that restricting the hours when targeted age groups may be in public should restrict their crime opportunities (McDowall 2000; Ford 1994). A 1994 survey of US cities with populations of 200,000 or greater found that 77 % (59/77) had implemented juvenile policy (Ruefle and Reynolds 1995), and in 1995, 73 % (146/200) of the 200 largest American cities (Ruefle and Reynolds 1996) had enacted such policies. Reports of six evaluations of juvenile curfew policies conducted between 1977 and 2000 found no preventive effect, with some studies indicating a modest crime prevention benefit (McDowall 2000). Adams’s (2003) review of ten studies evaluating these policies found no decrease in crime rates as a result of curfews, and where changes were observed, they revolve around an increase in crime rather than a decrease. And Mears et al. (2010) have cited a report concluding that “research clearly indicates that juvenile curfew laws are ineffective.” However, the lack of any clear evidence of the effectiveness of juvenile curfews for crime prevention misses their effectiveness in the local emotional arena. The speed by which local laws or ordinances can be enacted combined with the public visibility of their implementation provide a politically effective, off-the-shelf solution to calm public fears. Curfews can be justified on grounds of their ability to protect children and residents as well to flag at-risk or neglected youths and connect them with the appropriate services, such as counseling, mentoring, and tutoring. There is therefore ample political capital to be gained by promoting such laws.

Conclusions

In the preceding, I have argued that, to date, the new policy design orientation has been limited in its ability to develop a broader and more penetrating view of policy design because it has not paid enough attention to studies of disproportionate policy response. I have also elaborated on the challenges posed by the emerging disproportionate policy perspective for the new policy design studies.

The new policy design orientation could enormously benefit from incorporating the main tenets of the disproportionate policy response perspective. An important part of the significant research agenda that remains to be explored in the new policy design orientation

should revolve around the actual activities of designing disproportionate policy options. How do policymakers and policy designers go about identifying design problems that call for disproportionate policy responses? How do they design criteria addressing these problems? How do they decide on the mix of disproportionate policy rhetoric or doctrine? How do they select policy tools that, if backfiring when aggressively employed, can be easily calibrated? How does the nature of the policy means selected for deployment in a disproportionate policy response affect policymakers' degrees of freedom? What are the politics involved in the calibration of policy goals and policy means? Answering these questions will enable scholars to analyze short- and long-term cause-and-effect processes involving the design of disproportionate policy options while taking into account more symbolic, ideational and emotional trends affecting the legitimacy or appropriateness of certain courses of action; their conjunctions with each other as well as with the knowledge and experience regarding alternative possible arrangements of policy tools, and their sequencing, which could add additional explanatory power to the study of policy design and disproportionate policy response.

Policy design scholars should have recognized by now that the study of disproportionate policy response is a gateway to some of the most significant aspects of modern politics. Global and domestic threats coupled with relatively skeptical publics about politicians and political institutions, and rising negativity in democratic politics (Soroka 2014) imply that policy overshooting is increasingly required for the public to perceive of policy action as sufficient and politicians as competent, at least in the short term. Future new policy design studies would therefore benefit from expanding the conceptual and empirical universe they examine to also include the design of disproportionate policy options. Further, the new policy design orientation would benefit by greater boundary crossing among social science disciplines, especially psychology. For example, the study of policy design and emotions offers new methodologies, concepts, and opportunities to refine explanations of the selection of policy goals and policy means. Overall, the disproportionate policy perspective can advance a more nuanced analysis of policy options at different levels of government. Combining the new policy design and the disproportionate policy perspective will establish new territory and may offer a promising path for progress.

References

- Adams, K. (2003). The effectiveness of juvenile curfews at crime prevention. *The Annals of the American Academy of Political and Social Science*, 587, 136–159.
- Bagehot, W. (1873). *Lombard street: A description of the money market*. London: Henry S. King.
- Baumgartner, F. B., & Jones, B. D. (2002). *Policy dynamics*. Chicago: The University of Chicago Press.
- Bernanke, B. (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*. Washington, DC: Brookings Institution.
- Bernanke, B. (2014b). *The federal reserve: Looking back, looking forward*. <http://www.federalreserve.gov/newsevents/speech/bernanke20140103a.htm>. Accessed 5 July 2016.
- Bobrow, D. (2006). Policy design: Ubiquitous, necessary and difficult. In B. G. Peters & J. Pierre (Eds.), *Handbook of public policy* (pp. 75–96). Thousand Oak: Sage.
- Bobrow, D. B., & Dryzek, J. S. (1987). *Policy analysis by design*. Pittsburgh: University of Pittsburgh Press.
- Brown, C. M., Aranas, A. E., Benenson, G. A., et al. (2014). Airport exit and entry screening for Ebola—August–November 10, 2014. Centers for Disease Control and Prevention: Morbidity and Mortality Weekly Report.
- Commission, Financial Crisis Inquiry. (2011). *The financial crisis: Inquiry report*. Washington, DC: U.S. Government Printing Office.

- Committee on Climate Change. (2014). *Managing climate risks to well-being and the economy Adaptation Sub-Committee; 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. Accessed 5 July 2016.
- deLeon, P. (1999). The missing link revisited: Contemporary implementation research. *Policy Studies Review*, 16, 311–338.
- Durr, R. H. (1993). What moves policy sentiment? *American Political Science Review*, 87, 158–172.
- Federal Open Market Committee (FOMC). (2008). Meeting of the Federal Open Market Committee on October 28–29, Washington, DC. <http://www.federalreserve.gov/monetarypolicy/fomcminutes20081029.htm>.
- Finucane, M. L. (2008). Emotion, affect, and risk communication with older adults: Challenges and opportunities. *Journal of Risk Research*, 11, 983–997.
- Fishman, A., & Ringel-Hoffman, A. (2008). I have enormous power, I will have no excuses. *Yedioth Achronot*, 3(10), 2008.
- Ford, R. T. (1994). Juvenile curfews and gang violence: Exiled on main street. *Harvard Law Review*, 107, 1693–1710.
- Forgas, J. P. (1992). Affect in social judgments and decisions: A multiprocess model. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 227–275). San Diego, CA: Academic Press.
- Geithner, T. F. (2014). *Stress test: Reflections on financial crises*. New York: Crown Publishers.
- Gorton, G. (2015). Stress for success: A review of Timothy Geithner's financial crisis memoir. *Journal of Economic Literature*, 53, 975–995.
- Hajer, M. A. (1995). *The Politics of environmental discourse: Ecological modernization and the policy process*. Oxford: Oxford University Press.
- Hall, P. A. (1993). Policy paradigms, social learning and the state: The case of economic policy making in Britain. *Comparative Politics*, 25, 275–296.
- Hilgartner, S. (2000). *Science on stage: Expert advice as public drama*. Stanford: Stanford University Press.
- Hoffmann, M. J. (2011). *Climate governance at the crossroads: Experimenting with a global response after Kyoto*. Oxford: Oxford University Press.
- Howlett, M. (2014). From the 'old' to the 'new' policy design: Design thinking beyond markets and collaborative governance. *Policy Sciences*, 47, 187–207.
- Howlett, M., & Cashore, B. (2009). The dependent variable problem in the study of policy change: Understanding policy change as a methodological problem. *Journal of Comparative Policy Analysis*, 11, 33–46.
- Howlett, M., & Lejano, R. P. (2013). Tales from the crypt: The rise and fall (and re-birth?) of policy design studies. *Administration & Society*, 45, 356–380.
- Howlett, M., Mukherjee, I., & Woo, J. J. (2015). From tools to toolkits in policy design studies: The new design orientation towards policy formulation research. *Policy & Politics*, 43, 291–311.
- Israel Security Agency. (2010). *Annual summary: Data and trends in terrorism*. Tel Aviv: Israel Security Agency.
- Janis, I. L. (1982). *Victims of groupthink: A psychological study of foreign-policy decisions and fiascos* (2nd ed.). Boston: Houghton Mifflin. First published in 1972.
- Jones, B. D., & Baumgartner, F. R. (2005). *The politics of attention*. Chicago: University of Chicago Press.
- Jones, B. D., Thomas, H. F. I. I. I., & Wolfe, M. (2014). Policy bubbles. *Policy Studies Journal*, 42, 146–171.
- Kingdon, J. W. (1995). *Agendas, alternatives, and public policies* (2nd ed.). New York: HarperCollins.
- Kober, A. (2008). The IDF in the second Lebanon War. *Journal of Strategic Studies*, 31, 3–40.
- Laish, G. (2011). The second Lebanon war—A strategic reappraisal. *Infinity Journal*, 4, 22–25.
- Lappin, Y. (2009). IDF releases cast lead casualty numbers. *Jerusalem Post*, 26(3), 2009.
- Lasswell, H. D. (1971). *A pre-view of policy sciences*. New York: American Elsevier.
- Leggett, W. (2014). The politics of behaviour change: Nudge, neoliberalism and the state. *Policy & Politics*, 42, 3–19.
- Linder, S. H., & Peters, B. G. (1988). The analysis of design or the design of analysis? *Policy Studies Review*, 7, 738–750.
- Lodge, M., & Taber, C. S. (2013). *The rationalizing voter*. Cambridge, NY: Cambridge University Press.
- Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological Bulletin*, 127, 267–286.
- Malka, A. (2008). Israel and asymmetrical deterrence. *Comparative Strategy*, 27, 1–19.
- Maor, M. (2012). Policy overreaction. *Journal of Public Policy*, 32, 231–259.
- Maor, M. (2014a). Policy persistence, risk estimation and policy underreaction. *Policy Sciences*, 47, 425–443.
- Maor, M. (2014b). Policy bubbles: Policy overreaction and positive feedback. *Governance*, 27, 469–487.
- Maor, M. (2015). Emotion-driven negative policy bubbles. *Policy Sciences*, 49(2), 191–210.

- Maor, M. (2016a). Rhetoric and doctrines of policy over- and underreactions in times of crisis. In *Paper prepared for presentation at the HKU-USC-IPPA Conference on Public Policy*, Hong Kong, China, June 10–11.
- Maor, M. (2016b). Disproportionate policy responses. Working Paper. Jerusalem: Hebrew University. <http://www.moshemaor.net/publications/policy-anomalies>
- Maor, M. (2016c). The emergence of preference- and institution-driven policy bubbles: Conceptual foundations. In *Paper prepared for presentation at the HKU-USC-IPPA Conference on Public Policy*, June 10–11, Hong Kong, China.
- Maor, M. (2016d). Policy entrepreneurs in policy valuation processes: The case of the coalition for environmentally responsible economies. In *Paper presented at the INOGOV (Innovations in Climate Governance) workshop on Novel Approaches to Climate Governance and the Role of Entrepreneurship*, Amsterdam, 18–19 May 2015.
- Maor, M. (forthcoming). 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.
- Maor, M., & Gross, G. (2015). Emotion regulation by emotional entrepreneurs: Implications for political science and international relations. In *Paper presented at the 73rd Annual Conference of the Midwest Political Science Association*, Chicago, April 16–19, 2015.
- McConnell, A., & 't Hart, P. (2014). Public policy as inaction: The Politics of doing nothing. Paper presented to Australian Political Studies Association annual conference, University of Sydney, September 28–October 1.
- McDowall, D. (2000). Juvenile curfew laws and their influence on crime. *Federal Probation*, 64, 58–63.
- Mears, D. P., Shollenberger, T. L., Willison, J. B., Owen, C. E., & Butts, J. A. (2010). Practitioner views of priorities, policies, and practices in juvenile justice. *Crime and Delinquency*, 56, 535–563.
- Mintz, A., & Wayne, C. (2016). *The ploythink syndrome: U.S. foreign policy decisions on 9/11, Afghanistan, Iraq, Syria, and ISIS*. Stanford: Stanford University Press.
- Montpetit, E. (2003). *Misplaced distrust: Policy networks and the environment in France, the United States, and Canada*. Vancouver: UBC Press.
- Nahmias, R. (2008). *Israel warns Hizbullah war would invite destruction*. Ynet News. <http://www.ynetnews.com/articles/0,7340,L-3604893,00.html>. Accessed 5 July 2016.
- Ostertag, K. (2002). *No-Regret potentials in energy conservation: An analysis of their relevance, size and determinants*. Heidelberg: Physica.
- Peters, G. B., Pierre, J., & King, D. S. (2005). The politics of path dependence: Political conflict in historical institutionalism. *Journal of Politics*, 67, 1275–1300.
- Potoski, M. (2002). Designing bureaucratic responsiveness: Administrative procedures and agency choice in state environmental policy. *State Politics and Policy Quarterly*, 2, 1–23.
- Rosenberg D. A. (1978). American postwar air doctrine and organization: The navy experience', In A. F. Hurley & R. C. Ehrhart (Eds.), *Air power and warfare. The Proceedings of the 8th Military Symposium*, U.S. Air force Academy, October 18–20, 1978.
- Ruefle, W., & Reynolds, K. M. (1995). Curfews and delinquency in major American cities. *Crime and Delinquency*, 41, 347–363.
- Ruefle, W., & Reynolds, K. M. (1996). Keep them at home: Juvenile Curfew ordinances in 200 American cities. *American Journal of Police*, 15, 63–84.
- Sabatier, P., & Jenkins-Smith, H. (1993). *Policy change and learning: An advocacy coalition approach*. Boulder, CO: Westview Press.
- Schneider, A. L., & Ingram, H. (1997). *Policy design for democracy*. Lawrence, KS: University of Kansas Press.
- Schön, D., & Rein, M. (1994). *Frame reflection*. New York: Basic Books.
- Selvey, L. A., Antão, C., & Hall, R. (2015). Evaluation of border entry screening for infectious diseases in humans. *Emerging Infectious Diseases*, 21, 197–201.
- Siegrist, M., Keller, C., & Cousin, M. E. (2006). Implicit attitudes toward nuclear power and mobile phone base stations: Support for the affect heuristic. *Risk Analysis*, 26, 1021–1029.
- Sjoberg, L. (2007). Emotions and risk perception. *Risk Management*, 9, 223–237.
- Slovic, P. (1987). Perception of risk. *Science*, 236, 280–285.
- Slovic, P., Finucane, M. L., Peters, E., & MacGregor, D. G. (2002). The affect heuristic. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 397–420). New York: Cambridge University Press.
- Smith, N., & Leiserowitz, A. (2012). The rise of global warming scepticism: Exploring affective image associations in the United States over time. *Risk Analysis*, 32, 1021–1032.

- Smith, N., & Leiserowitz, A. (2014). The role of emotion in global warming policy support and opposition. *Risk Analysis*, 34, 937–948.
- Soroka, S. N. (2014). *Negativity in democratic politics: Causes and consequences*. Cambridge, NY: Cambridge University Press.
- Spence, M. (1973). *Market signaling: Information transfer in hiring and related screening processes*. Cambridge, MA: Harvard University Press.
- Stedman, R. C. (2004). Risk and climate change: Perceptions of key policy actors in Canada. *Risk Analysis*, 24, 1395–1406.
- Stimson, J. A. (1991). *Public opinion in America: Moods cycles and swings*. Boulder: Westview Press.
- Stimson, J. A., Mackuen, M. B., & Erikson, R. S. (1995). Dynamic representation. *American Political Science Review*, 89, 543–565.
- Stone, D. A. (1989). Causal stories and the formation of policy agendas. *Political Science Quarterly*, 104, 281–300.
- Suzuki, M. (1992). Political business cycles in the public mind. *American Political Science Review*, 86, 989–996.
- Thaler, R., & Sunstein, C. (2008). *Nudge: Improving decisions about health, wealth and happiness*. London: Penguin.
- U.K. Department for Environment, Food and Rural Affairs (DEFRA). (2005). Adaptation policy framework: A consultation by the Department for Environment, Food and Rural Affairs. PB11431. DEFRA, London.
- van Wijk, J. & Fischhendler, I. (2015). *The construction of urgency discourse around mega-projects: The Israeli case*. Working Paper. Jerusalem: Hebrew University.
- Walker, S. G., & Malici, A. (2011). *U.S. presidents and foreign policy mistakes*. Stanford: Stanford University Press.
- Walker, W. E., Marchau, V. A. W. J., & Swanson, D. (2010). Addressing deep uncertainty using adaptive policies: Introduction to section 2. *Technological Forecasting and Social Change*, 77(6), 917–923.
- Weimer, D. L. (1993). The current state of design craft: Borrowing, tinkering, and problem solving. *Public Administration Review*, 53, 110–120.
- World Health Organization. (2003). Update 11—WHO recommends new measures to prevent travel-related spread of SARS. Mar 27. http://www.who.int/csr/sars/archive/2003_03_27/en/. Accessed 7 July 2016.
- World Health Organization. (2014). *Ebola response roadmap*. Geneva. <http://www.who.int/csr/resources/publications/ebola/response-roadmap/en/>. Accessed 30 May 2016.
- World Health Organization. (2015). WHO publishes list of top emerging diseases likely to cause major epidemics. WHO Updates. <http://www.who.int/medicines/ebola-treatment/WHO-list-of-top-emerging-diseases/en/>. Accessed 5 July 2016.
- Yadlin, A. (2015). How Israel created deterrence in the Second Lebanon War. Ynet, May 22. <http://www.ynetnews.com/articles/0,7340,L-4660200,00.html>. Accessed 5 July 2016.