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The logic of deflective action: US energy shocks and the US policy process

PETER Z. GROSSMAN *Department of Economics, Butler University, Indianapolis, USA*

ABSTRACT

Exogenous shocks may lead to policies that seem extreme and even "irrational". This paper argues that, in the event of a major energy shock in the US that persists, such legislation is an inevitable response to the demand from constituents that political actors "do something". Since shocks by their nature are unanticipated and are often highly technical and complex, boundedly rational legislators cannot generally understand all of the ramifications of the shock, much less hope to craft well-considered and precise legislation to deal with it. But the demand to "do something" means that a range of actions is politically necessary. The "shock" policy process is modelled as a stepwise legislative decision problem. If the crisis persists, legislation that promises a solution is likely to be the result, even if this "solution" is infeasible. The model is applied to five US energy shocks.

Key words: *US energy policy, socioeconomic shocks, legislator behaviour, crisis legislation*

Introduction

> The frustration and uncertainty, combined with increasing apprehension about vulnerability, that has gripped the country has produced an environment in the Congress where any answer is an attractive one – even if it is wrong.[1]

Contemporary theories of the policy process note the importance of socioeconomic shocks as a catalyst for policy change. Multiple streams (MS) theory, for example, argues that "focusing events" will "open a window" for policy entrepreneurs to "couple" the streams to advance solutions to problems that previously were lost in the crowded agenda of policymakers leading in some instances to major policy change (Kingdon, 1984; John, 2003). Punctuated equilibrium theory (PET) similarly argues for the effects of shocks on a stable policy agenda and, by dint of increased attention and public concern, the issue connected with the shock is thrust to the forefront of the policy process (Jones and Baumgartner, 2005; Baumgartner and Jones, 2009). Because of a shock and the enhanced attention paid to the problem it highlights, there may consequently be a change in the "policy image" of the problem altering the policy subsystem and – perhaps – precipitating a

major policy change. The Advocacy Coalition Framework (ACF) also emphasises the importance of shocks; that is, "significant perturbations external to the [policy] subsystem" cause shifts in coalitions permitting replacement of the dominant coalition by a minority coalition, altering agendas and producing policy change (Sabatier and Weible, 2007, 198–9). There is substantial empirical literature as well, both in the form of case studies and in data set analyses that confirm that shocks may lead to changes in policy. For example, studies have shown that the Three Mile Island nuclear plant accident clearly altered nuclear power's image, public attention, coalitions and, in turn, public policies (Baumgartner and Jones, 2009; Nohrstedt, 2005). But these theories, which as Schlager (2007, 310) argues "point to similar types of events" as a prerequisite for policy change, do not claim that a shock inevitably leads to significant policy change. Indeed as she suggests, in these models of policy, whether or not a major change occurs is serendipitous.

Thus, while leading theories (as well as empirical evidence) have suggested how a shock *may* precipitate a major policy change, they acknowledge that shocks may lead to no change, minor change, or to instances where there is only the appearance of change. Moreover, they leave uncertain the process by which legislators might endorse limited or radical policy change. This paper argues that shocks will typically set off a process that can lead in fact to policies that attempt to merge political safety with radical policy solutions. These solutions may be so drastic as to be infeasible and in retrospect to seem "irrational" (Ahrari, 1987). Such policies are likely to be reversed once the shocks have passed but I argue that, in the midst of a shock, support for radical policies is rational; indeed to *not* support them would seem a major political mistake.

This paper relies in part on recent theory of policy change but also on earlier models of non-incrementalist, shock-induced policymaking (notably Downs (1972), Jones (1974), Eyestone (1978), and Ahrari (1987)). The contention here is that the issues surrounding shocks are often enormously complex and technical, confusing to both the public and policymakers alike, but that the attention they generate leads to demands from the public that policymakers "do something".[2] These demands present officials with the problem that they must be seen to be responsive to an issue that has gained salience and attention in policy debates. Still, those officials, particularly elected officials, who are faced with this state of affairs may proceed tentatively at first because a shock presents more than anything else a large opportunity for failures that policymakers would prefer to avoid.[3] Yet they must act because, as Eyestone (1978) argues, there are large political costs in failing to do so. It is only when the shock is especially acute and/or has persisted – becoming a "crisis" – that elected officials will finally adopt a policy that appears on the surface decisive and bold, one that provides an

apparent solution to the underlying problem. Ideally, in fact, they will seek a solution that appears to voters to be low cost with the outcome pushed well into the future, so that success or failure cannot be quickly judged. But such "solutions" can be illusory especially when shocks involve "issues of technical complexity… [Under those circumstances] various publics know what they want but lack the knowledge of realistic alternatives" (Jones, 1974, 439). Consequently, the public (or publics) will be offered radical ones that will have political traction if the policy seems to promise a way out of the dilemma, preferably in a way that is also relatively painless.[4] Any actions that promise less than a "solution" can always be used against a legislator or other elected official in the next election.

Arguably, the underlying reason for the "do something" problem is related to the nature, scope, and character of information. Shocks will raise emotions, forcing prioritisation of the issue, but information is, as Jones and Baumgartner (2005, 13) point out, uncertain and ambiguous under any circumstances, all the more so after a shock, increasing the "risk that the information [a policy] was based on was wrong".

I propose a model of what is called here the "do something" dilemma, focused on US federal legislator behaviour and applied to shocks with large-scale, "macro" effects, notably energy shocks. The model links shocks to specific types of legislator behaviour. The paper will focus primarily on energy shocks because they are exceptionally complex, and effective policy is almost impossible for legislators and their constituents to evaluate especially while the shock persists. But effectiveness is not nearly as important to the legislator as deflected criticism or "blame" avoidance, which according to Weaver (1986) is perhaps the most important factor in a legislator's calculation. In most cases, in terms of actual outlay of social resources, doing nothing would often be less costly and ultimately little different in outcome from doing "something".[5] But as a shock persists, it is easy for constituents to see who acts, and may deem that inattention to the nation's most salient issue is itself blameworthy.

It should be noted at the outset that the model downplays what most scholars would expect to have a central role in any legislative process: party politics. Party considerations are not entirely absent in this model and will be examined in places, but a striking feature of shock-induced legislation is the overwhelming support it tends to receive when the issue is still salient – support transcending party bounds. For example, in the midst of a persistent energy shock in 1980, the Carter-era synfuels bill passed by a four-to-one majority. In contrast, in 1976, when energy was a much less urgent issue, a less costly and less ambitious synfuels bill was defeated.

The paper also distinguishes "macro" energy shocks from more limited "micro" shocks. The latter, for example the Three Mile Island nuclear accident or the 2010 Deepwater Horizon oil spill, followed the "do something"

process up to the point of solution, but with such micro events a specific solution is usually possible. So, for example, with respect to the Deepwater Horizon spill, legislators staked out positions and offered legislation in much the same way that the "do something" model would predict but, had the process continued and had the damage been as considerable as initially feared, a definitive solution banning deepwater drilling was a plausible outcome. With respect to a national energy policy, the US has retained a default policy of reliance on international energy markets to provide fossil fuel resources for conventional energy technologies. But in the event of "macro" energy shocks, policymakers have called for radical, transformative policy changes. The most often stated goal of these proposals has been total US energy self-sufficiency, or at least a drastic reduction in its dependence on the international oil market, through the utilisation of alternative energy technologies. Bills toward this end have been passed into law by the US Congress, but the goals have never been achieved nor, in reality, ever seriously pursued.

The paper proceeds as follows. In the next section, the general case of the "do something" dilemma will be modelled as a multi-stage decision problem. Legislators face an environment with very poor, emotion-laden information. The model describes a trajectory in which a legislator must make decisions on policies to combat a shock without knowing the magnitude of benefits or costs (in terms of votes in the next election). In a broad sense, the legislator is facing a multi-stage game in which she plays against a potential opponent for her seat, but at the time of the shock the identity of that opponent is assumed to be unknown. The legislator can only surmise whether an action will be viewed negatively by constituents, and might be used against her. It will be shown that if the problem persists, the result will be votes for policies that are attractive even if implausible. In the third section, I discuss the model with respect to five energy shocks and show how the legislative process has generally followed the "do something" model. In a concluding section, the paper discusses whether this basic model can be applied to other "macro" shocks, such as 2008 financial crisis.

The "do something" dilemma – a decision problem

Definitions, assumptions

Shocks are assumed to be unexpected socioeconomic changes that lead to spikes in public attentiveness. In the case of energy, these spikes are due almost exclusively to large price increases and/or supply disruptions. A shock may be short lived: a sudden jump in gasoline prices, for example. A shock also may be the result of a single precipitating event. The 1973 Arab oil embargo was an example of this type and its effects lasted for a few

months. The acute nature of such shocks, it is argued, spurs a demand from the public for policymakers to "do something".

Energy shocks may also be due to a series of events unfolding over weeks or months that lead to ever-building public attentiveness and growing salience. At some point, however, these events have produced impacts that become increasingly disruptive to constituents. The surging prices of oil along with periodic supply disruptions from early 1979 through early 1980 would be a case of this type. The "shock" is experienced at the point where prices have risen past some general level of comfort and where a continuation of soaring prices and/or constrained supply seems inevitable. This focuses attention and again leads to demands that political actors "do something".

In this model, the legislator (L) is assumed to be boundedly rational and self-interested. Her utility is a function of her office and thus her utility is maximised by election and re-election or, as Mayhew (1974, 5) puts it, she may be regarded as the typical "single-minded [seeker] of re-election" with the value of her actions measured in votes lost and gained (Tullock, 1976). Her utility function is discontinuous in that a fall below a plurality of votes means a precipitous fall in utility; a rise to plurality represents a more than incremental gain; votes above plurality increase her utility though at a diminishing rate; losing votes past plurality represent falling utility at a decelerating rate. Since L's rationality is bounded and, given the unanticipated nature of a shock, she does not know with anything close to certainty about its effects on her election prospects.[6]

While it may be assumed that there is homogeneity in legislator utility functions, it must be recognised that some legislators are safer in their seats than others. The most secure may deviate from practices that less secure legislators must follow. Others may have strong ideological motivations that can lead them to vote contrary to the wishes of their constituents on a given issue. But here it is assumed that L is the marginal (vote-seeking) legislator who believes she may lose her seat in the event that a shock becomes a key public issue if her actions and rhetoric do not satisfy the electorate.

It is also assumed that, prior to the shock, policy is in a stable equilibrium (Kingdon, 1984; Baumgartner and Jones, 2009; Sabatier, 1993). That is to say that the issue surrounding the shock is not in the forefront of the legislative agenda, has relatively low salience with the electorate and low attention from policymakers. In that environment, a shock occurs. This shock is exogenous; its impact has not been foreseen and its duration and ultimate severity are highly uncertain. It is clear, however, that the shock could have large social and economic repercussions.

Given its unexpected nature, there is no clear direction for policymakers to address the underlying problem. The shock gains its salience because of its wide impacts, but it becomes a political dilemma because the issues are

typically very complex and technical in nature. Thus legislators have at best a limited understanding of the shock's characteristics, even days or weeks after it has begun. An energy price/supply shock fits this category.

Because of its disruptiveness and complexity, the ideal outcome for the policymaker is for the problem to resolve itself. That is, since L cannot comprehend well the character of the shock or offer any realistic solution, she would prefer that the issue would lose salience – which shocks often do with time. Natural resolution allows a return to the policy equilibrium in which the rules and payoffs have been clear. That is to say, proposed legislation to "solve" the shock-related problem will either be dropped entirely, or it will be subject to normal legislative processes, in which radical proposals will be rejected and, at most, incremental changes shaped by policy entrepreneurs and advocacy coalitions will result.

Notwithstanding a hope of resolution, L must respond as long as salience is marked and there is persistence in public attention, because of the political "costs of failing to act" (Eyestone, 1978, 154). Still, there is typically a range of possible responses, and L must estimate generally which actions would be regarded positively (gaining or at least retaining her votes) and which negatively (costing her the same) by the electorate. How well she can estimate outcomes may depend on the intensity and duration of constituent discomfort: the more time she has to analyse her options, the better her understanding of constituent preferences is likely to be. However, the problem of acute discomfort may require a quick response, making the probability of a political error higher.

It is assumed here that magnitudes of political costs and benefits will also depend on the potential opponent for L's seat. As noted earlier, at the time of the shock, it will be assumed for simplicity that she does not know the identity of her opponent; she may not even know how many opponents she will face. Thus she cannot know how much her opponent(s) might benefit at her expense.

Because of bounded rationality, it is also assumed that neither she nor her constituents generally understand the probability that any legislative action will have positive results with respect to the issue itself. That is, no one can estimate the likelihood that, say, synfuels technology will be successfully commercialised. But in general, L cares mainly that her actions are perceived to be appropriately responsive to her constituents, and success or failure is either difficult to ascertain or ascertainable only in the future beyond the next election cycle. That is not to say that she is entirely cynical about the value of a large change in policy. The point is that success of the new policy is irrelevant if the time horizon for judging it is beyond the next cycle. Therefore, the goal is basically to be seen to be doing something.

At the same time, advocacy of an immediate, radical agenda shift may not be wise. As L weighs alternatives, a certain amount of initial restraint may be preferable to a vote for a massive programme if the latter seems to

be a panicked response to the shock, for which she might be criticised later if the effects of the shock quickly abate. Thus the decision problem is partly one of timing: "When should she advocate what?"

The "do something" process

We assume initially that the shock's effect is to change the policy "image" of the issue and to push it into the "spotlight of macropolitics" and the forefront of the policy agenda (True et al., 2007). As a result, L must make an immediate response to show attentiveness. Her responses are assumed to follow a three-step process during which she can hope to observe whether or not the issue is likely to remain salient for long, and can perhaps gather more evidence as to the wishes of her constituents. These steps are termed: Engagement, Expression of Intent, and Legislative Action.

1) For the first, *Engagement*, step, L must decide on whether or not to take a rhetorical stance with respect to the issue in question. If she does not engage and makes no statement in response, it would seem likely to be costly in terms of L's support; as the issue has become extremely important to the electorate, she would be portrayed as unresponsive to her constituents.

"Doing something" at this step is assumed to be primarily a verbal pledge to relieve constituent discomfort and/or to cast blame. It is here that party politics may be most evident. The opposition might cast blame on the party in power. The party in power may fault actions by a previous administration of the other party. In divided government, Congress may blame the current administration while the latter and its congressional supporters blame Congress. Also, there may be demands for investigations of purported "bad" actors, such as oil companies or market speculators. There may be attempts to tie political opponents to bad actors, for example, by emphasising a party's ties to oil companies. But, in general, there would seem to be a positive payoff for "saying the right thing".

2) *Expression of Intent*, step two, is a call for legislative action. If the shock has dissipated after Engagement, no further action or rhetoric is required; the issue is no longer salient. Those who previously advocated a jump to step three, Legislative Action, might well be regarded as having sought to act in haste and thus are blameworthy. But with clear persistence and/or acuteness of the shock, rhetoric will be deemed insufficient. The demand to "do something" has not abated. She again must decide among alternatives: she may choose an Expression of Intent, decide that rhetoric was a sufficient response, or not act at all. Choosing the first alternative means L must endorse some specific kinds of action to "do something", taking the form (in this model) of sponsoring or co-sponsoring legislation. Initially she may endorse measures that only address the matter symbolically, aimed mainly to show empathy with constituents. But it is assumed that inaction is

unacceptable and an unwillingness to do more than make rhetorical nods towards the problem cannot satisfy an electorate that is still demanding that officials "do something". Proposed legislative actions are basically of two types: symbolic or (ostensibly) definitive.[7]

There is no reason why L cannot choose to endorse both types of action. Symbolic legislation may be simply a non-binding resolution to express the sense of Congress, or it may take the form of a demonstration of government willingness to "share the pain", such as by turning off ceremonial lights or turning down thermostats in government buildings. Legislation may also be directed at helping temporarily to relieve discomfort through, for example, a short-term tax rebate. But endorsement of some legislation, whether it actually passes or not, may provide "proof" of positive intent that will be noted by constituents.

3) If the shock's effects persist further, L faces step three, *Legislative Action*. While voting for merely symbolic legislation is an action that shows sympathy for the current discomfort of constituents, it will become increasingly inadequate in the face of persistence. As the outcry of constituents mounts, it is assumed that anything less than an apparently purposeful effort toward a "solution" will be difficult to defend; as the opening quote indicated "*any* answer even if it is wrong" is necessary. If L chooses to opt either for only weak symbolism or no action at all, she can lose out to an opponent who promises to act more forcefully. Presuming that constituents cannot evaluate solutions on their merits and/or have beliefs that every problem can be solved by sufficient will (as Downs (1972) argues is true in the US), they will want Congress generally and their representative L to specify some way out of the problem. Thus, given a persistent shock, L will not only endorse specific legislative proposals that claim to offer "solutions", she must also vote for one of them. Given that the shock remains disruptive to voters, it becomes less costly from a political standpoint to support a radical shift in policy than not. This situation may be thought of along the lines of Jones' (1974, 438–9) "public-satisfying speculative augmentation" whereby the "dramatic surge of public concern" leads policymakers to approve major changes in policy even when a policymaker has little understanding of the solution that has been proposed.

Legislators may in fact compete by offering various bills that would lead to drastic change, reflecting the influences of party considerations and policy entrepreneurs whose views may have gained traction because of the shock. Competing solutions are beneficial to L since the competition will tend to delay final passage as different interest groups influence legislators, producing some variation in solution proposals. In the meantime, L can commit to a given solution while time might obviate the need for one. But for L, as long as the shock is salient, it is important for her to vote for a bill that promotes a solution.

Purported solutions to a persistent energy shock are likely to involve significant actions with societal impacts that may have long-run consequences; for example, programmes to undertake mass substitutions of alternative technologies for conventional ones would alter consumer choice as well as the composition of energy industries. But if L does not agree to radical policies that others are advancing at a time of crisis, she will be perceived as not doing enough and, as a consequence, she will risk losing votes to someone who will advocate for such a solution. Moreover, it must be assumed that if the shock persists long enough and public attention remains high, the differences among bills will be resolved and solution legislation will be passed. The alternative would be a general admission of failure to "do something" with respect to the most disruptive issue of the day.[8]

Decisive legislative actions may take two forms. The first form may provide a solution, but it comes with large clear, direct costs to constituents. The second is a solution that imposes relatively low direct costs on constituents, which both L and her constituents would prefer. Thus, if a programme seems to address the problem but entails, for example, large tax increases, it will be rejected if another offers a solution with no tax increases.

It may seem unlikely that there will be a solution with little or no costs – either in the form of money or discomfort – to a problem that is described as a persistent shock. But there may be two ways to appear to avoid costs to constituents. Firstly, if the problem has a technological component, then the solution may appear to be technological as well. Therefore, the preferred course of action will be to mandate a major, transformative technological fix to be achieved by shifting funds within the government's budget. It need not matter whether the fix is realistic or even that it would actually solve the problem if completed. If it is very hard to evaluate, then such proposals must be at the top of L's preferred list of choices especially if any measurement of success will take place several years in the future – which is almost inevitable for a new technology to reach development and commercialisation. At the outset, a technological fix will seem like a bold step, a statement of optimism about America's "can do" spirit.

The second way to avoid high costs to constituents is to impose most if not all of the costs on an isolated group – for example, oil companies – that may have been vilified initially and are known to have large resources. This could be doubly beneficial. It would accomplish the symbolic goal of punishing bad actors and at the same time underwrite a technological solution.

From a political standpoint, then, the preferred solution to a persistent energy shock is to legislate a significant technological fix that would not come to fruition until some time beyond the next couple election cycles and that would not impose hardship on constituents. In that case, L may justifiably assume that the failure of any fix in terms of voter support two or

more election cycles out will be zero (as it cost them little or nothing to begin with), assuming the issue is no longer salient. But if L votes for something less than a solution, an opponent has the opportunity to gain the initiative in the next election cycle. The logic of deflective action requires that, in the event of a persistent demand to "do something", L will always seek a solution, which, with respect to energy, means a low impact but dramatic technological fix.

There are actually three potential outcomes of the legislative process with respect to a major shock. Firstly, outcome A: even after committee reports and various floor votes, the shock ends, the issue loses salience, and the legislation simply is never passed into law. Secondly, outcome B: the shock ends before final passage but there is now some momentum for energy legislation, and proposals enters the normal legislative process. That is to say, interest groups and entrepreneurs have recognised new opportunities but the lack of urgency means that the bill that is finally passed provides rents for various groups and at most incremental changes in national policy. The radical ideas, however, are dropped. Thirdly, outcome C: the shock persists, and solution legislation described above is signed into law.

To summarise, despite the fact that actually solving extraordinarily complex energy problems through legislation of the type described is highly unlikely, legislators will advocate and vote for such a policy even though its practicality (or even rationality) is open to question. Legislators will follow a trajectory: Engagement to Expression of Intent to Legislative Action, which, carried to the end, leads to passage of a purported energy solution, a process that will stop only if the salience of the shock ends, and the demand to "do something" abates. In a real sense, solution policies are unlikely to be even second best, much less optimal, responses to energy dilemmas. But they will be likely to achieve overwhelming bipartisan support based on their promise alone. The thrust of the "do something" dilemma is to follow the pattern of behaviour that looks the best at the next election. If all that such legislation does is deflect criticism of the incumbent, it must be counted a success.

This model does yield testable hypotheses: firstly, following a major shock, legislators will respond rhetorically, generally assigning blame. Secondly, if public attentiveness persists, legislators will propose or endorse legislation. Thirdly, legislation will be introduced to solve a persisting shock and will either be highly technical and/or will impose costs on targeted, unpopular actors. Fourthly, in the event that the repercussions of the shock are prolonged, Congress will adopt solutions that are vast in scope and are either unlikely ever to be achieved or at least will be exceptionally difficult to evaluate especially in the short run. Events appear to have followed the model.

The "do something" dilemma and energy shocks

Energy shocks have been common. They are related to price or supply (which itself is typically a substitute for a price problem (Hall, 2003)) but they are not homogeneous. Prices might spike briefly and then fall back. In other cases, prices might rise persistently for months. Supply disruptions such as electric power blackouts are usually resolved in a day, although persistent blackouts and brownouts occurred in California in 2000–2001.

For shocks of short duration, the response will rarely rise above the rhetorical; actions, if they occur, are likely to be purely symbolic. Blame rhetoric is especially common. For example, in the spring of 1996, there was a pronounced short-term spike in gasoline prices. There was Engagement and legislative responses were rhetorical and partisan: Republican legislators blamed a 4.3 cents-per-gallon increase in gasoline taxes initiated by President Clinton, while Democrats blamed the oil companies for gouging consumers. When gasoline prices fell again, the issue faded from public debate and nothing more was done.

In most cases, shocks resolve themselves quickly as they did in 1996 but on other occasions shocks have persisted. Here are five examples.

Shock 1: The Arab oil embargo

By late 1973, 46 per cent of all Americans named energy as the most important national issue. The Arab oil embargo in October had created a focusing event drawing energy to the top of the policy agenda. As Rep. H. John Heinz III (R-PA) said on the floor of the House in early November, his office was "inundated" by constituents who demanded that Congress "get busy and do something"[9] on energy, an outcry that did not abate from late October until early March 1974.

The shock was exogenous and the government was unprepared. Legislators engaged quickly, responding rhetorically. Blame was cast on the Nixon Administration by Democrats and by both parties on the distraction of Watergate, Arab OPEC members, and on oil companies generally. Members of Congress also offered expressions of concern for the misery of constituents.

Soon after, there were many Expressions of Intent in Congress to address the shock and, over the ensuing few weeks, literally dozens of pieces of legislation were introduced. Many were largely symbolic gestures – for example, limiting the use of government limousines – but, given the persistence of the shock over the next couple months, there was increasingly the demand that government should act decisively to *solve* the energy problem as it was then perceived.

Two major solution programmes were announced quickly. A Republican proposal followed the lead of President Richard Nixon who, in November 1973,

made a dramatic call for US energy self-sufficiency by 1980, through a plan he named "Project Independence". Senator Henry Jackson (D-WA) developed a Democratic alternative; his bill sought to make the US energy independent by 1983. The first vote on a key part of Jackson's proposal passed in the Senate by 82–0. These programmes for energy independence accorded with Downs' (1972, 39) observation that as awareness of a problem becomes widespread it is "accompanied by euphoric enthusiasm about society's ability to 'solve this problem'". Such legislation also benefited from "higher order symbols", specifically the Apollo programme, which was regularly invoked (by Nixon as well as legislators) to signal technological optimism. Apollo comparisons evoked positive reactions and allowed legislators to "spend the least effort explaining exactly what their proposal [was] about" (Zahariadis 2007, 76).[10] One favourable element of both solution proposals was that neither of them could be judged a failure for several election cycles and involved no new taxes despite some increases in expenditures. Money was to come from taxes imposed on the "windfall profits" of oil companies. Both programmes focused on technological solutions. The Republicans' was more explicit as to which technologies would solve the problem: breeder nuclear reactors and synthetic oil and gas from coal. Jackson's proposal focused on a large research budget, but was unspecific as to what wondrous new technology would be created to solve the energy problem. His bill appeared driven by an assumption that if funding was on a level with that of the Apollo programme, breakthroughs would necessarily occur.

Neither programme was put to the test, however. The embargo and the sense of crisis ended in March and energy was no longer the country's most salient issue. Still, there was legislative momentum for an energy bill, and Nixon's successor Gerald Ford offered the Energy Independence Act in early 1975; Jackson touted his programme. But party considerations and more normal legislative processes quickly took hold. Late in 1975, a bill was passed but it was full of compromises, gestures toward various interest groups, and watered-down programmes (outcome B). It did not actually promise energy independence or any sort of solution to national energy dilemmas. Senator Robert Packwood (R-OR) judged that it "was worse than no bill".[11]

Shock 2: Iran

It took the energy shocks of the late 1970s, marked by turmoil in Iran, which persisted for more than a year, to push the process to the end of the policy trajectory: Legislative Action leading to overwhelming votes for highly technical "solutions" (outcome C). President Carter's crash effort at commercialising synfuels within the decade passed by a four-to-one margin;

the bill containing authorisation of a solar bank with a goal that 20 per cent of all US energy would be solar by the year 2000 passed the Senate 81–10; the programme to commercialise nuclear fusion electric generation by the year 2000 passed with only seven votes against in the House. These programmes separately, but even more taken together, came with extravagant promises of specific technical fixes, with little burden on consumers since most of the funding was to come from the windfall profits tax on oil companies that Congress passed in 1980. The tax, it was estimated, would produce revenues of $227.3 billion during the 1980s. As critics noted both at the time and in years afterward, these energy development programmes were not realistic, and the windfall profits tax estimates were equally fanciful (Cohen and Noll, 1991). But the legislation did appear to fulfil the political goal, by promising a highly technical solution with low costs to voters, with a target date beyond the next couple of election cycles (Grossman, 2009a).

It seems likely that, for the radical change in policy that Congress authorised in 1980 to have lasted, either the salience of the energy problem would have had to have remained high indefinitely or a technological breakthrough would have had to have occurred quickly; neither did, of course, and in fact neither of these conditions can be legislated. Within a few years, it was clear that the synfuels and fusion programmes would not achieve their goals, and more solar energy systems were being removed from homes than added. The synfuels programme was terminated, fusion was wound back to a basic research project, and the solar bank was shuttered. But despite the initial burst of alarm and "euphoria" no major change in energy policy had actually taken place in the 1970s. The fragility of these programmes bears out the observation of Maltzman and Shipan (2008) of the important "relationship between enacting conditions and durability [of a given law]".

At the same time, as Downs (1972) points out, after a major shock, even when no radical change has taken place, things are not quite the same, as new organisations, interest groups, institutions, coalitions, and so on have been created. So it clearly was with energy. Indeed, a cabinet-level department was created and many lobbying groups had changed focus and alliances. Moreover, the terms of the debate had changed. Energy independence, for example, had become a major policy theme and was utilised by legislators of both parties.

Shock 3: The Gulf War

The theme of energy independence was clearly in evidence during the energy shock of 1990–1991, the consequence of Iraq's invasion of Kuwait and a boycott of Iraqi (and Kuwaiti) oil. The price of oil spiked and sparked a "do something" problem for Congress. There was vigorous Engagement,

beginning with blame. The oil companies were especially vilified. But blame was also cast on Ronald Reagan for having presided over the demise of Carter-era programmes, and on 1970s Democratic Congresses for having rejected legislative proposals of Richard Nixon and Gerald Ford. Expressions of Intent soon became ubiquitous. Many proposals were largely symbolic: for example, S. Res. 348 merely called on the president to enact measures to protect consumers from high gasoline prices, and H.R. 5592 called for an energy study commission. True to the model, however, bills aimed at a solution soon emerged. Rep. Harold Volkmer (D-MO), for example, introduced a bill entitled the "Commercialization of Alternative Energy Sources and Energy Technology Act of 1990", which was to have achieved US energy self-sufficiency by 2000. President George H. W. Bush as well as Democratic leaders offered major legislative proposals aimed at solving US energy problems. But by the spring of 1991, the war was over and the price of oil had fallen; the shock was over. An energy bill was passed nearly a year and a half later but, as in 1975, the process was marked by partisanship, and the final result was full of compromises and provisions to satisfy interest groups (outcome B), with at most incremental changes to US energy policy.

Shock 4: Gas prices and blackouts

When George W. Bush became president in 2001, there were two energy shocks: California was suffering from electricity shortages and widespread brownouts and blackouts, and the prices of both natural gas and oil were rising. There was an imperative to "do something" quickly and Bush, soon after taking office, appointed a commission under Vice-President Dick Cheney to make recommendations for major energy legislation.

While Cheney's group deliberated, there was tremendous Engagement in Congress. Indeed, oil prices had been rising for some time prior to Bush's election, and before he took office blame rhetoric in Congress had become commonplace. Republicans blamed the Clinton Administration for doing little on energy and Democrats blamed the Reagan and George H. W. Bush administrations both for encouraging electric power deregulation that they said led to California's woes and for doing little to make the US energy independent. By spring, California was still struggling and gasoline prices had reached record (nominal) levels. There were widespread Expressions of Intent and dozens of bills were introduced; in fact, during the 107th Congress about 1,000 bills with at least some energy provisions were recorded.[12]

The report from Cheney's group emphasised accelerated, widespread fossil fuel development including drilling in the environmentally sensitive Arctic Natural Wildlife Refuge (ANWR) and on the outer continental shelf. Two Connecticut Democrats offered, instead, legislation called the Energy

Independence Act of 2001, which called for self-sufficiency by 2011. The administration's proposals, a major initiative that included alternative technologies as well as drilling in places like ANWR, were introduced in a House bill that July and the Democratic leadership responded a few months later with an alternative (S. 1766) that emphasised conservation and new technology development. But in fact, by the summer of 2001, gas prices had fallen and California had a surplus of electricity. The Democrats generally opposed the Republican effort on environmental grounds, and debate over major energy legislation persisted through the 107th Congress. But in fact there was no urgency, no crisis, and nothing was ever passed (outcome A).

Shock 5: Gas prices

In 2007, a new, again Democratic, Congress faced the shock of rapidly rising gasoline prices. From $2.10/gallon in January, the price was over $3/gallon by May. Through the spring, there was Engagement with blame cast notably on a new group of bad actors, energy speculators. There were also a large number of legislative Expressions of Intent. In 2006, President Bush had advocated greater reliance on biofuels, particularly ethanol, and this was an idea that was incorporated into a bill, largely the work of Senate Democrats, which became known as the Energy Independence and Security Act of 2007. Ethanol was depicted in congressional debates as a transformative technology: it would make the country largely independent of foreign (especially Middle Eastern) oil, would be home grown, would employ many thousands of Americans, would reduce energy costs in the long run, and would be environmentally superior to fossil fuels. The bill had momentum in the late spring and early summer as gasoline prices stayed above $3/gallon. But then prices began to fall (to around $2.70 by August), and momentum was lost. The House reported a bill in late summer that was missing several key provisions in response to protests from various interest groups. It appeared that at best there would be a repeat of 1975 or 1992 (outcome B), but then in November prices rose again. There was a renewed sense of urgency. As the *New York Times* reported, "voter anger" was motivating congressional action (Broder, 2007). Legislative Action was completed and the bill was signed in December. The vote in the Senate was 86–8 (outcome C).

The centrepiece of the bill was the mandate for production of 36 billion gallons of biofuels by 2022, to substitute for 20 per cent of US transportation fuels. Of the total, 21 billion gallons were to be distilled from cellulosic ethanol. President Bush had touted this in his 2006 State-of-the-Union Address suggesting technological breakthroughs were near. But as of this writing in 2011, there are doubts about every part of the ethanol promise.

It does not seem environmentally friendly and may raise the price of food. In the meantime, the promise of cellulosic ethanol has yet to be realised. There seems a real possibility that the mandate will be overturned.

Nevertheless, in 2007 it made sense for legislators to vote for the bill. However improbable are any future-directed technological solutions to energy shocks, such programmes are the only politically acceptable approaches in the midst of shock and, as a result, such programmes continually reappear. Failed energy legislation could be said to be the model for the ethanol mandate in the 2007 energy bill.

I would argue that these results are inevitable. In the frame of a "do something" dilemma, at the culmination of the process concerning a shock that is persistent, the "something" should be seen as a dramatic policy endeavour, because to offer less means that a potential political opponent to incumbent legislators can always appear to be ready to offer more. Of course, the less painful the proposal the better. As the model suggests, any rational legislator arguably *should* vote for technological mandates no matter how far-fetched, since they seem to promise the kind of solution voters will view most favourably.

Discussion and conclusion

This paper sets out to model the *process* by which external shocks, specifically energy shocks, lead to specific kinds of policy outcomes. Current theories of policy change leave uncertain how a shock is processed by legislators. But, as the examples show, there is a clear pattern and identifiable steps – steps that will lead to radical legislation so long as there is persistence. It seems that the persistence of an energy shock is what determines the kind of outcome that will obtain, but the shock itself is what initiates the process.

One question that arises is this: does the model reflect the political process with respect to other kinds of shocks besides energy shocks? For example, the financial shock of September 2008 led to widespread calls for Congress and the Bush Administration to "do something". But, like a major macro energy shock, this financial crisis was highly technical as to its origins and the efficacy of any solution was uncertain. Moreover, financial shocks, like energy shocks, often dissipate without intervention as economic forces promote a normal rebalancing. Nonetheless, the acute salience of the issue and the concerns of the electorate meant that politicians had to stake out positions rhetorically. During the early stages of the financial crisis, legislators cast blame on, among others: reckless speculators, bankers, Fannie Mae and Freddie Mac, Congress, President Bush, and so on. Legislation of various types was proposed and some actions were taken, mainly by government agencies such as the Federal Reserve and the FDIC.

But there was clearly a demand for a major "solution" to the financial problem, which led to the passage of the $700 billion TARP legislation in October, a measure that passed the Senate by a three-to-one margin.

The TARP process differed in one fundamental way from the energy shock process: the problem was unusually severe rather than persistent. Legislators presumably had to "do something" but the acuteness of the problem did not allow a solution that would be judged several cycles in the future. The financial crisis (more or less) ended within a couple years but had TARP solved the problem? Criticism of the programme ensued soon afterward and, for some legislators, there was a need to deflect criticism from their votes on TARP. The TARP vote came just before the 2008 election and so could not be readily assessed as an issue in that campaign. However, it has been claimed that 36 House members lost their seats in 2010 partly as a result of their TARP votes.[13]

The "do something" model raises a few other questions with respect to its applicability: for example, would this model apply outside the US political system? That is, do US officials face the "do something" dilemma because of our electoral form? Would, for example, parliamentarians in Europe face the same problem? Would it matter if the system has another form of first-past-the-post elections (such as the UK) or if it has a proportional representation system? The answers to such questions are projects for future research.

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NOTES

1. Memo from Eliot Cutler (Office of Management and Budget) to James McIntyre and Stuart Eizenstat, 12 June 1979, emphasis in the original.
2. This point has been noted by economists as well. For example, Higgs (1987, 2009) argues that "do something" crises give political entrepreneurs opportunities for rent seeking.
3. As both PET (Jones and Baumgartner, 2005) and ACF (Sabatier, 1993) note, there is a tendency toward stability in political systems so that change is generally resisted.
4. This has political value because, as Downs (1972, 39) notes, Americans believe that every problem can be solved "without any fundamental reordering of society itself if only we devote sufficient effort to it" when in fact many problems "cannot be 'solved' at all in any complete sense".
5. A study of spending on large-scale energy programmes from 1980 to 2000 noted expenditures of about $9 billion that in fact "produced no quantifiable economic benefit" (Fri, 2006).

6. Arnold (1990, 14–15) argues, "Legislators choose among policy proposals by estimating citizens' potential policy preferences and by estimating the likelihood that citizens might incorporate these policy preferences into their choices among candidates in subsequent congressional elections." However, under shock conditions such estimations may be exceptionally difficult to make with any accuracy.
7. Cobb and Elder (1975) refer to purely symbolic legislation as components of a "pseudo-agenda" meant strictly to "have symbolic appeal to constituents" (Cobb et al., 1976, 126), but much in evidence in a time of crisis.
8. Shepsle and Weingast (1981) note that there are often institutional barriers to radical policy change. But radical steps in the wake of a shock are observed often enough to suggest that, at least for the duration of the shock's effects, the equilibrium these authors find is at least temporarily disturbed.
9. Congressional Record, Vol. 119, Part 27, 36337, 8 November 1973.
10. The Apollo analogy was compelling but entirely inapt (Grossman, 2009b).
11. Senate Hearings for S. 2532, Senate Committee on Banking, Housing and Urban Affairs, April 1976, 15.
12. Library of Congress, Bills Summary & Status, 107th Congress, at: http://thomas.loc.gov/home/LegislativeData.php?&n=BSS&c=107#
13. As reported on the web at: http://bailoutsleuth.com/news/2010/11/election-21-tarp-supporters-lose-tuesday/
    In a Senate race, Blanche Lincoln (D-AR) lost her seat in which ads were run directly attacking her votes for TARP.

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PROFESSOR PETER Z. GROSSMAN
Clarence Efroymson Professor of Economics
Butler University
4600 Sunset Avenue
Indianapolis IN 46208
Tel: 1 317 940 9727, Fax: 1 317 940 9445
Email: pgrossma@butler.edu