The Politics of Information

Problem Search and Public Policy in Post-War America

Frank R. Baumgartner, The University of North Carolina at Chapel Hill

Bryan D. Jones, The University of Texas at Austin

Table of Contents

Preface

This book follows a research path that we began in 1987 and which has led us into a number of studies of many types. We began with a suspicion that political science had overestimated the weight of inertia and stability in the policy process and, by studying a number of individual policy issues over time, were able to develop a theory of punctuated equilibrium in order to explain not only the obvious stability that characterizes most issues most of the time but also the periods of abrupt change. Tracing the route of individual policy histories over time remains the single most approachable and common path to theory building in this area.

Our discovery that we could develop quantitative indicators of the agenda status of an issue, as well as how it was framed in the media and government discussion led, perhaps in a moment of temporary insanity, to a proposal to the National Science Foundation to create comprehensive indicators of government activities from approximately 1947 to the present. Not surprisingly, reviewers agreed that this was insane, and we were rejected in the first go-round. But we persevered, the insanity became permanent, and the result has been the creation of the Policy Agendas Project (www.policyagendas.org). The large datasets available allow us to investigate the patterns of stability and change that characterize government at all levels and in all domains. It would not be possible without the continued efforts of dozens of collaborators and students. It has also led to some unorthodox methodological approaches. Indeed, since our first focus on tracing the path of individual policies over time, with the data resources that the agendas project makes available, we have gone well beyond this approach. While the stochastic modeling approach does not allow us to understand much about any particular policy domains, it

allows new insights into the general patterns of change that characterize them all. We are convinced that a combination of close study of individual policy issues and broad overviews of the general patterns of attention in government will lead the greatest number of insights; we know that no single approach alone can be as useful as a combination of approaches.

Some of the most exciting projects we have been involved in over the past years have been associated with a network of colleagues, collaborators and, now, friends who have replicated the US-based Policy Agendas Project across many different political systems (see www.comparativeagendas.org). Studies we have done on budgets, legislative activities, executive actions, and on the impact of elections on policy priorities have reassured us that our US-based findings are far from unique. Indeed, to the extent that much of what we describe here is due to general characteristics of human cognitive processes, much of what we study has the potential to be universalistic, applicable, we suspect, in any large and complex organization (whether in government or in the private sector, through to our knowledge these ideas have not been tested in non-governmental settings). It has been a true intellectual pleasure to work with others posing questions, gathering evidence, and collectively puzzling over the best ways to answer questions about democratic governance, human attention, and policy change in a manner consistent with what the data show. This has led us to refine some of the ideas with which we started over 25 years ago and to develop new ones.

Most importantly, the organization and prioritization of information has become increasingly central to our studies. Governments are complex adaptive organizations, but what are they adapting to? We made the case in *The Politics of Attention* that the processing of information within policymaking structures invariably led to a disjoint pattern of policy outputs, because attention implies inattention, and inattention to important developments in the

environment can build up and cause a scramble to address them. We used the phrase "error accumulation" to describe this process: Information that is temporarily ignored because of information overload eventually accumulates and surpass a threshold where it can no longer be ignored, leading to a rapid "catch-up" that we refer to as a policy punctuation.

Any study of the role of information in policymaking should, it seemed to us, rely on information. Or maybe our interest in information came from our insistence that we give pride of place to observation and measurement in analyzing government. Cause and effect are easily switched in the human mind. We have spent almost 25 years focused on developing new indicators of what the government does. In this book we continue our focus on observation. Certain patterns jump out from any analysis of the huge range of behaviors and trends we review in this book. But just as we note that political leaders often trade off the scope of their jurisdiction for an illusion of control, we can make the same argument regarding our own profession. We have certainly not developed the final word on the developments we explore here. We have taken the observations as they fall out, and we have not limited our purview only to a narrow slice of the political world. By taking on such a broad set of observations, the patterns we observe as well as the explanations we develop for them will be very general. It will fall to us in other projects and to others in the future to delve into some of these arguments in greater detail, exploring how they manifest themselves in detail during the day-to-day or year-to-year functioning of individual policy domains, agencies, and policy communities, and to understand the role of individual leaders in pushing the system in this or that direction.

We cannot defeat complexity. We must address it head-on. We hope that this will be a first step in a new literature in public administration and political science more generally that takes complexity more seriously.

[Acknowledgements to be added here]

Chapter 1

The Paradox of Search

"We see only things we are interested in seeing, although we may suddenly develop an interest that makes us discover something we have been familiar with for years." Thus the Surrealist Belgian poet, philosopher, and friend of painter René Magritte, Paul Nougé, succinctly summarized his theory of *objets bouleversants* (disturbing objects), in which the function of mundane objects are changed in meaning, bringing the reader's relationship to the object in to question (Matteson Art n.d.). The author manipulates the reader's attention to highlight something previously overlooked.

Nougé's comment has two parts. The first is an elegant statement of the commonplace observation that we are inclined to find what we think we will find.[1] The second part implies that only when we interrupt our normal way of thinking will we discover novel elements in the world around us. In earlier work we examined the ramifications of the second part of Nougé's observation for government—how shifts in attention lead to changes in our understanding of public policy, which leads to punctuated and often inconsistent policy choices (Jones 1994; Jones and Baumgartner 2005). In this book we examine both the first part and the second part and we develop a theory of the development of government based on our collective attitude toward searching for new information.

The idea that we see only what we are interested in seeing can be expanded in we call *the paradox of search*. It may be stated simply. If you search, you find. If you find, you act. If you

---

[1] The observation has appeared in many guises. For example, Matthew 7:7-8 --"Seek and ye shall find."

don't seek, you won't find, and hence won't act. There are many biases in searches, especially a confirmation bias that makes us more likely to recognize and accept what we are expecting to find while we find ways to reject surprising or unwelcome information. Therefore, balanced or effective search requires attention to diverse objects. In fact, as we will show, another paradox is that the organizational mechanisms that lead to the most accurate search (e.g., highly diverse groups with little hierarchical control) tend to be the opposite from those that implement solutions most effectively (e.g., hierarchical organizations with clearly defined missions). So our paradox of search is embedded in a paradox of organizational structure. We might argue that the paradox of search causes the paradox of organizational design. What is good for search is bad for implementation, and vice-versa.

Modern decision psychologists refer to the connection between interest and seeing as *confirmation bias*. Over and over again, in the laboratory and in structured observations, studies have shown a tendency for people to find evidence that supports preconceived notions. Even in good-faith data-gathering, analysis, and interpretation exercises, biased results occur (Ben-Shakar, et.al. 1998; Nickerson 1998). Daniel Kahneman (2011) notes that most of the time our minds work like lawyers, seeking out evidence to present to the court that will exonerate our client (the preconceived notion). Political scientists Milton Lodge and Chuck Taber (2012, Chapter 7) have amassed considerable experimental evidence that supports motivated reasoning, in which citizens seek out information that confirms prior beliefs about political objects, as well as evidence that people are biased toward disconfirming information that conflicts with prior beliefs. But as Nougé emphasizes, sometimes we can overcome these initial biases when discordant stimuli enter our range of view, else no updating would be possible. Search sometimes is discontinuous, directed by attention.

It is all well and good to indicate difficulties in the search process. Less studied is what happens if we don't engage in search at all—if we don't examine the data for patterns and make inferences from those patterns. Except in the most extreme of crises, the lack of search directly implies the lack of finding. If we don't seek, we won't find, as our attention will be directed at other aspects of our complex environment. If we do seek, we will likely find what we are searching for, because no search process is completely objective, no matter how hard we try. Even if we find disconfirming evidence, we tend to reject it until something, often the strength of the signal reaching us, causes us to re-evaluate. But in general, don't seek and you surely won't find.

Search almost invariably leads to action. We initiate search to find something. If we seek and consequently find, a motivation to act will follow, because finding generally leads to a sense of urgency to act. This often can occur even when action may not be warranted. After all, why search for the solution to a problem, if the problem itself is not very severe? So by searching to solve something, we have already determined that the problem is worth solving. Hence there is a pre-judgment that a new solution might well be worth implementing, if it is found. By the same token, by refusing to search we are saying that the problem is not worth solving. Political leaders often may want to implement a solution that may not work, feeling it more important to "do something" to address a problem they deem important. They are not alone in this—which of us would not be tempted to try an experimental or an unproven medical treatment if a loved one faced a life-threatening disease? If the problem is severe enough, a solution may be attempted even if we know it may not work. Or course, if a proven solution does exist, that makes its use that much more straightforward.

The paradox of search applies to individuals, but it may also apply to organizations and even governments as well. Organizations both free humans from their individual limitations by allowing specialization and coordination. But they also fall prey to many of the cognitive and emotional limitations of humans (Jones 2001). For example, people have attention spans that cause "bottlenecks" while organizations have agendas that for all practical purposes act similarly. As a consequence of the fact that the building blocks of organizations are humans, organizations tend to fall prey to confirmation biases and the general paradox of search in a manner similar to humans.

The paradox of search arises because search is tightly linked to finding, and finding is connected to action. The tight link between seeking and finding has two separate implications. First, avoiding confirmation bias is of great utility. While there is no magic bullet, search based in diversity makes the process more amenable to being disrupted and hence less subject to confirmation bias. Organizations may avoid the confirmation bias by the inclusion of discordant views in the decision-making process (Page 2008). The second implication is this: proper search is best pursued through diversity and openness, but with diversity comes loss of control. Control is necessary to forge workable solutions, but with control comes an attenuated ability to search. Disorder is the handmaiden of search—at least a very important kind of search, those in which the problem-space is unclear and the means-ends connections are uncertain. Order and control are often the enemies of search. Yet we repeatedly hear calls to eliminate this diversity in governmental reorganizations; command, coordination, and control are almost invariably highly regarded, whereas disorder and diversity are seen as the hallmarks of poor governance.

The tight link between finding and action also has implications for governance. For every problem, there is generally a proposed solution, and more often than not that solution involves

more government. More programs imply more expenses, more taxes, and more intrusive government. Maor (2012:4) has developed the concept of policy over-reaction, which he defines as a policy that imposes costs without producing offsetting benefits. This often occurs when decision-makers over-react to problems found as a result of the search process.

One approach is simply refuse to engage the search process. Don't seek and you won't find, and hence avoid subsequent tight connection between finding problems and acting on them. But that leads to festering problems that can grow to large-scale crises. The search process invariably is linked to the disjoint course of policymaking. Lack of search will lead to fewer problems being found until a crisis demands action in an "error accumulation" process (Jones and Baumgartner 2005). Search leads to finding problems, and the better the search process the more the problems will be found. The more problems found, the more government policies will be put in place to address them. This can result in an oversupply of government (relative to what is strictly speaking needed to address the problems), which may lead to counter-mobilization on the part of opponents of action, and a subsequent undersupply of policies (and a curtailing of the search process itself). We take no position here on how much government is the "right" amount. Rather, out point is that since the founding of the American Republic, we have lurched from restrictive to expansive periods with regards to the growth of new government programs, and that these consistent patterns of growth or limitation are part of a self-reinforcing process aptly summed up in our paradox of information.

Real World Traces of the Paradox

The paradox of search is not some sort of hypothetical syllogism that has no relationship to the real world of policymaking. Quite the contrary: deploying the datasets of the Policy Agendas Project, we show in this book that search, in particular a form of search based in diversity, leads

to increased problem identification and increases in the propensity of government to intrude in new areas of economic and social life.   After the Second World War, the US federal government began a program of proactive search for problems. This stance was not really a consequence of deliberate decision. It was more the result of the confluence of a number of forces, including the dire challenges of the Cold War, the growth of systematic policy analysis that started in the defense area and migrated to the domestic area in Johnson administrations and the increasing incorporation of groups previously marginalized in the public debate. The stance of government during the period led to an increased emphasis on using government to solve problems, and hence an increasing reliance on systematic search and policy analysis (Jones and Williams 2008).

Aggressive search to seek out problems rose rapidly from the late-1950s and peaked in 1978. That rise transcended the partisan composition of government and led to an increasing propensity of government to expand the scope of the lawmaking agenda to match expanded search capacity. Congress passed laws in more and more areas of American life.   After the peak, lawmaking followed search capacity down, producing an arc of new issue expansion and contraction. The federal government began to limit its commitment to systematic policy analysis, especially in the executive branch (Jones and Williams 2008; Williams 1990). As the lawmaking agenda declined, however, a large state presence in the programs and agencies created to implement the new policies remained.

Search and Disproportionate Information Processing
Like individuals, organizations process information, and have mechanisms to detect important changes in their environments that need attention. Such search capacities in organizations can be arranged in two different ways. Organizations can organize themselves to capture the diversity of information that is available, or they can organize to control the terms of the debate. Moving

toward the extreme of either of these patterns invites serious problems down the line. Being open to the panoply of problems that clamor for attention will lead invariably to finding more problems. And finding more problems almost as certainly leads to more government programs to solve them. Closing off the terms of the debate leads to finding fewer problems, and hence limiting the potential growth in government programs, but it runs a high risk of ignoring problems until they accumulate and result in a crisis.

As a consequence, both systems lead to disproportionate information processing (Jones 2001; Jones and Baumgartner 2005). By disproportionate information processing we mean a failure to match policy outputs proportionally to informational inputs. All organizations fail to respond in a manner proportionate to the challenges and opportunities facing it, but government is especially prone to this mismatch. Its environment is complex and the demands it faces are often contradictory. In the *Politics of Attention*, we examined the consequences of the limited agenda-space of governmental decision-making institutions on the disjoint nature of its response. This limited organizational attention span, or agenda, is responsible for policy punctuations as part of the information environment is effectively ignored in order to focus on what, at the time, government decision-makers decide is most relevant.

The organization of search capacity directly affects this pattern of disproportionate processing and hence punctuated policy responses. If government organizes to reflect the complexity of the environment, it produces more government than desirable. At some point, this becomes obvious, but changing course is difficult because of the creation of vested interests and risk-adverse politicians and bureaucrats who fear being punished if the problem intensifies. If government organizes to control information, a process we term *attribute suppression* to highlight the suppression of important components of the debate, then it will tend to ignore

problems, and under-produce policies until a crisis develops. So we see that the size of government itself goes in cycles of over-response and under-response to the signals coming from the environment. These surges and declines in the scope of government itself are largely induced by factors internal to government: openness to information. Thus, the supply and control of new information is central to our conception of government itself. Suppress information, ignore problems, deny complexity and one gets less government. Search for information, accept diversity, welcome complexity, and one gets more government.

The First Component: Search and Control

The first component of the paradox of search involves the search process itself. Search is about finding information. The problem of information is often misunderstood—by politicians, by business leaders, by academics, and by citizens. Each group harbors a myth, and each myth is woefully incomplete. Citizens generally think more information is always better, but any person will be quickly overwhelmed by excessive information. Academics, at least economists and many political scientists, think information is expertise, and one who has less of it must pay a cost to get more of it. They focus on the problems that emerge because of this "informational asymmetry," based on the scarcity and high cost of information. But much information in politics is free. Often the problem is over-abundance, not scarcity. Politicians and business leaders often think they can control information and its ramifications. These men (and women) of action want to limit the supply of information because contrary information may deter them from their goals. They call this "leadership."

These three myths are myths only because each fails to address the trade-offs among these them. So these trade-offs are almost always unrecognized, and even if they are recognized, cannot easily be addressed. As a consequence, human choice systems, whether they are political,

economic, or personal, produce decisions that over time are highly variable and inconsistent. Simply put: the information environment is too complex (in the sense of being comprised of so many interacting variables) for humans to control.

Search involves both the *information environment*—how accessible the information is— and the *nature of the seeker*. Environments are complex and seekers are fallible. The most basic tenet of behavioral rationality is that intentional rationality often fails, because of the interaction between the complexity of the problem-space and the cognitive and emotional limitations of human nature. Scholars in many disciplines have been working for decades studying the foibles and understand the general characteristics of human decision-making under conditions of complexity. Herbert Simon, Daniel Kahneman, and Elinor Ostrom have been awarded Nobel prizes for their contributions to different parts of the puzzle. These difficulties affect search. We will never have a complete theory of decision-making until we tackle the problem of how people deal with complex information environments, which involve both hard-to-find information *and* overwhelming floods of information.

There are lots of potential problems, so search requires setting priorities among competing problems. Even the most complex of organizations cannot address all potential problems simultaneously. Search resources are limited, and controlling and solving problems requires even more resources.

Search involves finding problems and controlling them—else why search? Yet control is a far more difficult enterprise than often recognized. Organizational designs allow the coordination of millions of employees in massive bureaucracies both in the public and private sectors. These large organizations simultaneously function in scores of countries, providing services, manufacturing products, or commercializing new inventions in a vast array of changing

circumstances. These are miracles of coordination, cooperation, and communication. But no matter what level of sophistication organizational structure can reach, it cannot compete with the complexity of the world around it. Nor can its leaders fully understand or predict the changes that might occur in that environment. Moreover, the larger the government organization designed to solve problems, the more likely it is that the organization itself becomes the problem.

The complexity of the social world and the difficulties of internal control within the government itself means that leaders can attempt to and may periodically partially succeed in understanding and controlling the circumstances around them, but that these episodes will only be limited and temporary. Inevitably, the world will reveal its greater dynamism and complexity. Leaders will be surprised by developments they had thought under control. Organizations with vast infrastructures devoted to nothing but gathering information about the world around them will be unpleasantly surprised by the rise of a new problem from an area where they were not paying attention. As the world reveals itself to be more complicated than the human organization that monitors it, organizations rush to catch up. Old leaders will be discredited as their structure did not foresee the new problem. New leaders will be advanced because they contend that they can do a better job in understanding "emerging threats." And the organization will lurch to a new equilibrium just as incomplete as the last one.

Understanding the importance of complexity in government is a prerequisite not only for good theories of organizational design but also for any complete understanding of why government is frustrating to so many people. The more we yearn for control, the more we are prone to failure. Organizational designs that function well in situations of high understanding often fail in situations of complexity. We spend hundreds of billions of dollars to construct massive bureaucracies to do what individual humans cannot, yet even then prediction and control

elude us. We need look no further than the unexpected collapse of the Soviet Union, the financial crisis of 2008, or the rise of Al Qaeda to understand that this is not how things really work. What political scientist or intelligence analyst predicted the Arab spring of 2011?

Humans naturally seek to assert control over their environment; none of us likes to think that we are at sea in a river of change, not controlling our own destiny. Control requires mastery of parts of the environment. Herbert Simon (1996) wrote of "partially decoupled systems," those that could be analyzed separately from other aspects of the environment. Mastery of the environment is accomplished through the bureaucracy of complex organizations. Bureaucracy is premised on hierarchy, by which Simon meant the ability to coordinate diverse activities designed to address parts of the environment—the "partially decoupled systems." Different parts of the problem-space are addressed by different parts of the organization. The role of leadership, in this model, is to coordinate this diversity, not direct it.

In order to gain control and to limit complexity within any domain, organizational leaders create "silos" or areas of separate jurisdiction or control. These areas of discrete control are more or less independent from one another, and in the most successful cases they will be substantially independent, able to work without interference from outside forces. And, depending on the definition of the problem they seek to address, and the degree to which they understand and can measure or observe the environment around them, they may be very successful. But their eventual failure is inevitable. Some will fail more quickly than others because the underlying issue with which they deal is more difficult to master or because it has been divided into jurisdictional authorities that do not correspond to the nature of the problem. Others will work better and for longer because they have a relative mastery of their mission.

But any mastery over the larger complexity of the social environment will at best by limited in scope and time. The problem lies in the dynamism of the problem-space. If it morphs in a way that spans the specialized parts of the organization, then the division of labor inherent in partially decoupled systems may fail. Given enough time, all organizational arrangements will fail, though they will do so with differing consequences and at different rates. And yet during the time of their functioning they may do a lot of good, solving many problems and managing complexity as well as is humanly possible.

Why don't organizations adjust as fast as their environments change? There are three reasons. In the first place, search is organized according to specialty, and hence is less capable of addressing spillovers that inevitably stem from dynamic environments. The second reason is what Simon (1997) called "identification with the means"—the tendency of organizational members to value the form of the organization beyond its utility in solving problems. Hence there is great resistance to modifying organizational forms to meet changing needs. The final reason is the illusion of control. When problems are missed, the cause is usually that the organization was not designed to detect the problem. But generally we decry not the absence of organization, but the lack of leadership. Reorganizations tend to centralize agencies to try to coordinate them better, but these efforts usually fail.

The Second Component: Failing to Search
In 1994, Congress passed and President Clinton signed the Home Ownership and Equity Protection Act, designed to address predatory lending. The act delegated the power to regulate such lending practices to the Federal Reserve Board, which is the main regulatory authority for federally chartered banks. Under Federal Reserve Chairman Alan Greenspan, the Board failed to act in any meaningful way against what became extensive problems in the issuing of sub-prime

mortgage loans, those loans whose borrowers failed to meet traditional standards set by lenders. The Board did not even set up a system of monitoring subprime lenders for potential violations. Greenspan justified his refusal to set up such a system this way: "For us to go in and monitor how they act on their mortgage applications would have been a huge effort, and it is not clear to me we would have found anything worthwhile without undermining the desired availability of subprime credits." (Roubini and Mihm 2010). One of course cannot say that a more aggressive monitoring regime would have prevented or even attenuated the subprime crisis. But the lack of a formal search process meant that the problem would have to be discovered through informal means or crisis.

The failure to search systematically in areas where problems are likely to occur can come from two sources. Both stem from the fact that search is costly. The first is simple inattention to the area—in the face of complex information flows, policymakers cannot attend to all facets of the issues that might affect them. These are cognitive costs, the cost of shifting attention among the various areas in which problems may emerge. The second includes cases in which policymakers refused to monitor the area explicitly; that is, they consciously evaluated the potential of search, but rejected the possibility because search is costly. These are opportunity costs: investing in search means not using resources for some other means. Greenspan's statement may be taken to imply that the returns on search, in his opinion, were so low as not to be worth the cost. Moreover, Greenspan thought that the very imposition of monitoring could have had a deleterious effect on the provision of subprime mortgages, which he thought were needed. We can't say if the lack of search for information in this case led to the accumulation of problems in the mortgage industry, but we all know what happened: a global catastrophe related to their failure in 2007.

The Third Component: Finding and Acting

The third part of the paradox centers on finding. Finding a problem means one is likely to address it. Once a problem is detected, the stage is set for doing something about it. One might argue that once problems are detected vigorous debate should distinguish problems that ought to be addressed and those that are not worth the cost of action. While governments doubtless engage in the process of discussion and cost-benefit assessment, there are good reasons to expect that the process will be inefficient and biased toward action. Once a problem accesses the agenda, it often generates a policy response. Once a problem is admitted, then governments are subject to blame for not taking action (Soroka in press). But the reader should not take our word for this; in Chapters 5 and 6 we show empirically that this is what happens. Perhaps as a consequence of this bias, opponents of action may deny that the problem exists, or minimize its consequences. These opponents of action may be conservatives trying to limit the scope of economic regulations, but they are as likely to be liberals resisting increased crime sentences or regulation of moral activity, or contracting for private companies for traditional public services. Again, we show this to be the case.

Analysis

At its heart this is an empirical book. Laying out the paradox of search does not make it true. We rely heavily on the datasets assembled by the Policy Agendas Project in the empirical sections of this book. As we noted in the Preface, without these datasets, we could not have pursued this project, nor could we have even begun to understand its impacts. Indeed, the second part of the paradox, and hence the stating of the paradox itself, came from examining the data.

The analyses in this book are almost all graphical and direct, without complex controls. There is a place for such controls, but too often overlooked is the absence of practical effects of the variable of interest once a series of controls, oftentimes acting in different directions across

time, are instituted. This is especially true in the field of policy processes. We concentrate on first order effects—those in which the effect of the variable of interest has a strong and direct correlation with the dependent variable of interest. If, for example, one has a theory that the Democratic Party is supposed to expand the policymaking agenda, whereas the Republican Party is supposed to restrict it, then we require a direct and evident effect. If the Republican Party was responsible for expanding the agenda at key times, as we shall show, then we need to change the theory, not start putting in variables (such as time) that may show the desired effects under more limited conditions. Let us rather face up to the facts. Controls that amplify political effects imply that the control is suppressing the political effect. In non-experimental work, especially in the study of policy processes tracing dynamics through time, what you see is what you got. Even where our analysis is more complex, as it is in the case of our examination of budgetary path dependency in Chapter 7, we focus on understanding the temporal path of this single variable.

The Paradox of Search and What is To Come
Our analysis uncovers an unavoidable paradox: The more we seek, the more we find. The more sophisticated the governmental search processes, the more problems it finds. The more problems government finds, the more it devises remedies to solve these problems. If we try to limit the scope of information so we can control a program or so we can control government intrusion, the less we know about what the program should address, and the more likely it is that problems will fester, grow, and become crises that are even more expensive to address. Not all problems become crises, so it is safe to ignore some. But which ones? It is not all that easy to decide which problems will become crises.

The rest of this book is directed at exploring the two parts of the paradox. Chapters 2 and 3 lay the groundwork for making the case that organizations must both address both the

discovery and prioritization of problems, on the one hand, and directing expertise toward solving them on the other. Diversity is key to discovering problems, but control is the key to directing expertise to solving the problem. Then Chapter 4 uses the approaches developed in Chapters 2 and 3 to analyze the search behavior of the congressional committee system, the legislative branch's premiere search mechanism. The chapter shows an increase and then decline in diversity in the search process during the Post-War period in the US.

Chapter 5 shifts toward the second part of the paradox. The chapter traces the increase in the breadth of government activity following increases in the diversity of the search process described in Chapter 4. Chapter 6 continues the theme by showing how important this broadening process has been in the overall growth of government in the Post-War period. Chapter 7 shows how the long-term path of government expenditure reflects the interplay of three factors: the broadening of government, the thickening of government, and response to crises. Chapter 8 examines budget changes, showing that they are disjoint and episodic, and hence in keeping with the model of "error accumulation" that causes delays in addressing problems efficiently. Chapter 9 "rounds up" the usual political suspects and shows how partisan divisions cannot account for the patterns we observe in the earlier chapters. Chapter 10 explores the ramifications of the paradox on government.

Part I:

"Seek and Ye Shall Find"

Chapter 2

Information, Search, and Government

There are two ways one may look at the governmental policymaking process, which may be termed the *politics-centered* approach and the *policy-centered* approach. In the politics approach, one would start with the political dynamics that are prevalent and trace through their impact on public policies as well as other consequences of these political dynamics. In the policy-centered approach, one begins with the policy and links this trace to whatever antecedents might have generated this pattern. In other terms, the politics-centered approach focuses on an independent variable (or set of independent variables), and searches for effects; the policy-centered approach focuses on a dependent variable (or set), and searches for causes.

Naturally neither approach is right or wrong, but each contains its advantages and disadvantages. This book is based in the policy-centered approach; we proceed to explain policymaking patterns and search for the causes of those patterns. One of the major consequences of this approach is that we find the traditional political dynamics—the contests between parties and the political philosophies they represent, the interest-group struggle, and the opinions and predilections of citizens to be relatively less important than the politics-centered approach would suggest. On the other hand, the information that is processed by the policymaking system, and its consequences for how problems are defined and acted upon (a

process that is often strongly affected by the traditional political forces) assume a far more central component in the narrative.[2]

We do not believe that the dynamics of any political system can be fully understood without these components. In the politics-centered approach, too much will be attributed to the preferences of citizens, political leaders, party elites, and public opinion and too little to the processing of real problems illuminated by real information. A policy-centered focus does not deny the distortion of information within the political process, nor the tendency of proponents of a policy to try to attach less-relevant solutions to a problem (Kingdon 1985). Yet it does focus on problem-solving and information-processing dynamics of political systems, an aspect of the process that practitioners of the politics-centered approach have often swept under the rug. Given the prevalence of the politics-centered approach among political scientists as well as political pundits, we hope this will provide at least a platform for integrating a different approach into the dialog.

Starting with Information

Governments are awash in more information than they can possibly analyze. It comes from their own agencies as these monitor developments within their jurisdictions, from outside advocates promoting various policy stances (usually the status quo), from events of all magnitudes ranging from traffic accidents to wars, epidemics, economic surprises, technological advance, and environmental catastrophes.   Some of the information is designed to have a political impact, as

---

[2] Each perspective is also concerned with the relations among variables within its respective set. For example, within the politics approach, political scientists have explored the relationship between public opinion and the policy positions of representatives, and the relationship between districting and political polarization. In the policy-centered approach, political scientists and others have studied spillovers among policy areas, implementation issues, and the tendency of policies to generate a new set of problems and hence more policy action (Wildavsky 19xx).

when a lobbyist or a think tank publishes a study suggesting that a certain policy option is particularly effective, costs more than anticipated, or will have unintended consequences. Such studies seek to affect how political leaders assess the likely cost or effectiveness of a given policy and thereby to push policy dynamics in a certain direction. Or they may seek to draw attention to a particular aspect of the problem that has received little attention. Other studies make the case that a problem is more serious than realized, thereby promoting the idea that government should be more active in efforts to solve it. Some information that becomes relevant in a political debate is not generated by such a process, however. New scientific discoveries or inventions can alter the cost or effectiveness of a given policy, for example. Or new data on economic trends, poverty, immigration, or crime may demonstrate that a problem is getting much worse and therefore increase pressure for action. Real-world events such as oil spills, financial crashes, and social movements demand attention, whether government officials would prefer to focus on them or not. And some of the news is good (such as new inventions or studies that show that a particular treatment for cancer may be more cost-effective than previously understood) whereas some of it is less so. In the realm of politics, media, interest groups, and politicians themselves are continually monitoring the mood of the electorate, as well as particular groups that may be crucial for election or campaign funds (Kingdon 1995; Stimson 1999). Oftentimes this political information weights the importance of the issues facing government, helping to allocate attention to some issues at the expense of others (Jones and Baumgartner 2005).

Governments respond, in fits and starts, to this flood of information that washes over them and which they create every day. There is so much information, and it changes so often, covering so many topics of interest, that no government can incorporate it all into its routine

decision-making processes. Further, governments are often expected to address problems for which no proven solutions exist. So they try even though they may not have a clear idea of what really works. And yet at the same time all governments seek to gain control of their environments. They do the best they can to control and funnel information by setting out rules and procedures to prioritize the most important bits of news and channel it to the top, with specialized agencies dealing with relatively routine developments within their respective jurisdictions. But because the world is complex and unpredictable, and because of the inherent struggle among political actors who seek to have their policies adopted, governments never succeed completely in controlling their own agendas. New information sporadically but repeatedly forces their attention from this to that issue or from this to that aspect of an issue to which they are already paying attention. Information determines priorities, and priorities determine actions. The flow of information in politics determines the flow of political life and the dynamics of policy change.

Two Types of Information
All decision-makers face two distinct kinds of problems. The first involves detecting important changes in the environment and prioritizing the relevant information—figuring out what among the various changes simultaneously occurring in a complex environment are most important to address. The second is determining what solution to the problem is best.   Governmental action reflects a fundamental tension between these two kinds of information. On the one hand, information can involve learning more about finding and applying an appropriate solution to a problem. On the other hand, information can involve discovery about what problems ought to be addressed and in what order. Decision-makers are best served if formal organizational structures follow the different information types. One is operating in the problem-space when trying to

define and prioritize diverse signals that may indicate difficulties in the environment. Once the problem is determined, then one is operating in the solution-space. Moving into the solution-space before having determined exactly what the problem is creates problems of its own. But if the problem is truly complex one could spend a lifetime assessing it before taking any action, and people demand action on important problems. So, governments routinely act simultaneously in the problem- and the solution-spaces. This should not be seen as a pathology; it is characteristic of how we deal with complex problems.

Unfortunately the very organizational structures that lead to connecting solutions to problems appropriately can interfere with problem discovery, definition, and prioritization. For problem-solving, we need the organization of expertise through hierarchy. Hierarchies allow the specialization of function such that experts can interact with experts, and do so in a reasonably autonomous fashion. Higher levels of the hierarchy can mobilize this expertise through task assignment—so long as the problem is well-understood. But hierarchy is not the right organizational form for problem discovery or understanding, because diversity of viewpoints is necessary—the very antithesis of hierarchy. The incorporation of diversity in formal organizations requires flat structures and a tolerance for disorder and competition within the structure.

There is a final difficulty. In problem exploration, one can spend so much time and effort in discovery that no problems are ever solved. At some point, there must be a decision-making mechanism that prioritizes problems so that they can be addressed. If information supply and solution expertise are two faces of information, control is the third face. Control involves many things but at base it is the assignment of problems to experts for solution—that is, it involves hierarchy and bounded jurisdictions. And problem assignment is agenda-setting. Control

involves choice, and choice means excluding extraneous information. Unfortunately control for most people implies that they ought to be in charge, and they censor discordant but oftentimes relevant information in order to pursue clear objectives and straightforward implementation of them.

The disconnect between these two forms of information—solution expertise on the one hand, and problem discovery and prioritization, on the other—lead to great instabilities in policies in even the best governments. How does a decision-maker decide when to engage in problem search and when to apply and implement solutions? Given problem complexity in many areas of public affairs, even the best decision-maker would have trouble in deciding which approach to apply. But there is a second layer—that of the cognitive capacities of the actors in government—that increases these instabilities. Central control is a major source of this amplification, as higher-level officials are subject to the same laws of human nature as their subordinates. Control is necessary because it provides a mechanism for assigning problems to agencies and for shifting problem priorities.   But it leads to the potential of misguided certainty and the illusion of clarity. The tendency for people to overestimate their decision-making capacities is so well-grounded in psychological experiments that it has become a fundamental premise (Kahneman 2011).[3]

Information versus Preferences as the Key Dynamic Force in Politics

If we are sure everybody knows what they want, then lots of difficulties in understanding and analyzing the activities of governments disappear. The only issues concern the reconciliation of

---

[3] A major model of policy implementation in democracies, the principal-agent model (in the older public administration literature this was called "overhead democracy") insists that control be exercised over bureaus as a condition of democracy. This flawed model relies on one leg of the three-legged stool of information, because it skips the processes of problem definition and prioritization. See Workman (2012) for a full discussion and analysis.

what different people want (their preferences)—say through majority vote or some other decision rule, and then deciding on the appropriate technology for achieving this. This would not be easy in any real political system, as any number of formal analyses have shown. But if we assume that knowing what one wants (and hence what government should do) is not so simple, then we are going to have to figure out exactly what the problem is, and that requires a different set of skills and organizational arrangements.

There is a sizable body of research in psychology that indicates that people don't have fixed preferences, and often don't know what they want until they experience something (Kahneman 2011). In politics, groups often advocate solutions to problems that are ineffective or even misguided, because of "identification with the means" (identification with the solution rather than treating it merely as an instrument useful to achieving a desired end result). People often want many contradictory things and they cannot prioritize clearly one set of goals ahead of another—tradeoffs among incommensurate goals are very difficult. Much of politics is about how we understand issues. Underlying each preference is a set of attributes or components that structure the preference. If the weights of these components shift, then the preference can shift (Jones 1994). Republicans once advocated a government-enforced mandate to purchase health care, using the argument that people should take care of themselves and not rely directly on government when they failed to do so. By 2010, when Democrats adopted this proposal for President Obama's health care reform plan, Republicans had abandoned this position, seeing it as a "government takeover" of the health care system. A change in issue understanding caused radical shift in preferences. In general, preferences are more fluid and dynamic than is often implied in the politics-centered models.

Most models based on preferences have a role for updating as a consequence of information, but the critical role in shifts of attention and the disjoint and episodic aspects of this process tend to be underappreciated. It is common in politics for people to have a general preference for something like reducing poverty or promoting a good economic climate. But the technology for achieving these goals is often unclear, so preferences alone do not tell us what policies one might support. Further, at the same time as one has one preference, once has other, possibly contradictory, preferences as well. Those that want to reduce poverty also were forced in late 2008 to admit that they, unbeknownst even to themselves, also had an unrecognized preference to make sure that the largest banks and financial institutions in American continued to function. And when most members of the US Congress voted for what was called the financial bail-out, many complained that they were voting "against their preferences" (Jones and Surface-Shafran 2009). If preferences are relatively vague, many times unrecognized, and often contradictory, it is hard to build a theory of decision-making on this basis. Further, if the likely success of a given policy proposal in achieving the goal that it sets out is also unclear, then preferences are a further step away from explaining policy choices.

Nevertheless preferences are important in politics, in part because they can cause bias in how people view information. As a consequence, sometimes false information wins out over true. The falsity of information can influence the direction of public policy. The debate over climate change has been influenced by the claims of climate-change deniers, who have put out confusing and downright untrue charges against climate scientists and their work. But the science of climate change is indeed affected by considerable uncertainty—more about the magnitude of future trends and the public policy actions that ought to be taken in response to these trends—than any large disagreements about the causes of the phenomenon.

The Supply of Information

When false or questionable information is brought forward, policy experts may come out

immediately to contradict the false statement, politicians may object to it, and journalists may

choose not to give it credence if it is too far removed from the norms. There are indeed checks

in the system against lies and false information. But these are imperfect, and there is no way to

stop "bad" information from influencing the debate. Given the complexity of most policy

debates, it is often hard to distinguish between good and bad information. This is especially true

when government is asked to prioritize competing claims about what policies should be pursued

Here we make no attempts to assess the quality of the information that enters politics.

Rather, we are interested in its diversity: how much information is present? More to the point:

how much of the diversity of information that is generated is incorporated into the policymaking

process? Diversity is not self-correcting, because it allows for the entry of misleading or

incorrect information into the process. But no other mechanism is capable of insuring that

information about problem prioritization enters the process. If the problems we dealt with were

"engineering problems" (ones with known and effective solutions—such as building a bridge to

solve the problem of crossing a river) then clarity of authority and conciseness of discussion

would be values. But in the messy world of wicked problems, too much "clarity" can be a sign

of too little information, too much orthodoxy, or too little willingness to look at those parts of the

problem where the information is unpleasant. Six repetitions of the same argument have less

informational value than six statements focused on different elements of the underlying debate.

As social problems are complex, a wider range of information provides a better context for

decision-making than a narrowly focused discussion.

Information affects the dynamics of politics because it shifts our attention and causes us

to change our priorities. News that a given policy works better or worse than was previously

understood should not be expected to change our preferences at all. But because we have so many preferences and cannot act simultaneously on all of them, such news can indeed change behavior, particularly the relative place we put each issue on our list of priorities. Among political leaders, lobbyists, and those involved in the policy process, news can alter agendas. What kind of news can do this? It can range from a new study (giving relevant facts about costs or benefits), an advertising campaign (suggesting that a given interest group is going to invest significant resources in a topic), or the actions of a key political player (suggesting that movement on the issue may now be more or less likely). Within a Washington-based policy community, information of many types can cause scores of political leaders simultaneously to alter their understandings of what is "good public policy" and what is not, what is feasible and what is not, and what others will be willing to accept and what they will refuse. So, without changing anyone's preferences, information can change everyone's behaviors.

Information in politics is often inaccurate. It is almost always incomplete. So when we say that information drives politics, it is not necessarily for the best. But we can distinguish between policy debates that are richer and those that are poorer in their informational content. In the environment of a debate surrounding any complex matter of public policy, a wider range of considerations is always a better basis on which to base decisions than a narrower range. The struggle between information and control can be seen as a struggle over the incorporation of many forms of information and the desire to limit information.

Information and Public Decision-Making

Exactly what do we mean by information? Information implies communication, and communication involves *senders* (or *sources*), *messages*, and *receivers*. Sources send messages across some system of transmission to a receiver.

There is general agreement among scholars that information transmitted in human communication systems is *imperfect, costly*, and *asymmetric*, and that it can be *private* or *public*. *Imperfect information* simply denotes that there is never enough information to ensure certainty in any choice. Imperfections can stem from three different sources: limits in knowledge (nobody knows enough to provide exactly the right information for the choice); imperfections in the system of transmission of the information; and limits in the cognitive abilities of the receiver to retrieve and understand the relevant information (including deciding exactly what's relevant).

The exchange of information is always *costly* to both the sender and the receiver. Because the sender incurs a cost of providing information, a rich literature has developed in economics (Stiglitz 2000) and political science (Gilligan and Krehbiel 1987, 1989, 1990) centering on what conditions will lead a sender to provide information to a receiver, and what implications that has for decision-making. For example, Gilligan and Krehbiel ask why a committee of Congress would go to the trouble of becoming expert in a subject when the legislative chamber could, based on this knowledge, simply substitute its preferences for the preferences of the committee members (assuming there is a difference). Their logic suggests that there must be some advantage in terms of deference from the chamber to the committee in order to justify this effort.

But information is also costly to a receiver, and this influences how imperfect the information is that he or she uses in a decision. In his classic study applying the principles of economics (and in particular the principles of the then-emerging theory of economics of information), Anthony Downs (1957, 145–46) asked how citizens became informed when information was imperfect and costly:

When information is costly, no decision-maker can afford to know everything that might

possibly bear on his decision before he makes it. He must select only a few data points

from the vast supply in existence and base his decision solely upon them. This is true

even if he can procure data without paying for them, since merely assimilating them

requires time and is therefore costly.

Most of us are not experts in matters of public policy that require choice. In the case of

government in democracies, citizens must become informed about issues without becoming

experts. Moreover, within government, elected decision-makers must rely in part on subject-

matter experts on complex issues. As Downs (2008, n.p.) notes, "Democracy is impossible

without a shifting of factual analysis onto specialists." That is what we mean about *asymmetric*

information. It is clear that if we defer to an expert's knowledge in grappling with a policy

problem, we may also inadvertently defer to his or her preferred solution to the problem—that is,

the expert may substitute his or her preferences for ours.

Finally, information may be provided either in a *private* or a *public* manner. If

information is provided in a private manner, then an expert may charge for that information, as

would be the case if one consults an accountant or a doctor. But some information is free (that

is, there is no monetary cost) to the consumer, and these situations are particularly common in

politics. If one side in a debate does not supply information, the other side will, gaining the

asymmetric information advantage (Jones and Baumgartner 205, 9). As Downs (2008, n.p.)

notes: "It is in the self-interest of political elites to distribute information." As a consequence,

information in politics often will be abundant rather than scarce.[4] In such situations the costs are

---

[4] This may be more general than implied by the economics of information; see Simon (1983, 1997).

heavily shifted to the receiver of the information, who must sift through the various sources

sending messages and decide what is relevant and what is not.

Search Costs and Cognitive Costs

There are elements of the study of information in politics that, unlike the consensual elements

detailed above that generate vigorous disagreements. Nowhere is this more in evidence than in

the conceptions of the receiver of information. On the one hand, economists and many political

scientists assume that the receiver is rational. Even rational individuals may remain ignorant in

politics, because "It is always rational to perform any act if its marginal return is larger than its

marginal cost. . . . The marginal return from a "bit" [of information] is the increase in utility

income received because the information enabled the decision-maker to improve his decision"

(Downs 1957, 146). More generally, a rational individual searches for information until the

expected returns of the last "bit" of information equals the expected cost of obtaining that

information.

But there are, in addition, costs associated with the nature of human cognitive

architectures—we refer to these as *cognitive costs* (Jones, Sulkin, and Larsen 2003; Jones and

Baumgartner 2005). Humans have great difficulties in adjusting their choices in a manner that is

proportional to the new information they receive (Jones 2001). One need delve no deeper into

cognitive structures than to observe the limited natures of attention and short-term memory; our

short-term memory is limited so we can only pay attention to a small number of things at a time.

In addition to this cognitive limitation are various mechanisms that retard attending to and acting

on information, which we summarize as *cognitive friction* (Jones, Sulkin, and Larsen 2003;

Jones and Baumgartner 2005). As a consequence, we observe a pattern of under-and over-

reaction that is far more severe than that implied by the economic cost framework. Humans are

simply not generally capable of matching expected marginal costs of information to expected

marginal returns. These difficulties inhere in the nature of human cognition, meaning that such

behavior cannot be swept under the rug as "rational maximization under constraints." The basic

architecture of human decision making hard-wires us into a pattern of lurching, not to smooth

transitions from one decision to the next. We are disproportionate information processors and

the implication of that is that we under-attend to issues below some cognitive threshold of

urgency and then later we react in surprised alarm to something that may have been there for

quite some time, but to which we were not paying sufficient attention. Further, these are not

"errors in judgment" or "mistakes" and they certainly are not "anomalies;" these are basic

characteristics of human decision-making.

The basic tasks of rational information acquisition and use are not generally within the

capacity of the human decision-maker. This is not the place to document these human foibles,

but they include such robust failures (from the perspective of the rational model) as the inability

to deal with probabilities; overconfidence in predictions; reliance on the availability of

information rather than its validity (which itself is related to the vividness of the information);

and other cognitive illusions that are resistant to learning (Kahneman 2011). This does not mean

that rational search costs don't exist. They clearly do. Rather, often these costs pale in

comparison to the difficulties in acquiring and acting on information, which we summarize as

cognitive costs.

Prioritization

Choice implies setting priorities. What should be done in what order? Prioritization involves

three elements: ranking problems that need attention; addressing which of the parts of a complex

problem are most important; and ranking the potential solutions available for addressing the

problem (Jones and Baumgartner 2005, Ch 3). We refer to these as ***problem prioritization***, ***problem definition***, and ***solution prioritization***.

Information is important to all of these processes. Much of the literature on information fails to distinguish these three aspects of choice. This omission can lead to misunderstandings of the role of information in policymaking. Studies of congressional committees have focused on the connection between the provision of information and the preferences of legislators, but the notion of preferences in policymaking tend to stress solution prioritization rather than problem prioritization. This is clear when it comes to ideology, often seen as a summary of preferences on many issues. Generally ideology (preferences generalized along a left-right continuum) refers to the level of government intervention in society a legislator desires. Pretty quickly this distinction fades when one realizes that many conservatives are happy to spend money on prisons and defense, regulate birth control, work to build an enormous system of intelligence that may intrude on the privacy and civil liberties of citizens, and enact laws to protect the property rights of companies. Liberals demand liberty on reproductive choices, marriage, and rights of criminals, and often want to cut spending on defense and intelligence. The best one can say is that the general solution is contingent on the nature of the problem facing government. But even more important is the idea that ideology gives us little purchase on understanding whether a legislator will prioritize education over health or transportation over energy, whether the aim is to increase or decrease government activity in the area.

Expert Information versus Entropic Information

Different aspects of information have relevance for different parts of the decision process. In determining what solution fits a given problem, we rely heavily on experts (or at least we ought to). We also rely on expert analysis to break apart a given problem to understand its

components—indeed, the term "analysis" means the breaking down of a complex problem into its component parts. It is not so clear that experts are as good at prioritizing problems, however. They may have pre-conceived notions about what problems are important, perhaps due to their training and past experiences as experts. When asked what the major problems facing the US today are, a civil engineer is likely to rank the crumbling transportation infrastructure as a higher priority than is a teacher, who may well rank problems in K–12 education as higher than the engineer. The two state-university college professors who authored this book, you will not be surprised to learn, think the decline in public support for higher education ranks very high in the national inventory of serious problems. Our point is that the focused expertise that allows a fuller understanding of the potential solutions to a given problem can render experts inept at making choices across problems. Some process other than delegation to experts is needed for this. By definition, an expert can't be expert at everything. And if the question is which of all the potential problems facing the country deserve attention, no one is an expert at that.

When we must choose across the many problems that could demand our attention, we want some other mechanism for acquiring information, and that mechanism ought to cast a wide net to make sure major problems or understandings of those problems are not omitted. This is especially important because in the midst of setting priorities, cognitive costs pay a heavy role in problem prioritization. In particular the inability of humans to pay attention to multiple streams of information simultaneously is critical (Jones 2001). As Herbert Simon often noted, humans are serial processors—that is they process one stream of information at a time. That means we tend to focus on the problem at hand, ignoring other problems that could be as important—unless we have a mechanism for alerting us to the importance of those other potential issues we should address.

We can state this as a simple principle: In setting priorities, we require diversity. This "information as diversity" is very different from information as expertise, and each is applicable to different parts of the process of decision-making. To distinguish it from expertise, we term this form of information as *entropic information*. A receiver has more information when messages on a variety of topics are produced by multiple non-redundant sources.

Diversity as Information

Do we know more if we listen to more people, or if we listen to fewer? We all are tempted to answer this question as "it depends on the people." We'd say that it depends on the problem. Surely we don't want to discuss our medical problems with the local grocer, and we don't normally ask our doctor for car repair advice. While we may consult different experts within a subject domain, we don't normally move beyond the subject domain.

It is also true that "it depends on the people," but in a sense that is probably opposite to what most of us mean by the phrase. Generally people seek out like-minded individuals in social situations, but they also turn to like-minded people in a broader sense—when they discuss politics or business or religion. Republicans tend to consult different news sources from Democrats. The evidence from psychology indicates that often people act like lawyers, seeking out information to defend a point of view rather than seeking out information for illumination (Kahneman 2012). The modern mass media, with its niches stratified by ideological perspective, make that easy.

Scott Page's 2008 book, *The Difference*, focuses on the value in decision-making of having diverse viewpoints at the table. When groups make decisions, he shows, the quality of the decision is enhanced when the group making it is more diverse. Diversity of the decision-making body ensures that a variety of perspectives are integrated into the analysis. The idea that

in facing complex problems institutions will do better if they can incorporate and institutionalize consideration of more, rather than fewer, dimensions of the issue, is exactly our point.

The problem with consulting diverse viewpoints in setting priorities is that at some point we must come to a conclusion, and a cacophony of voices can obviously lead to confusion. We'll address this issue in the next chapter, but for now we simply distinguish between the *supply* of information and its *prioritization*. These are two distinct processes, although it is common in real world decision-making situations for acquisition of information (that is, increasing supply) and prioritization to take place simultaneously. And we note that when it comes to supplying information about priorities, we want to avoid, to paraphrase former Defense Secretary Donald Rumsfeld, omitting knowable unknowns. For complex or poorly understood problems, more information from the greatest diversity of backgrounds and perspectives is better. This is why we pay attention to the entropy of information sources.

The Tradeoff between Diversity and Clarity

In making complex decisions, considering a wider range of dimensions of the situation can lead to a better decision. Consider the purchase of a car. What if the only thing one considered was how close the dealership was to home? Certainly that consumer would be more likely to have buyer's remorse than the one who also sought out information about safety, cost, fuel economy, comfort, style, and functionality. Also note how much simpler the decision is for the first consumer, and recall how hard it is for many of us to make consumer choices such as buying a car. As the diversity of perspectives used in a choice increases, the decision becomes richer, but more difficult. Diversity is *inversely* related to *ease* of decision-making. Unfortunately difficulty is likely to increase exponentially with the number of perspectives evaluated (since the difficulty of comparing perspectives can quickly become overwhelming). A wide range of

perspectives increases the informational richness of a decision, but it makes the decision

exponentially harder. Hence the trade-off between information and clarity.

Figure 2.1 illustrates this decision-making perspective. A decision-maker receives

numerous messages from potentially competing sources. The greater the number of divergent

sources, the richer the informational environment. But the more the information, the harder it is

to prioritize the various bits of information that may be relevant to the choice. In order to

facilitate choice, one can eliminate information sources, as illustrated in Figure 2.2, a process

akin to censorship.

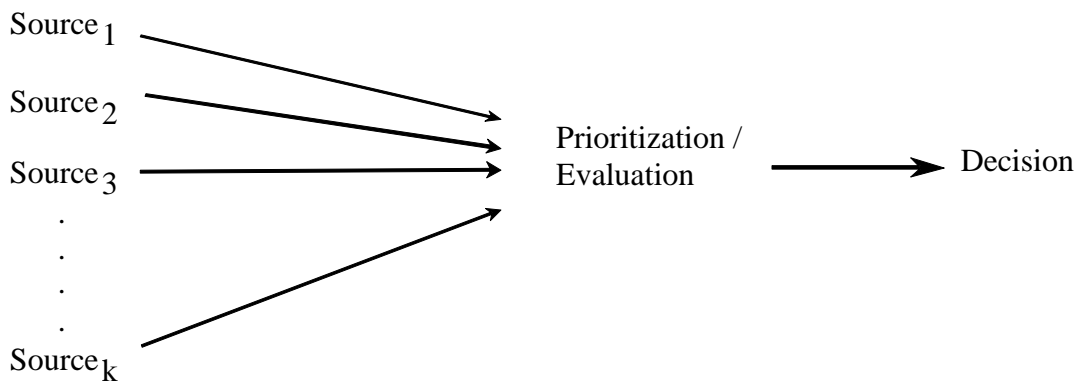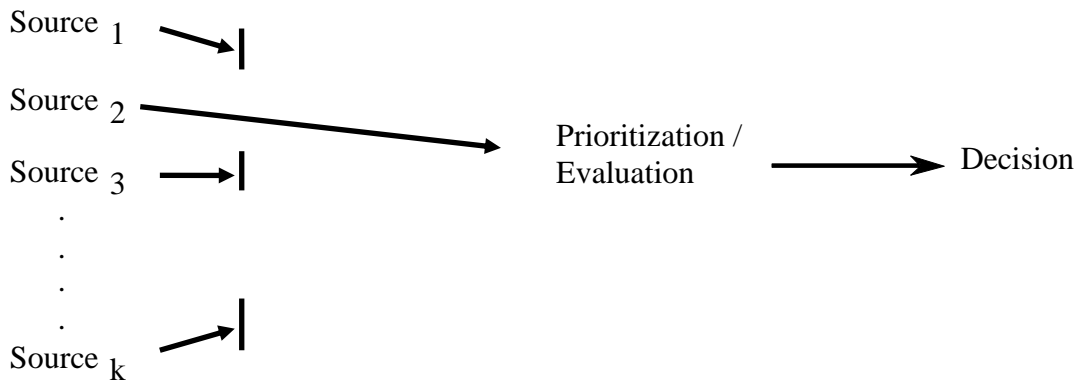Figure 2.1: The Information / Prioritization Problem

Source $_1$

Source $_2$

Source $_3$

.
.
.
.

Source $_k$

Prioritization / Evaluation

Decision

Figure 2.2. Facilitating Decision-Making by Censorship

Source $_1$

Source $_2$

Source $_3$

.
.
.
.

Source $_k$

Prioritization / Evaluation

Decision

The temptation to impose clarity consists essentially in ignoring sources of information that are deemed "irrelevant." That is, in order to make sense of what could potentially be a cacophony of unrelated signals coming from an overwhelming range of sources, the decision-maker may well decide to ignore some of them. This is done both by conscious choice as well as subconscious processes of human cognition, most importantly our limited range of attention. In Figure 2.2, the decision-maker ignores all but Source$_2$. In government, this would mean having clear rules of standing, strong norms of who is allowed to participate, powerful barriers to keep outsiders out of the decision-making environment. Such things are common, for example, in expert-based decision-making or within institutions that have strong jurisdictional boundaries around their work, as in certain technical agencies. In management, this would mean listening to only one point of view, ignoring dissident viewpoints. In buying a car, this is ignoring many dimensions and buying the one suggested by the dealer closest to home.

Taken to the extremes, both Figures 2.1 and 2.2 are pathological. With too much information, decision-making capacity can be overwhelmed. With too little, what later become understood to be important information is overlooked. We cannot suggest any absolutes in how many dimensions of an issue a decision-maker should evaluate. Some individuals find themselves stymied by even relatively simple decisions; others seem comfortable juggling significant ambiguity. We can say, however, that the temptation to exclude information can be dangerous, especially in dynamic information environments. As long as the world is complex, our information-gathering mechanisms need some degree of openness. When these are shut down, decision-making is simplified but the quality of the decisions suffers.

Complex public policies differ from engineering problems. Where the problems are well understood, the solutions known, and the decision-makers knowledgeable, then it is

straightforward to gather the relevant information and to exclude the irrelevant. One of the biggest mistakes in political life is to believe that we understand more than we do. This is the temptation of clarity.

Is Cacophony the Same as Noise?

Some models of choice associate uncertainty with variability. For example, in signal detection theories, a **signal-to-noise ratio** is assessed by the ratio of the amplitude or strength of a signal to its variability in repeated measurements. The higher the variability, the higher the uncertainty regarding the signal, and the less certain the decision-maker is that he or she has the facts right.[5] For example, the Gilligan-Krehbiel (1989) model of informational committees in a legislature uses this basic characterization, where the signal is the policy choice, defined along a preference dimension from left to right, and the information transmitted from the committee to the floor of the legislative chamber shrinks the variability along that axis. That is, it increases the signal-to-noise ratio for the members of the chamber.

This may well be an appropriate model for examining solutions to problems, but it is not a good model for the prioritization of problems to address. Prioritization processes require diversity. One surely wants to eliminate noise from a signal, but one does not want to throw out critical information about what problems are important because that information complicates the choice process.

Measuring the Diversity of Information

In measuring the supply of information, we want to assess the diversity of that information. Diversity of information can be measured in a number of different ways (Boydstun, Bevan, and Thomas 2012). Two have been common in the study of policy agendas: the Herfindahl Index

---

[5] One definition of a signal to noise ratio is the inverse of the coefficient of variation, which the ratio of the mean observation on a variable to its standard deviation.

and Shannon's Entropy Index. The Herfindahl Index (or the Herfindahl-Hirshman Index, as it is sometimes called) was developed to assess the market concentration of firms, and is often used in antitrust law. It is the sum of the squared proportions of a market (or market share) that firms hold:

$$HHI = \sum p_i^2 \tag{1}$$

i = 1 to k, where k is the number of categories.

The larger the index, the larger the concentration of market share in a few firms.[6] The index reaches its maximum of 1.0 when one firm monopolizes the market. In political science, the Herfindahl has been used to measure committee jurisdictions in Congress (Baumgartner, Jones, and McLeod 2000, Hardin 1998, 2002). If one has a measure of the proportion of an issue (say agriculture) that falls within the activities of committees, then the higher the index, the purer the jurisdiction. The lower the index, the more dispersed the issue is among competing jurisdictions. This captures the difference between expert and entropic information discussed above. The higher the purity of a jurisdiction, the more likely it will be comprised of subject-matter experts, but it will exclude the diverse voices characteristic of entropic information.

A second measure of diversity that is commonly used is Shannon's Entropy Index (sometimes the Shannon-Weaver Index). Claude Shannon, a mathematician working at Bell Laboratories in the late-1940s, analyzed uncertainty in the transmission of information (Shannon 1948, Shannon and Weaver 1971). If the transmission is very clear, all the information would be in the same category (and the system would have great structure, or low entropy). If the transmission were extremely unclear (noisy, ambiguous, uncertain), then it would be spread

---

[6] An identical index was developed for the study of ecology at about the same time as the Herfindahl index (the late-1940s). It is the Simpson Diversity Index.

across many categories (e.g., it would have low structure, high entropy). Shannon's H is a measure of diversity:

$$Entropy = -\sum_i p(x_i) \log_k p(x_i) \qquad\qquad (2)$$

where:
x_i is a category
$p(x_i)$ is the proportion of the items in a given category
k is the number of categories[7]

If all objects are in one category, a situation of perfect structure, then H = 0. If the items are uniformly distributed across all the categories, there is no structure, and entropy is at its highest value, which depends on the number of categories.

Shannon's Entropy and the Herfindahl Index tap similar aspects of object concentration within categories, since both are based on similar measurements. Each index is a weight of the proportion of cases within a set of categories. The Herfindahl Index is the summed proportion within each category weighted by itself (p *x* p), while the Shannon Index is the summed proportion within each category weighted by its logarithm (p *x* log(p)). As a consequence, the two measures are very highly correlated. Entropy does a better job at distinguishing among situations with low levels of concentration than does the Herfindahl, which is sensitive to changes at high levels of concentration but distinguishes less well at lower levels (recall that it was designed to assess market concentration). Studies of the effects of diversity suggest that even some individuals who articulate a different point of view from the prevailing line of thought

---

[7] Because logarithms are undefined at zero, and many categories are likely to have zero entries, the convention is adopted that for P(x) = 0, 0•log(0) = 0. In practice, for ease of calculation, we add a very small fraction to the actual proportions (estimates for P(x)) equal to .000001 when values are zero.

can have an effect.   As a consequence, Shannon's H is preferred for assessing the diversity of political information.[8]

Macro and Micro Theories of Politics

In *The Politics of Attention* (Jones and Baumgartner 2005) we examined how the American political systems prioritizes issues, showing how the organizational structure of government in some ways avoids individual cognitive limits on decision-making, and in other ways fall prey to these limits. While it is of vital interest to understand how individuals process information, it is as important to connect these to the manner in which systems of interacting individuals, such as legislative committees, executive agencies, and even whole governments, respond to information flows over time.

Macro-level theories track how systems evolve over time. So for example, Erikson, Stimson, and MacKuen's aptly titled *The Macro Polity* (2002) tracks how aggregate (that is, average) public opinion shifts are related to aggregate changes in government policies. Macro-level theories deal with collective behaviors (that is, averages), and focus generally on changes over time, not absolute levels. For example, we may not need a model of why individuals pay attention to a certain bit of information, only about their likely response if they see their neighbors suddenly paying much more attention to it. Or, put another way, we do not need a theory about why some people support more education spending than others to know that aggregate support for education spending will go down when information emerges that the spending is wasteful or that other problems are more urgent. The two are different questions, each interesting for different reasons.

---

[8] We use a normalized version of entropy when we compare entropy across indicators that feature different numbers of categories. Non-normalized entropy scores are not comparable when one is calculated for example across 3 categories and another across 25 (see Boydstun et al. 2012).

Our emphasis here on developing macro models of political dynamics stands in contrast to much literature in political science over the past fifty years, which has been dominated by an individualist approach. This individualistic approach is based on the claim that idea that if we understand the micro-level, the macro-level will be a relatively straightforward result of simple aggregation rules. Aggregation rules are often not that simple. Indeed, over the past two decades or so an entire new science has developed focused on understanding the complex interactions of multiple agents making up a system (see Erdi 2008 for a review of this complex systems approach in many fields).

While the individualistic approach has led to many advances, certain professional embarrassments are also apparent, such as the failures in modern political science to predict some of the most fundamental events of the 20th century: the collapse of the Soviet Union, for example. Economists have come to understand, but not to predict, "bubbles" in various markets ranging from the price of tulips over the centuries in trading in Amsterdam to the 2008 collapse of the housing and credit markets in the US. These collective behaviors have in common that the behavior of each actor in the system (e.g., citizens in the Soviet Union, or consumers in the economic examples) is based not on isolated preferences but on the expectations these individuals have of the behaviors of those around them. As long as the Soviet Union appeared likely to be stable, only a few ideological outliers would resist the system. Once it became apparent that the system might be on its last legs, opposition suddenly became much stronger, and this group eventually grew to include relative insiders who sought to become leaders in the new regime. In a housing bubble, as long as a purchaser believes that another purchaser will pay a still higher price for an expensive home a few years down the line, it is rational to pay an inflated price. Behaviors are based on the expectations of the behaviors of others.

A key element of these "threshold" or "mimicking" models is that they can be unstable. Rapid changes can occur if for some reason large numbers of people reach the same conclusion about the expected behavior of their neighbors all at the same time. Crashes can occur even where no individual wants to see it happen. Thomas Schelling (1971) demonstrated how this could occur in an analysis of racial segregation: neighborhoods could "tip" from racially balanced to unbalanced even if none of the residents wanted to see the result. In sum, models of collective behavior where the individuals base their behaviors on the actions of others can be extremely stable, but suddenly shift. The difficulty in explaining massive cultural events in political science has partly been due to their inherent complexity. But another reason is that we have focused on more tractable models of individual behavior, not collective dynamics. In the field of complexity interactions among individual agents are generally considered more fundamental to the behaviour of the system than the preferences, attitudes and attributes of the individuals themselves.

It should not be surprising that the literature on complexity is relevant for addressing questions of public policy and organizational design, as they are overwhelmingly complex in the normal sense of that term. Governments deal with such a wide range of issues, each of which features multiple dimensions of evaluation, that cognitive and organizational capacities are quickly surpassed. We will not address any issues that we have referred to in this chapter as "engineering" issues, or simple ones because these are rarely the object of public policy disputes. Because of our focus on "complex" or "wicked" issues in government, we will take no position on how much information is "enough" in politics. Inevitably, more information is available than is currently being incorporated into the policy process, if only because the issues with which governments deal are more complex than humans understand. Because of this, and because we

are dealing with changes over time, we can assess trends in the incorporation of information (that is, when we have more information in politics and when we have less), without making a statement about how much is the "proper" amount. But information reaches a confrontation with the limits of human attention and decision-making capacity.

The Three Faces of Information: Supply, Expertise, Control

Good decision-making requires information. But organizations as well as individuals quickly get overwhelmed with too much information, because they are required to prioritize and process far too many inputs. Invariably human systems develop both formal and informal heuristic procedures to deal with the complexity. This is the lesson of early researchers into boundedly rational budget behavior. In the early 1960s, Aaron Wildavsky (1964) conducted a systematic study of budgeting within federal agencies, focusing on the strategies the participants used in the process. These strategies were for the most part fairly simple, and reduced to adjustments based on the existing budgetary base. *Incrementalist* models postulate that reasonably simple heuristic decision rules govern budgeting, and that these rules empirically can be reduced to the following maxim: "Grant to an agency some fixed mean percentage of that agency's base, plus or minus some stochastic adjustment to take account of special circumstances" (Davis, Dempster, and Wildavsky 1966, 535). We have shown elsewhere that this model generally holds, but when attention is attracted to some policy areas because information suggests problems, the resulting budget allocations are disjoint and episodic, following a pattern of punctuated equilibria within policy areas across time (Jones and Baumgartner 2005).

These disruptive patterns will be amplified when policy action is delayed for an area that needs attention. It is a kind of deferred maintenance issue—except that neglect of an area is often due to incomplete information. If that information is incomplete because the structures for

problem-identification and prioritization cause censoring, then we have committed an unforced

policy error. Economists Nouriel Roubini and Stephen Mihm (2010) term these unforced errors

"white swan events" to distinguish them from Nassim Nicholas Taleb's "black swan"—a very

rare event that, while unpredictable, should be factored in to a decision-making strategy.

Roubini and Miham (2010, 16) write of the 2007–2008 financial system collapse, "The recent

financial disaster was no freak event. It was probable. It was even predictable." They make the

strong case that the crisis was in fact an unforced error. [9]

Without control over the flow of diverse information, a decision-making system is

quickly overwhelmed.   Without assignment to expert policymaking systems, solution search and

implementation will be inefficient and oftentimes lead to mistakes through the application of

ineffective or even harmful solutions.   Without openness to problem discovery, censoring and

the consequent white-swan style "surprise" occurs. Indeed, a wicked problem is exactly one that

has this sort of incommensurate trade-offs. It is probably not possible to find a global balance

between the three faces of information—supply, expertise, and control.   But it is often clear that

the single-minded pursuit of one of these faces at the expense of the other two will lead to

suboptimal performance.

The Impact of Information

A single decision-maker is subject to the difficulties in managing the fundamental biological fact

that humans must process streams of information serially, in a one-at-a-time fashion (Simon

1984). This fundamental biological feature of humans strongly affects organizations, which may

be designed to process multiple streams in parallel by establishing specialized sub-units (such as

---

[9] Daniel Kahneman (2011), on the other hand, cites evidence from psychological studies that indicate that people overestimate the post-hoc probabilities that an unfortunate event could have been prevented.

congressional committees and administrative agencies). But at some point the organization must behave as what international relations scholars term a "unitary actor"—it must somehow prioritize the filtered streams of information from the sub-units.

Let us suppose for the time being that government establishes systems that are proficient at the vast juggling act necessary to process the prodigious amounts of incoming information. The policymaking units—that is, the macropolitical branches of government—still have several options in responding to the (now filtered) information. Figure 2.3 depicts these options and their outcomes. First, policymakers may *continue to ignore* the information. Second, the problem highlighted by one or more of the diverse streams of information may reach the attention of decision-makers—the problem is put on the agenda formally. At that point, policymakers may deny the existence of the problem—after all, there is always uncertainty in the problem-definition process. If the problem is scheduled for consideration, it has reached the formal decision-making agenda. At this point, the matter shifts from one of problem definition to solution search.

Figure 2.3. Consequences of Information
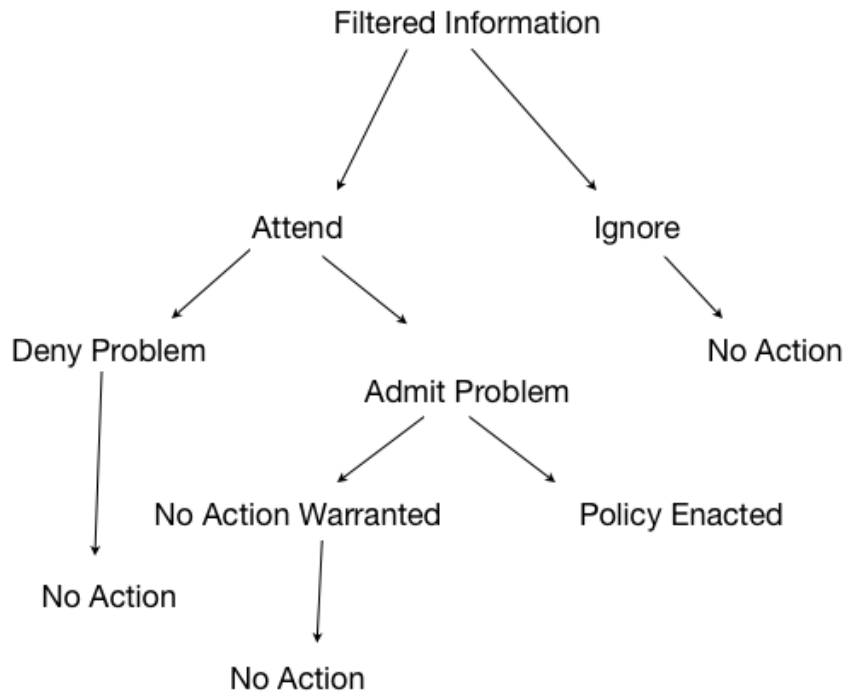
As Figure 2.3 shows, once a problem is admitted, the probability of government taking

some action is greatly enhanced (after all, if the problem is denied, the probability of action is

zero). As a consequence, opponents of action have a better advantage if they are either able to

keep the focus of policymakers on other matters (Ignore in Figure 2.3) or to refuse to admit the

existence of the problem (Deny). Roger Cobb and Marc Howard Ross (1997) called this kind of

politics *agenda denial*. One way to do this is to try to limit the mechanisms of information

supply under the theory that if government does not search for problems, it will not find them

and consequently will not act. The problem of government overreacting to problems is a real

one and both liberals and conservatives face. The problem of overreaction is particularly acute

in international affairs, but it also occurs in the case of regulatory policy or the provision of

entitlements. It is unclear that conservatives always want to block action—not infrequently they

want to enact policies or issue regulations that enact more punitive punishments for crimes,

53

require that businesses eliminate illegal immigrants from their payrolls, or establish moral codes

of conduct, and liberals could be in the business of promoting agenda denial.

Positive Feedback and Path Dependency

Sometimes political leaders devote attention to problems and then move on to another issue,

either because they see the issue as solved or because action is not possible. However in some

times and some places, attention can generate attention. Positive feedback loops can develop,

and those feedback processes can affect either the agenda-setting or the agenda denial process.

Such positive feedback loops can increase or decrease the probability that government takes

action *given* information. That is, if the information hypothetically were identical, the

probability of action would nevertheless be different in one circumstance (positive feedback in

agenda-access) than another (positive feedback in agenda denial). In the former, government is

predisposed to intervene; in the latter, it is predisposed to refrain.   These mechanisms explain

the differences in the use of positive feedback in comparative politics, where positive feedback is

associated with "lock-in" and hence agenda denial (Pierson 2004), and policy studies, where

positive feedback is viewed as disruptive (via the mechanism of agenda access) (Baumgartner

and Jones 2002). Path dependency stems from lock-in and positive feedback in agenda denial;

ideas challenging the status quo are viewed as beyond the pale and alarmist. Diversity of

opinion is denigrated, and the more unified the supporters of the status quo are, the more

diversity is disdained and the higher the probability of a "white swan." We examine these facets

of path dependency in the second part of this book.

These feedback loops can be only tangentially related to contemporaneous party divisions

within the legislature or between branches of government. That is, even large Democratic

majorities in unified government may proceed cautiously in a period that constrains government

action—witness the Democratic majorities during the first two years of the Clinton presidency. Similarly a Republican president may act aggressively on the legislative front in an era of ease in getting issues on the agenda (witness President Richard Nixon's strong legislative imprint in the early 1970s).

The Agenda Bubble

These dynamics of agenda access and denial should be distinguished from the politics of institutional and cognitive friction that can impede the progress of an issue through the policymaking cycle. In *The Politics of Attention* (see also Jones, Sulkin and Larsen 2003) we analyzed this process in some detail. Here we focus on the temporal aspects of the agenda process—changes through time in the propensity of the American political system to allow access of issues based on the information available.

In Chapter 5, we develop a method based on the Policy Agendas Project Coding system that allows us to trace this propensity through time. This method allows us to isolate what we might term an *agenda access bubble*, a process of increasingly easy agenda access that peaked and declined across more than a quarter century. We find a very large increase in the span of issues addressed by Congress beginning in the 1950s, peaking in the 95th Congress (1977- 1979), and declining until the end of the period of measurement in the mid-2000s (110th Congress). By the end of the period, the span of issues addressed had contracted to about the same level as in the 80th Congress at the beginning of the period. However we also find residues of this bubble in the programs and agencies created in the period, and in the oversight functions of congressional committees. What we call the "Great New-Issue Expansion" cut a great arc of activity through most of the post-war period, and in its wake left a strong administrative state. We do not think

the strong and vitriolic conservative countermobilization can be understood without reference to the American agenda access bubble.

Because of positive feedback, policymaking structures that are well-developed for the consideration of the diverse nature of potential problems are at increased risk for policy overreactions. Similarly and for the same reasons, policymaking structures designed to foster agenda denial are at heightened risk of under-responding. These tendencies are at least partially decoupled from the distribution of policy preferences in these institutions. Some policymakers would rather examine problems and run the risk of overreaction even if they are suspicious of addressing these problems with government programs. More importantly, all policymakers are caught up in the agenda bubble, whatever their policy preferences.

Agenda Denial and the Censoring of Information
Policy jurisdictions never fit the flow of information. While the tendency to organize for clarity is a major factor in limiting the supply of information, limiting jurisdictional scope of policymaking organizations is also a tactic in the politics of agenda denial. Because farmers used futures contracts to limit their losses due to crop failure, the regulation of these derivatives fell traditionally to the Commodities Future Trading Commission. In the late-1990s, Commission Chair Brooksley Born began to examine the desirability of regulating over-the-counter derivatives. The Clinton Administration's Treasury Department, the Chair of the Security and Exchange Commission (SEC), and Federal Reserve Chair Alan Greenspan, asked Congress to approve a moratorium on such regulations. Congress did so, Born resigned, and in the Commodities Futures Modernization Act of 2000 denied both the CFTC and the SEC jurisdiction over the derivatives industry. Johnson and Kwak (2010) comment, "The financial sector had succeeded in sealing off one of its profit-making engines from the possibility of

government interference." This action also stifled the flow of information into the policy process through the mechanism of dedicated bureaucratic agencies. The denial of jurisdiction implies the censoring of information.

Designing the jurisdictions of government organizations in not a sterile exercise in public administration. Organizational charts matter, because they filter the flow of information into the policymaking process. Because information is always more complex than organizational forms, the latter can never fit the former. The only alternative is censoring to some extent. Where the line is drawn affects whether governments produce too much policy or too little. Shifts in the trade-off are dynamic. The supply of information in public policy, and the tradeoffs among information supply, policy expertise, and public authority, color the trace of public policy across time.

Chapter 3

Organizing for Expertise or Organizing for Entropy?

Universities, which are essentially organizations for the transmission and acquisition of knowledge, are forever arguing about reorganization. How well does the existing structure of academic departments and programs fit the production of new knowledge—that is, how well does what universities teach fit the knowledge that is being produced? Much new knowledge is produced at the edges of disciplines; how can that be incorporated? Are the fields of study within disciplines no longer representative of what the discipline does, and hence obsolete? Should several departments be combined into a school in order to achieve coordination and "synergy"?

All arguments about organizational changes in universities are propositions about attention. Somehow the current structure doesn't get professors and students focused on the right elements. Arguments about coordination and synergy are essentially claims that the "right" focus can't be pre-ordained, but that it will somehow magically emerge if the proper organizational boxes are put together.

It is tempting to dismiss such debates as arcane academic disputes which have little relevance to the day-to-day operation of the university. But we argue in this book that these considerations are critical—and not just to universities. Changes in organizational structure, and in particular what tasks are performed by what parts of the organization, are ubiquitous in society. *Jurisdictional assignment*—fitting the parts of the organization to the complex tasks it faces—consumes a very large amount of time and energy in any organization. Moreover,

because organization focuses attention and attention is necessarily partial, these actions have important consequences for how well things get done. These academic debates are not just academic.

In this chapter, we explore the organization of government and its relationship to the two kinds of information discussed in Chapter 2. Structures that are organized to bring expertise to bear on a well-understood problem are often not the best structures for detecting and prioritizing problems in complex and dynamic environments. We suggest that this tension is responsible for considerable instability in government policymaking. Here is how we think it works. There are many forces that move a political system toward equilibrium.[10] Political equilibrium involves the decentralization of policymaking to experts and interested parties, along with only sporadic intervention from the higher levels of government. The more the system relies on a set of linked systems comprised of experts, the more able it is to adjust solutions to the emerging but limited problems within subsystems, but the less able it is to prioritize among potentially competing priorities and emerging problems. Each subsystem might go on, following its routines, but such a system allows for no trade-offs (or priority-setting) across policy domains. And it ignores emerging or misunderstood problems completely.

If the problem-space is evolving more quickly than the organizational structure can possibly adapt to, then we have an inherent tension. And of course, this is exactly what we observe. Organizations, whether they are universities seeking to establish "interdisciplinary" centers for learning and research better adapted to the way problems are "really" faced, or governments seeking to bring their bureaucratic structures in line with evolving understandings

---

[10] *In Agendas and Instability in American Politics*, we developed the notion of a set of partial equilibria associated with policy subsystems, and showed that these partial equilibria could be disrupted by shifts in the attention of macropolitical actors—in the US, Congress, the president, and the political parties.

of the underlying social problems, are constantly playing a game of catch-up with the shifting nature of society. Some organizations really are well designed to deal with the problems that they face. We see few major reorganizations of agencies with relatively simple tasks: the municipal water department, for example, has a clear mission. The problem space is not changing radically, so the organization is not under great strain. On the other hand, many organizations, or networks of government agencies, face complex problem-spaces that they do not even fully comprehend and for which each solution creates a new problem. In these environments, we see more constant churning of organizational design. We often see a tension between the desire for clarity and clear organizational rules and procedures and that of finding the proper fit with the environment and the problems the organization seeks to resolve. Organizational shifts are resisted, resisted, and resisted until finally they are abandoned or adopted in the face of what must be overwhelming evidence that the "old system" is no longer working as it was designed to, or that "new ideas" and "new approaches" are needed in order to address the new environment. Organizational change is sticky but the environment is constantly evolving.

Of course constraints—legal, political, economic—may cause a mismatch between problems and organizational forms even when a better organizational form, in the sense of matching the nature of the problem, exists. More problematic, however, is that problems are often extraordinarily complex, implying that different organizational forms are optimal for different aspects of the problem space. Not only are problems complex, but the problem-space facing government is highly dynamic. Subsystems of experts are good at adjusting in minimal to moderate changes in the local environment, but not so good at mediating among emerging priorities.

An Old Debate in Public Administration

As agencies are created to follow the developing problem-space, the issue of supervision and control becomes increasingly important. In the 1940s, Herbert Simon wrote a paper for the *Public Administration Review* entitled "The Proverbs of Administration." Simon made the devastating point that for every known principle of administration one could generate a second, usually contradictory, principle that had as much validity. One of the proverbs dealt with the "span of control." Administrative theorist Luther Gulick had contended that sharp limitations characterize the ability of any administrator to supervise many subordinates, and he recommended sharp limits on the number of units reporting to an administrator. Simon countered that limits on the span of control for any one administrator necessarily implied more levels to the organization, and more red tape. "If it is granted, then, that both the increase and the decrease in the span of control has some undesirable consequences, what is the optimum point" (Simon 1946, 58)?[11]

The uncritical acceptance of Simon's critique lasted for almost half a century until modern students of public administration began to re-examine it (Hammond 1990; Meier and Bohte n.d.). But the broader point of the article, mostly missing from contemporary and modern interpretations, is the absence of equilibrium processes in designing organizations. There is no optimum point in the trade-offs involving specialization, problem prioritization, and supervision and control.

Robert Dahl, in his 1966 American Political Science Association Presidential Address, examined the proper role of the city in the future of democracy (Dahl 1967). His approach was organizational: too large a governmental unit, and individual democracy meant little. Too small

___

[11] Actually organizations need not expand levels very much, because the system is subject to combinatorial mathematics. If we limit a supervisor to seven subordinates, adding one level to the organization, an agency head can supervise 49 subordinates.

a unit, and the problems the city faced could not be addressed within the jurisdiction. Dahl blamed the structure of problems rather than the lack of technical skill in solving them:

> Whether the obstacles that prevent us from achieving tight closure on solutions lie in ourselves—our approaches, methods, and theories—or are inherent in the problems is, paradoxically, one of these persistent and elemental questions for which we have a number of conflicting answers. For whatever it may be worth, my private hunch is that the main obstacles to closure are in the problems themselves—in their extraordinary complexity, the number and variety of variables, dimensions qualities, and relationships, and in the impediments to observation and data-gathering (Dahl 1967, 953).[12]

Reorganizations occupy so much of the public discussion because we have limited organizational forms with which to work, while problems are variegated and changing. March and Olsen, in their study of government reorganizations, write:

> The effectiveness of political systems depends to a substantial extent on the effectiveness of administrative institutions, and the design and control of bureaucratic structures is a central concern of any polity. . . . Politics operates within highly structured situations (e.g., budgeting) using repetitive, routinized procedures, and it operates within un-structured, relatively rare situations (e.g., revolutions) using ad hoc and unprogrammed procedures. Much of political life, however, is neither so regular as budgeting nor so unusual as revolution (March and Olsen 1983, 281).

They find that most reorganizations fail to achieve the lofty purposes of the reorganizers, and not infrequently fail more in more fundamental ways.

---

[12] The problem of matching organizational form to problem is a major theme in the urban politics literature. See V. Ostrom, Teibout, and Warren 1961; Bish 1970; E. Ostrom 1976.

Often we assume away the complexity of the problem space through oversimplification, force-fitting them into some organization of experts overseen by hierarchy.   That is, we force-fit a problem in detection and prioritization into one of subject-matter expertise. This not infrequently leads to organizational forms that are maladaptive—that is, they over-attend to some aspects of the problem space while under-attending to others. By organizing expertise, we invariably organize attention. Organizational forms focus collective attention to part of the complex problem space. This can (and generally does) lead to the over-investment of resources in some areas and the under-investment in others. Organizing attention implies setting priorities (Jones and Baumgartner 2005).

Organizing Information in the Face of Complexity

Given the diversity of goals that governments seek to address, the multiple ways of achieving those goals, the multidimensional nature of the problems they face, the poor understanding we often have of the causes of many social problems or of the most effective solutions to them, and the divergent political interests that citizens of a diverse society inevitably have, it is important to appreciate the role of complexity in the process of gathering and using information in the policy process. Seemingly obvious conclusions about how to organize an administrative structure that work very well in an environment where goals are shared and mechanisms of achieving them well understood make less sense in an environment of complexity. In simple settings, hierarchical control and clarity in the distribution of tasks are important. In settings of complexity, too much control can cause relevant dimensions of a choice to be unintentionally eliminated from consideration. In complex environments, a greater range of considerations will generally be associated with better decisions. Where we do not understand exactly how to achieve our goals, or where the goals themselves are multiple, some fluidity is important.

Deliberation where participants are not allowed to bring up dimensions of the issue not welcome by the leaders is dictatorship, after all. Democratic participation demands openness. More generally, however, the complexity of the social problems facing governments demands that we incorporate more rather than less into the process. Not only is an open process more compatible with democratic principles, but it is likely to lead to better decisions. Democracies may work better than other forms of government because they guarantee a wider range of social inputs than an autocratic leadership that suppresses dissent.[13] But the need for wide ranging information is in constant struggle with another goal, the struggle for clarity. Clarity makes sense when tasks are simple, but not when they are complex.

The Temptation of Clarity

Surely, one might think, clear lines of command and straightforward rules of decision-making are the *sine qua non* of effective administration and decision-making. Certainly, there must be right and wrong, better versus inferior solutions to recognized social problems, and the job of a government administrator or elected official should simply be to pick the best. Decisions should be made by experts, and they should have enough information to choose the best outcome, with the authority to exclude "outsiders" who might want to muddy the waters by introducing "extraneous" or "superfluous" considerations. Certainly, these experts should be able to exclude from participation those pranksters and neophytes whose only goal may be to produce stalemate. Who is not frustrated in seeing those without expertise or knowledge enter into a debate, such as when nay-sayers arguing that climate change is not occurring gain coverage in the media, or

---

[13] An enlightened dictator would have multiple sources of information about evolving problems and issues in society. The difference might be that the dictator alone would decide on the response. But all governments would work better with a greater range of information, so it is not clear that this discussion is related to democratic versus other forms of government.

when baseless assertions that President Obama was not born in the United States gain traction in the blogs or the mainstream media. Surely, false and extraneous information need to be excluded from responsible public debate.

Before we jump too quickly into the temptation of clarity, we should consider the types of public policy problems that lead to debate and those that are, in fact, clear. Delivering the mail is relatively clear. Purchasing boots for the Army is relatively clear. Providing clean drinking water to a community requires passing some technical hurdles, but the task is clear. Acquiring information about the financial needs of incoming college students is feasible. But these relatively straightforward issues are rarely the stuff of fundamental political debate. We have referred to these routine administrative problems as "engineering" problems in the sense that no great theory of government is needed, just the implementation of known technologies. Indeed, in such instances, clarity is appropriate. (And, indeed, relatively straightforward policies exist for doing these things, and the government implements thousands of such policies on a routine basis every day.)

Simple problems are rarely the stuff of public debate. If we all agreed on the severity of a given problem and officials knew precisely how to solve it, there would be little room for public discussion. Debates center on issues that are either the object of conflicting interests and opinion, or on what can be called "wicked" or "complex" problems: problems such as eliminating poverty, where the range of relevant dimensions of the underlying issues is so great, and the various potential ways of resolving the problem are multifaceted. Or debates center on the possible trade-offs between attention to issues: should we send a man to the moon (a complicated engineering problem, but in the end still an engineering one), or should we use those funds to solve some other problem? If a problem is complex, or if the debate is about relative

priorities among incommensurate problems, than establishing "clarity" may not be a useful solution. This, of course, does not mean that one allows chaos in the administrative structure. But history shows that even well intentioned plans to funnel information inevitably lead to ignoring many aspects of complicated issues, as attention focuses on just a few of the most prominent dimensions.

Organizing for Censoring

In the last chapter we discussed the phenomenon of decision simplification through censoring components of the information stream. Often this is a sin of omission—in the face of complexity, decision-makers must focus their attentions. But organizations also operate to censor information. Most of the time, this is done deliberately to focus expertise where it is needed. Where organizational missions are clear, expertise can be marshaled toward problem-solving. But in many cases, organizational dynamics operate through either formal or informal means to limit decision-makers attentions to limited aspects of the problem. We even have a term for the operation of this organizational dynamic: "that wasn't even on the radar screen."

Twenty-six years after the Space Shuttle Challenger exploded during lift-off on January 28, 1986, Roger Boisjoly, an engineer with Morton Thiokol, died (Martin 2012). Boisjoly had repeatedly warned that the seals on the shuttle's booster rockets could fail in cold weather. He testified before a presidential panel on the disaster and released a memorandum he had written warning of the potential disaster. Within the company and at NASA, Boisjoly was ignored and finally explicitly overruled by top management. After the disaster he was prohibited by Thiokol from doing space-related work, shunned by his colleagues, and suffered headaches and depression. The story of Roger Boisjoly is depressingly familiar. Groups have informal methods for sanctioning norm-violators, as the work of Elinor Ostrom and her colleagues has

repeatedly shown in both field observations and laboratory experiments (Ostrom 2005). Ostrom is the leading student of the emergence of cooperative behavior in the absence of formal organizational incentives, in which the provision of collective goods can be thwarted by "free riders." It is true that the emergence and enforcement of informal norms can facilitate overcoming collective action dilemmas. This can operate for group gain, but it can act to the detriment of a broader collectivity, especially when valid points of view are suppressed. Even congressional rules to protect whistle-blowers have had limited success.

Censoring in Reorganization: Homeland Security

When the United States was attacked on September 11, 2001 by al Qaeda, a failure of intelligence was apparent. According to the commission that investigated it and suggested reforms, too many divergent agencies, each with a particular mission, but none with an overall vision, shared responsibility for gathering intelligence, analyzing it, and acting on it. Further, as the commissioners write, the relevant structures of government were designed for the cold war and therefore naturally focused on established states, measured such things as annual industrial output, and observed potential enemies as "threats emerged slowly, often visibly, as weapons were forged, armies conscripted, and units trained and moved into place. Because large states were more powerful, they also had more to lose. They could be deterred" (9 / 11 Commission 2004, 362).

According to the commissioners, the government mischaracterized the problem of external threats to US security, organizing its agencies to solve a problem that was no longer pressing, and failing to create new structures to deal with the emergence of a new but as yet poorly understood threat. In making their recommendations for restructuring government agencies for the new challenge, the 9 / 11 commissioners focus on the need properly to

understand the problem before defining the solution, and they emphasize the need for radical, not incremental, changes. In suggesting changes, they write that the "attacks showed, emphatically, that ways of doing business rooted in a different era are just not good enough. Americans should not settle for incremental, ad hoc adjustments to a system designed generations ago for a world that no longer exists" (2004, 399). Each of their recommendations starts with the word "unifying" until the sixth and last one, which focuses on "strengthening" the FBI and homeland defenders (399–400).

If one wanted an example of what we described in an earlier book as "institutional friction" and of the disproportionality of government response to sometimes slowly evolving problems (Jones and Baumgartner 2005), one need look no further than this analysis. Institutional inertia ensured that institutions designed to achieve one set of goals were incapable of shifting their focus to a new set, especially since the signals coming into the system were changing slowly and were poorly understood. Institutional missions do not change easily, especially when those institutions have all the prestige, economic importance, and political influence as the US military and its associated industrial complex; such actors can easily dismiss critics who might suggest that they are designed to fight a threat that no longer exists as being "soft on defense," a charge that is never welcome in US politics. The inertia that characterizes the policy process is institutional, bureaucratic, and associated with lobbying and economic interests who mobilize to protect established programs; it is not only cognitive in origin. But no matter what the sources of friction, one consequence is that when change comes, it is overwhelming. The 9 / 11 attacks seriously undermined established structures by their manifest incapacity to adapt to the suddenly obvious new reality. So, dramatic rather than piece-meal

changes were justified. And the commissioners called above all for clarity: a unified

organizational structure with a clear mission.

The commissioners responsible for investigating the 9 / 11 catastrophe have written one

of the best, most lucid, engaging, and perceptive investigative reports in the modern history of

the US government. Their analysis of the linkage between the definition of the nature of the

problem and the organization of government agencies designed to address it is fundamentally on

target. Their suggestions that the complex and confusing mixture of diverse agencies with a

piece of the counter-terrorism pie should be better coordinated can hardly be contested. And

their idea that piece-meal and incremental reforms must give way, given their catastrophic

failure, to dramatic shifts, can hardly be countered by any reasonable argument. In the last

chapter, entitled "How To Do It" A New Way of Organizing Government," the Commission

calls for "Unity of Effort" in a variety of circumstances, but the solutions that they propose are

unlikely to be successful.   Or if they are successful, they will result in neglect and decay in other

areas of overlapping responsibility. They illustrate precisely what we mean by the struggle

between information and control.

Indeed, the US Government was in the midst of a natural experiment with exactly what

the Commission advocated—the disastrous creation of the Homeland Security Department. In

the wake of the 9 / 11 attacks, the Bush Administration, with the strong support of Congress,

tried mightily to get the diverse agencies of government responsible in any way for

"preparedness" to focus their attentions on the terrorist threat. Organizationally this was

accomplished first by establishing the Office of Homeland Security in the White House,

followed by the creation of the Department of Homeland Security in 2002.   Peter May and

colleagues examine the changing demands of policymakers in the area of preparedness—

preparing the country to detect and mitigate a variety of disasters, from hurricanes and tornadoes to civil defense and terrorist attacks. They write that

> The evidence we provide shows that the Bush administration was very successful in focusing agency attention on the administration's antiterrorism agenda. But the centralized attention to this agenda and the way that it was reinforced within the DHS overloaded circuits at the top. Attention to nonterrorism-related programs was crowded out as was evident in reduced preparedness efforts for natural and technological disasters and from the problems so evident in the failed response to Hurricane Katrina…. In addition, the manner that attention was organized at top levels of the DHS fostered oscillation in grant programs, distrust among intergovernmental partners, and meddling from above (May, Workman, and Jones 2008, 519).

In the terms we used in the previous chapter, the effect of the creation of the Homeland Security Department and the continual hectoring of agencies involved in disaster preparedness to focus more on terrorism by the staff of the Secretary and by White House operatives censored information and limited preparedness for more regular disasters. May and colleagues write that "agencies have two basic ways of organizing attention. One consists of delegated authority and the use of formal routines. The other involves centralized authority and the use of informal procedures. To delegate or centralize is the question" (May, Workman and Jones 2008, 518). In this case, centralization was the answer. But centralizing a complex mission inevitably creates a cognitive overload, and therefore censoring. Indeed, increased centralization in administrative departments is almost certainly associated with a focus of attention on one mission among the several that constitute a modern government department.   May, Workman, and Jones found no evidence that agency personnel tried to undermine the centralized demands coming in to their

agencies, even though they did send ample warnings of the consequences of the centralization.

That is, asymmetric information was a part of the story only in that it was correct. It did not

undermine the centralized command to focus attention on terrorism preparedness—the central

authorities were able to impose their policy preferences with little or no interference by line

bureaucrats. The lesson here is that centralized authority and delegation are inevitably in tension

and that the risks of over-centralization can be as great as those of delegation. Centralization

risks overload while delegation risks lack of coordination. There is no proper balance between

these, which is why we observe agencies lurching from drifts toward delegation with an

occasional lurch toward over-centralization. The response to 9 / 11 within the huge range of

agencies that are now said to be related to the new concept of "homeland security" are an

excellent example of the danger of over-centralization. But the catastrophic failure of the

security apparatus leading to the attacks in September 2001 also illustrate the shocks that explain

why attention became so suddenly focused on the need to "fix" an system that obviously was not

working.

Is Government an Organized Anarchy?

In 1972 three organizational theorists began an influential article with the words, "Consider

organized anarchy" and they went on to suggest that perhaps government is such an environment

(Cohen, March, and Olsen, 1972). As they defined it, an organized anarchy has: a) "problematic

preferences" (that is, multiple conflicting goals); b) "unclear technology" (it does not know how

to achieve its goals); and c) "fluid participation" (the people in charge continually come and go)

(1972, 1). For reasons that perhaps have to do with the provocative style with which they wrote

their article and the fact that they developed a computer model of decision-making based on

random couplings of problems, solutions, and "choice opportunities," the model presented in the

article has not been widely adopted.   But before we dismiss the critique because we do not find value in the solution proposed some 40 years ago, let us take another look at the critique. Their initial description of an organized anarchy, in fact, can be understood as a simple statement of the obvious: in a boundedly rational environment, we cannot expect models based on comprehensive rationality to work very well. They write: "Significant parts of contemporary theories of management introduce mechanisms for control and coordination which assume the existence of well-defined goals and a well-defined technology, as well as substantial participant involvement in the affairs of the organization. Where goals and technology are hazy and participation is fluid, many of the axioms and standard procedures of management collapse" (1972, 2).

The model was originally developed for use within the setting of higher education: What university president could state clearly "the" goal of a modern research university? Once a few important goals were agreed to, how to achieve them? If every university understood how to maximize student learning to all, Americans would be a lot smarter. And if each school knew how to recruit and support top-flight researchers, we would have made much more scientific advance. The simple point is that these are difficult problems for which people can disagree on the best ways to achieve them. And who has a right to be on the ad hoc committee? That is, should professors, administrators, outside experts, or perhaps students and alumni participate in making decisions in a modern research university; it is not so clear. It seems clear that universities have multiple goals, unclear technologies for achieving the goals, and little continuity of participation in decision-making venues. So the concepts of goal ambiguity, unclear technology, and fluid participation are certainly familiar. In the context of government,

which of course has an even more diverse array of goals than a university, the applicability of the ideas should be even clearer.

The implications of these elements of decision-making within complex policymaking environments are as profound as they are often ignored in many neo-institutionalist approaches to the study of government. Neo-institutionalists often assume fixed preferences and authority structures, eliminating fluid participation (but see Ostrom 1986). The first is that policymakers, political parties, and even voters are constantly attempting to reach a solution to a problem that cannot mathematically or logically be solved: We want low taxes but good services nonetheless; few regulations but no business excess either; progress on environmental priorities but not to stifle business competitiveness; in sum, we often collectively want A and ~A at the same time. Some political leaders develop the goal of remaining in office, whatever it takes. Others want to maintain the authority of their bureaucratic agency against the possible encroachment of a rival. So, far from starting out with a goal, such as "improve the reading level of 3rd grade students across the country," we start out with many sub-goals and many contradictions among them. Preferences are not only unclear, but they are often mutually contradictory. If we focus on achieving one of them to the exclusion of others, we find that we create other problems. It may or may not be possible mathematically to find the right balance among all the competing goals that may exist in a complex environment like the US federal government, but it is unrealistic to expect any human institution to define a clear set of goals and to stick to them. In a complex environment, we simply focus on a few goals until we are forced to shift our focus to some others because they become more urgently threatened.

The second part of Cohen et al.'s formulation is important as well. In their terminology, we have "unclear technologies." In government this means that we often don't know which

policies work. Will an increase in unemployment compensation reduce poverty, or on the

contrary will it stifle the incentive to stay employed? In practice what our lack of knowledge

about the effects of complex public policies means is that advocates are constantly trying to

convince us either that a given policy, laudable though its goals may be, is a colossal waste of

money, or that another policy, not yet proven, could indeed solve the problem of, say, poverty.[14]

The technologies of many public policies are indeed unclear. This lack of clarity opens the door

for proponents to present information on one side of the issue or another.[15]

Finally, authority structures are not clear—that is, in any decision, participants are fluid.

This may be the concept that many readers will have the most difficulty accepting. Similarly,

most political leaders think that manipulating the lines of authority and changing the

jurisdictional assignments with them can clarify a complex and confusing organizational

arrangement. It seems clear: surely there is a division of labor in politics. The Secretary of

Agriculture cannot make foreign policy, and the Secretary of Defense does not make education

policy. To say that there is some structure to government does not, however, indicate that

participation is constant or the rules of authority are clear. Rather than a clearly defined

hierarchical pattern in which supervisors have a greater range of power than subordinates and

each has clear lines of authority to those below, we have something much more ambiguous.

Political leaders may attend to whatever problems they think will improve their position with the

---

[14] In *Agendas and Instability in American Politics* we showed this dynamic at work in several case studies. Pesticides, at the beginning, were said to be the cure for human disease, poverty, hunger, and the position of the US in the world. Similarly, civilian nuclear power in the 1940s and 1950s was supposed to produce the cure to such problems as economic scarcity, clean drinking water for all, and eradicate worldwide poverty (Baumgartner and Jones 1993).

[15] In those cases where we actually do understand how to accomplish a given goal, such as for example delivering the mail, the issue often promptly leaves the political agenda, as there is no longer any reason for controversy. We referred to these as "engineering" problems above.

voters. Agencies, congressional committees, and individual political leaders shift in their attention, not randomly to be sure, but with considerable freedom to prioritize this rather than that issue at any given time. Interest groups, social movement leaders, journalists, and others of course, are completely unconstrained. As issues rise and fall in salience, a wider then a narrower group of political actors intervenes, and occasionally the public becomes aware of issues that otherwise would be treated within specialized arenas of governance, among experts. So, participation does indeed seem quite fluid in politics. If participation were fixed, the same institutions would always decide issues. In fact we see some structure, but a lot of fluidity.

Hierarchy and jurisdictional assignment matter, because they channel both participation and attention. We can see this most vividly when jurisdictional assignments are changed. Attention allocation can be shifted via organizational charts, and if the new pattern of attention allocation becomes routinized (something people are very good at doing, and bureaucracies reinforce this tendency), then the new arrangement becomes permanent. The Joint Congressional Committee on Atomic Energy really did gain a monopoly of control of all matters related to nuclear power from the early post-war years until 1976, when it was disbanded. Why was it disbanded? Because congressmen not on the committee considered that it did not reflect the full range of views that needed to be part of the debate (see Baumgartner and Jones 1991, 2009).

Conflicting and overlapping jurisdictions are never called for in designing ideal organizational structures. Nevertheless, somehow they keep coming back. The empirical evidence suggests: a) they cannot be fully avoided; b) they have become more and more common as government has grown over the generations; and c) they should not be avoided, as they play a key role in insuring the consideration of multiple sources of information. The range

of perspectives that comes with fluid rules of participation is associated with better decisions and the consideration of a wider range of information.

In the complex and dynamic environment faced by governments, attention is a key variable in the model. Cohen and his colleagues note "Since variations in behavior in organized anarchies are due largely to questions of who is attending to what, decisions concerning the allocation of attention are prime ones" (1972, 2). Attention shifts tend to be inter-dependent. Attention may shift to those issues where a credible case has been made that a solution may actually work, or where new information comes in to suggest that a currently active solution is not working at all and is in fact wasting money. Solutions can feed back into problem definition. The availability of solutions affects the likelihood of attention being focused on a given problem.

The involvement of one political leader suggests to others that this may be a more important issue than they realized, so it can increase the interest of others, triggering a cascade of attention and participation. These interdependencies, the mutual interactions among the parts of the policy process, especially among political leaders who often respond rapidly and en masse to the same information or to the actions of those they see around them, are essential to the punctuated-equilibrium model. Without interdependence, we would not see the cascades, mimicking, and positive feedback processes that occasionally interrupt the routine decision-making process of government.

Fits and Starts, the Struggle between Information and Control

The US government, with separation of powers, federalism, and "overlapping institutions sharing power" is a paragon of redundancy. Some would say waste. But the apparent inefficiencies of overlap, shared jurisdictions, and unclear lines of authority are also the means by which large amounts of information enter the political debate. Where one institution develops an incomplete

perspective on a complex issue or follows a policy that ignores important elements of social need, another is likely to raise the question. While no institutions deal perfectly with those social issues that are under their jurisdiction, the conflict and competition inherent in the overlapping structures of government ensure that no single view dominates all government agencies. Competition based on shared, even conflicting, mandates is central to the structure of government, and always has been. A monopoly of detailed technical information in the hands of a single agency is the most efficient solution to the division of labor that is necessary in any complex organization. But in situations where the problems are not mere technical ones but require value judgements or experimentation with various approaches, it can create a dictatorship. Redundancy is therefore an important element of organizational theory, but an unpopular necessity.

A constant in the history of US government has been complaints about inefficiency. Not only are efforts to create "clarity" in government likely to fail, but they go against the spirit of separation of powers, federalism, and messiness that inform the very structure of the US government from its earliest days. The ideas apparent in the structure of government as designed in the 18th century have become even more important as the US government has grown from a very modest size and dealing with only a few core items to its current scope. The framers appreciated redundancy, overlap, and restrictions on the power of any individual actor, creating a system at ease with ambiguity back more than 200 years ago. It is even more important today, in an era of massive overload of information, to embrace these ideas even when they frustrate leaders who would be tempted to call for a chimerical "clarity" in public life. The problems facing government simply don't allow it.

The idea that redundancy and overlap harbour surprising value in public life is not new in the study of public administration. Martin Landau, writing in 1969, began an article on the value of redundancy in public administration with a discussion of an emergency landing in an airplane. Talking to the pilot afterwards, he writes, he was reassured that, while the rudder had ceased to function, the pilot was able to fly the plane using other means. Luckily for the passengers, "a commercial airliner is a very redundant system, a fact which accounts for its reliability of performance; a fact which also accounts for its adaptability" (Landau 1969, 346). He contrasts "rationalist" perspectives on the design of public institutions with "redundant" designs. The essential difference is the degree of understanding and mastery of the environment. Where the problem is an engineering one, strict rules of organizational clarity would be appropriate.

> The logic of this position … calls for each role to be perfected, each bureau to be exactly delimited, each linkage to articulate unfailingly, and each line of communication to be noiseless—all to produce one interlocking system, one means–end chain which possesses the absolutely minimum number of links, and which culminates at a central control point. For the public administration rationalist, the optimal organization consists of units that are wholly compatible, precisely connected, fully determined, and, therefore, perfectly reliable (Landau 1969, 354).

For Landau, this might be fine in some settings, but in public administration, "organizational systems of this sort are a form of administrative brinkmanship. They are extraordinary gambles. When one bulb blows, everything goes. Ordering parts in series makes them so dependent upon each other that any single failure can break the system" (354). Such a decision-making process would work in the case where "the environment has been fully and correctly described, […] preferred state conditions are unequivocal, and […] the instruments

necessary to produce preferred states are at hand. Said alternatively, certainty exists as to fact and value, instrumentation and outcome, means and ends. All that needs to be known is known and no ambiguities prevail" (355). In a later article Landau notes that "duplication of function and … overlapping jurisdiction [are seen as] waste" (Landau 1971, 424). In a complex technological environment, such as moon flight, he notes, we design redundancy into the system to ensure it can adapt to partial failures; but in government it is "treated as contrary to common sense, and removed as soon as circumstances permit" (1971, 424). Finally, he concludes that the "theory of redundancy is a theory of system reliability" (1971, 427).

Landau's critique is virtually identical to that of Cohen and colleagues: By assuming clarity and understanding, we fundamentally misapprehend government. More important, the framers of the US constitution, as Landau notes, expected ambiguity rather than clarity in mission. Rather than design a system for maximum efficiency when dealing with known problems with known solutions, they sought a self-correcting system capable of dealing with messy problems for which the best solutions would continually have to be sought:

> Experience, Madison wrote, has taught mankind the necessity for auxiliary precautions: these were to be had "by so contriving the internal structure of government so that its several constituent parts, may by their mutual relations, be the means of keeping each other in their proper places." The principle of action and reaction, of checks and balances, turns out to have been, in organization terms, the principle of inter-woven and competing redundancies (Landau 1969, 352).

Public administration scholars since Landau have continually appreciated the frustration of political leaders who seek "clarity" and the value in maintaining multiple sources of expertise in government. The US government was designed by a set of thinkers who seem to have had a

great understanding of ambiguity and a level of comfort with conflict. They expected factions to be present, for the men and women of government not to be angels but rather individually ambitious humans, and they knew that there would be diverse viewpoints on all matters of public discourse. The system that they designed, compared to others, incorporates the elements of redundancy that Martin Landau so appreciated. But the US government, like any other, features a continuing struggle between those who would "clarify," "streamline," and "take control" and those who understand the value in redundancy (or who simply protect their own turf when attacked).

The system occasionally settles into routine patterns where all accept the status quo, perhaps not because they are pleased with it but because they know it is so powerful that fighting against it will be fruitless. Where the dominant party is unassailable, it can pay few dividends to fight against it. During other periods, however, the previously powerful are weakened by widespread recognition that the status quo may not be the best possible situation. Challengers promoting new ways of thinking are no longer silent. Rivals to the powerful seek to supplant them. Occasionally significant changes occur. This process can occur at any level of the political system. The self-organizing nature of the process means that stability and powerful changes can alternate whether we look inside of small niches of the policy apparatus (for example, deep within an administrative structure dealing with such questions as the best way to promote learning among pre-school children, the most cost-efficient means of collecting taxes, or the best strategies of community policing), at higher levels of the policy making apparatus (say, the level of a cabinet secretary), or even for the government as a whole. Very similar dynamics are clearly at work at each level of aggregation. The struggle between information and control affects the ability of policy communities to maintain support and consensus about "best

practices" in their respective policy niches, our expectations about the size of the federal government, and everything in between.

Once in power, government officials typically want to exert their authority by consolidating control. In the struggle between clarity and information, any victory for clarity will be short-lived and will come with substantial costs. While we cannot create a governmental structure that can fully solve the problems of over-abundance of information or comprehensively assess the myriad challenges that face a modern government, we can certainly put blinders on. These blinders, in the form of restrictive definitions of what is appropriate to consider and what is superfluous, may allow administrators to make clear decisions. But inevitably they will define out of considerations aspects of complex social problems that will eventually rear their heads. Minority viewpoints, unwelcome news, and nagging problems do not go away when ignored; often, they simply accumulate. Governments do a better job when they incorporate even what they prefer to ignore.

The US Constitution as a "Pantheon of Values"

Shortly after his retirement, Supreme Court Justice David Souter gave a commencement address to the class of 2010 at Harvard (Souter 2010). He used the opportunity to reflect on the inherent struggle between ambiguity and control, not just in politics but also in the text of the US Constitution. He writes that "the Constitution contains values that may well exist in tension with each other, not in harmony." After briefly describing the conflict in the case of the *Pentagon Papers*, which put in stark contrast the competing values of freedom of the press and the need to protect national security, both unquestioned constitutional values, he writes:

> The explicit terms of the Constitution, in other words, can create a conflict of approved
>
> values, and the explicit terms of the Constitution do not resolve that conflict when it

arises. The guarantee of the right to publish is unconditional in its terms, and in its terms the power of the government to govern is plenary. A choice may have to be made, not because language is vague but because the Constitution embodies the desire of the American people, like most people, to have things both ways. We want order and security, and we want liberty. And we want not only liberty but equality as well. These paired desires of ours can clash, and when they do a court is forced to choose between them, between one constitutional good and another one.

He suggests that these difficult trade-offs "are, after all, the creatures of our aspirations: to value liberty, as well as order, and fairness and equality, as well as liberty." Finally, he gets to the crux of the matter, the trade-off between incommensurate values and the clarity that would come if we could only value one of them above all others:

I have to believe that something deeper is involved, and that behind most dreams of a simpler Constitution there lies a basic human hunger for the certainty and control that the fair reading model seems to promise. And who has not felt that same hunger? Is there any one of us who has not lived through moments, or years, of longing for a world without ambiguity, and for the stability of something unchangeable in human institutions?

Justice Souter is clearly responding to the strong intellectual movement on the Court to embrace an "original intent" model of judicial behavior in which judges would not be so "activist" but rather simply implement what the Constitution says. By pointing out the inherently conflicting goals of liberty and equality, or freedom and security, for example, he stresses that even at the most basic level the goals of government are inherently in conflict, often times mutually contradictory. Since the government is designed to serve so many different

purposes, some of which are in conflict with one another, we cannot understand how governments work if we do not appreciate the concept of ambiguity.

Information and Organizational Form

In this chapter and the last, we have focused on some basic ideas about complexity and organizational responses to it. Periodic efforts to establish clarity through government reorganizations have eliminated certain overlaps and redundancies of the kind Landau discussed, but—just as he suggested—these redundancies are not mere inefficiencies. Rather, they are a necessary part of allowing information to flow into government. As government has grown, it has become involved in a greater range of activities and the boundaries among thousands of independent agencies and actors in the system have become more blurred. As numerous partially independent organizations have developed their own operating procedures, norms, policies, and areas of expertise, a wide range of perspectives has become institutionalized in government. This strengthens the informational capacity of government, but makes it harder to manage.

We now turn to a study the congressional committee system of Congress (Chapter 4). Assessing search capacity via entropy, we show the rise and decline of the legislative search process through the post-war period. Then in Part II we turn to exploring the positive and negative consequences of expanded entropic search. While problems were detected, government also grew, and it grew in two ways: it "thickened" through accretion to established programs, and it "broadened" by adding new items to the public agenda.

Chapter 4

From Clarity to Complexity in Congress

Even in today's polarized era, the congressional committee system remains the lynchpin of congressional lawmaking. Committees examine potential problems, hear evidence about potential legislation, mark up legislative proposals, forward those proposals for votes on the floor of the chamber, and oversee the agencies implementing the nation's laws. While there are other avenues of access for information and ideas to enter the legislative process, including especially the General Accounting Office, the Congressional Budget Office, the Congressional Research Service, and the staffs of individual members, committees remain the major institution for bringing information to bear on lawmaking matters. In particular, committees process entropic information. At its best, committees reflect diverse policy viewpoints from the numerous groups in America.

Since Woodrow Wilson, scholars and practitioners alike have understood that the division of labor through the committee system is fundamental to how Congress works. Scott Adler and John Wilkerson have recently shown that committee members are encouraged to devote years of work to become specialists and experts in their issue domains because they know that, every few years, they will have the opportunity to write important legislation, and they can expect their colleagues on other committees largely to accept the proposals that they put forward (Adler and Wilkerson forthcoming). Previous scholars from Woodrow Wilson (1885) to Richard Fenno (1973), Kenneth Shepsle (1978) and Keith Krehbiel (1991) have focused on the committee structure as the fundamental organizing principle, along with parties, that makes

Congress function.   But the allocation of a particular issue to a particular set of members does not always come without tension. We focus on the tensions inherent in establishing and maintaining clear jurisdictional control in this chapter because it illustrates the same type of tension as affects government more broadly: that between control and information.

The committee system puts in clear contrast the dual goals of any division of labor in Congress: How to ensure that the parts serve the interests of the whole, while increasing efficiency? On the one hand, there is a danger that by giving deference to specialists, non-experts may not get what they want. On the other, without deference there is no incentive to specialize, and the body loses all the gains that come from a division of labor. This tension is fundamental to the literature on congressional organization and is key to understanding how Congress works. Members expect to be paid back in deference for the years of work they put into the routine oversight of a relatively small part of public policy. On the other hand, they do not want to approve legislation that they believe reflects views of self-selected committee members, not their own or not that of the chamber as a whole. They want to gain something in exchange for the knowledge from becoming a specialist on one topic and by which they lose influence on all other policy domains.

The tension in Congress between allocating power to a subset of the whole, which may or may not then reflect the opinion of the majority, is similar to the broader dilemma in government of assigning authority to a single institution with instructions to "solve" the policy problem. If we understood perfectly the nature of the problem and the best solutions to it, then clear administrative control would be the obvious choice. But if we do not quite understand the causes of the social problem we want government to solve, or if different politically relevant actors disagree on whether the condition is even worth any government attention, as is common, then

we may not want monopolistic control by any single group of experts. Any single group, agency, or committee may approach the issue from a particular perspective. If a multiplicity of perspectives is important, then clarity is a danger as it can lead to "tunnel vision," or a self-defined organizational mission that incorporates this, but not that, element of the issue. Looking into some detail at the structure of congressional committees provides a rich empirical grounding for a broader consideration of the tension between clarity and control on the one hand, and breadth of perspectives on the other. In creating clarity, one must give up breadth. And in incorporating a greater range of perspectives, one necessarily gives up some clarity.

Woodrow Wilson (1885) described the power of committees and is often quoted for his description of "Congress at work" being "Congress in committee-rooms." But it is worth reviewing in greater detail his analysis. In fact, he complained bitterly of the excessive powers of committees. Even in the 1880s, the division of labor had become so powerful, and the norms of deference strong enough, that he wrote that House committees not only wrote the legislation, but largely dictated out to the floor the outcomes to be adopted. He illustrates the fear that the committees serve their own interests, not those of the broader congressional majority. This concern is at the core of the tension between clarity, needed for an efficient division of labor, and the potential that a broader range of perspectives will be excluded as committee members gain too much power:

> The House sits, not for serious discussion, but to sanction the conclusions of its
> Committees as rapidly as possible. It legislates in its committee-rooms; not by the
> determinations of majorities, but by the resolutions of specially-commissioned minorities;
> so that it is not far from the truth to say that Congress in session is Congress on public
> exhibition, whilst Congress in its committee-rooms is Congress at work (1885, 79).

Wilson complained about the secretive process by which most bills are defeated, not by open debate, but by committees simply refusing to bring them forward:

The fate of bills committed is generally not uncertain. As a rule, a bill committed is a bill doomed. When it goes from the clerk's desk to a committee-room it crosses a parliamentary bridge of sighs to dim dungeons of silence whence it will never return. The means and time of its death are unknown, but its friends never see it again" (1885, 69).

Wilson continues:

Of course it goes without saying that the practical effect of this Committee organization of the House is to consign to each of the Standing Committees the entire direction of legislation upon those subjects which properly come to its consideration. As to those subjects it is entitled to the initiative, and all legislative action with regard to them is under its overruling guidance. It gives shape and course to the determinations of the House. In one respect, however, its initiative is limited. Even a Standing Committee cannot report a bill whose subject-matter has not been referred to it by the House, "by the rules or otherwise;" it cannot volunteer advice on questions upon which its advice has not been asked. But this is not a serious, not even an operative, limitation upon its functions of suggestion and leadership; for it is a very simple matter to get referred to it any subject it wishes to introduce to the attention of the House. Its chairman, or one of its leading members, frames a bill covering the point upon which the Committee wishes to suggest legislation; brings it in, in his capacity as a private member, on Monday, when the call of States is made; has it referred to his Committee; and thus secures an opportunity for the making of the desired report (1885, 70-71).

For over 125 years the structure of the committee system has been a key organizational facet of legislative life. However, while Wilson's comments about the power of legislative gate-keepers such as hostile committee chairs remain pertinent today, there is another problem to which he only alludes indirectly. That is competition among committees to "volunteer advice" on matters that might also be claimed by another committee. Further, this problem has become vastly more complicated since the time that Wilson wrote.

Congress once had a largely ad-hoc system of committee jurisdictions (Deering and Smith 1997) but since the Legislative Reorganization Act of 1946 it has had a relatively fixed system. In the House, the number of committees was reduced from 44 to 19, and these standing committees have remained largely in place since then. Since 1947, a few committees have been newly established (e.g., Science and Astronautics, created in 1958, now called Science and Technology), many have had small changes to their names, a few have been abolished, but overall the structure has remained remarkably similar over the entire post-war period. This has occurred at a time when the functions of the US government have expanded vastly. The growth of government has led, inevitably, to an important change in the structure of government: each unit of government has grown more intertwined with other units.

As government has become larger and more complex, the legislative system responsible for writing legislation and overseeing the activities of an increasingly diverse executive bureaucracy must as a consequence become more complex. It must cope with diversity by one of two mechanisms. It must either expand the committee system, an option severely constrained by the Legislative Reorganization Act of 1946 or it must assign duties in a manner that causes overlaps and potential jurisdictional confusion. The House's 1973 Subcommittee Bill of Rights expanded the ability of subcommittees to act independently of their parent committees, but it did

not obviate the jurisdictional overlap problem. Indeed, it probably amplified it, because more sub-organizations could clash with one another on jurisdictional matters. In a simple system of government, legislative committee duties can be clear and direct. In a complex system, legislative committee duties cannot be assigned with clarity.

As a consequence, the clarity of congressional committee jurisdiction has declined as the range of activities of government has increased. In this chapter we measure the range of jurisdictional coverage of each committee by looking at its hearings. We do so by examining the nineteen major topics of the Policy Agendas Project, showing not only the growth in the spread of activities across topics by the typical committee, but also the increased range of committees claiming some degree of control over each topic area. These are mirror images of each other, and both are consequences of the incasing complexity of the growing body of federal legislation and the agencies responsible for implementing it.

The committee system in Congress is a useful lens into the broader theme of conflict between clarity and control because it illustrates the tension between a desire for clear lines of jurisdictional control and the need to consider multiple aspects of a single issue. The congressional committee system has resisted large-scale change over the entire post-war period, largely because the organization of congressional life is so tightly bound to the system of committees that Members of Congress jealously guard their existing power arrangements.[16] And yet, given the rise in the number of issues of concern to the US government (see Jones and Baumgartner 2005 and chapter 5 in this book), an unchanging structure of Congress implies a

---

[16] There have been significant reforms, especially with the creation of multiple referrals and the "subcommittee bill of rights." These were significant reforms and decentralized power from the committee chairs to a larger number of individual subcommittees. But little has changed in the overall design that Congress works through a set of about 19 standing committees in the House and a similar design in the Senate.

significant shift in other ways. Each committee does more, and each issue has a greater chance

of falling into multiple jurisdictions. These are not pathologies but are reflections of the growth

of government. A division of labor with more issues is inevitably messier than one with fewer

issues, given a set number of divisions. And this is exactly what we see. We also see periodic

and short-lived efforts to "clean up" or rationalize the system, as the contradictions between

information and control rise up periodically. In this sense, the committee structure illustrates our

larger themes, which is why we explore these issues in detail here.

This chapter highlights a second straightforward element of congressional organization

and behavior, yet one often overlooked by political scientists and "beltway" commentators as

well. Congress is not an entirely independent actor in the construction of its internal governance

structures. It is hostage in part to the law and executive branch bureaucracies it has created in

the past. As legislation has grown, it has become more complex. Whereas once most statutes

had a single title, today most laws have multiple titles. More important, these multiple titles

often affect different sections of the US Code, which is the authoritative topical arrangement of

the laws passed (Whyman and Jones 2012). As the corpus of law has become more complex, the

agencies responsible for implementing them have become both more numerous and more

diverse. Congressional committees, grappling with the complexities of law and bureaucracy,

similarly become more complex. Whatever Congress is doing is deeply embedded in a large and

complex administrative state (Redford 1969; Dodd and Schott 1979; Workman 2012).

Dividing Up the Work: Committee Jurisdictions in Congress

The organization of congressional work through a system of committees both allows the body to

manage its considerable workload and gives differential influence to those members with seats

on the relevant committee. If the goal has been to encourage legislative specialization so that all

can gain from the division of work across all members, this must be followed by a willingness of non-experts to defer to those who may have spent decades in learning the details of federal law, agency activity, and the policy problems in that small domain of politics that corresponds to their own area of legislative specialization. This bargain is a difficult one in two ways. First, it creates the possibility that the specialists will have different preferences than other members of the chamber; this is a particularly real threat because members may seek to gain assignment on committees with jurisdiction over issues particularly important to their own constituencies. Second, it means that members must agree not to assert themselves in areas where they do not have expertise. The giant legislative log-roll is then a bargain that comes with significant benefits to generate expertise, but also significant costs in terms of lack of influence in areas of public policy that fall outside of one's own area of jurisdiction. Because of these inherent tensions, the system is constantly being pressured on the one hand to keep things clear, but on the other to allow flexibility if members feel their interests are not represented by those on the relevant committee.

Committee specialization additionally can run afoul of the demands of legislative party leaders to manage the work flow, bring to the chamber floor essential legislative matters, and to promote a legislative program. As a consequence, the history of Congress can be seen as a struggle between the centripetal forces of party leadership and the centrifugal forces of committee specialization. Wilson's *Congressional Government* was written in a time of strong committees; similarly in the 1950s and 1960s the House's "college of cardinals" managed legislation and budgets with the Speaker oftentimes brokering deals among them. After 1995, Speaker Newt Gingrich worked to bring the committee structure more in line with party goals— centripetal control at work.

In effect, two intertwined processes characterize congressional organization: one, the struggle between central control and the power of specialized information; the other the struggle to keep lines of authority between committees clear and distinct. Each involves attempts to suppress attributes of issues to simplify them and (otherwise control is not possible). With simplification comes control; with complexity comes information.

With an ever-increasing set of policy issues on the federal agenda, but a relatively set number of congressional committees, it is clear that strains and ambiguities must be common. The US Senate provides this description of the difficulties in establishing clear boundaries:

> Senate Rule XXV establishes standing committees, determines their membership and fixes their jurisdictions. Setting jurisdictional boundaries among committees has always proved troublesome. While some jurisdictions apply to oversight of specific executive agencies or precisely defined functions, others are not so obviously described. As a result, a half-dozen or more committees may claim jurisdiction in such broad policy areas as the national economy or environmental protection (U.S. Senate 2011).

In the 112th Congress (2011–12), the House and Senate panels were organized as described in Table 4.1, in a pattern that has been largely maintained for many decades.

Table 4.1. Standing and Major Select Committees of the 112th Congress (2011-12)

House of Representatives	Senate
Agriculture	Agriculture, Nutrition, and Forestry
Appropriations	Appropriations
Armed Services	Armed Services
Budget	Banking, Housing, and Urban Affairs
Education and the Workforce	Budget
Energy and Commerce	Commerce, Science, and Transportation
Ethics	Energy and Natural Resources
Financial Services	Environment and Public Works
Foreign Affairs	Finance
Homeland Security	Foreign Relations
House Administration	Health, Education, Labor, and Pensions
Judiciary	Homeland Security and Governmental Affairs
Natural Resources	Judiciary
Oversight and Government Reform	Rules and Administration
Rules	Small Business and Entrepreneurship
Science, Space, and Technology	Veterans' Affairs
Small Business	Indian Affairs
Transportation and Infrastructure	Select Ethics
Veterans' Affairs	Select Intelligence
Ways and Means	Special Aging
Joint Economic	
Joint Taxation	
Permanent Select Committee on Intelligence	

Source: House.gov and Senate.gov, downloaded April 20, 2011.

The House committee system includes 20 regular standing committees ranging from the prestigious Ways and Means and Rules committees through the policy-focused Agriculture, Veterans' Affairs, and others, and also includes three joint or select committees. The Senate system is slightly smaller, but the general idea of the division of labor into a small number of overarching tax- and budget-focused committees, a larger number of policy-focused ones, and a few select or special committees is generally consistent with that of the House. There are only so many ways to divide up the policy space, after all. While each Congress is free to revise the formal rules determining the relative jurisdictions of the various committees, in practice substantial reforms are rare and each committee jealously protects its turf from the encroachments of others.

The continuity of the formal jurisdictions of the committees of the House and Senate is great enough that in the Policy Agendas Project we have established a "master list" of committees that assigns the same numeric code to the various committees from 1947 to present. That is, in our system, the House Agriculture Committee receives code 102 and in each Congress since 1947 we have been able to identify one, and only one, committee that receives this jurisdiction. In a few cases (Agriculture, Appropriations…), even the name has remained constant over that time period, whereas in others there have been slight name changes but the jurisdiction of the committee has remained substantially the same (for example, the House Armed Services Committee was entitled the "National Security Committee" from 1995 to 1998). In other cases, some more substantial revisions are clear from the names of the committee, as in the case of the current House Committee on Financial Services. From 1978 to 1994 it was known as the Banking, Finance, and Urban Affairs Committee; then as Banking, Currency, and Housing (1975–1977); Banking and Currency, 1947–1975; Financial Services 2005–Present). There are a few cases where committees have been disbanded or had only brief but very important existences. But the vast bulk of the work in Congress since World War Two has been conducted within a relatively stable set of committees that have not changed too much over time. The relative consistency of the committee jurisdiction system is apparent from the fact that we can produce tables that present the number of hearings held in our consistently-defined set of committees over time. (See Appendix A for these tables.) The first table presents the House of Representatives and the second shows the Senate.[17]

---

[17] The committee codebook is available at the policy agendas web site. Whereas committees have been relatively stable, large changes have occurred in the subcommittees. Our list of committees and subcommittees is 66 pages long, largely because of the great number of shifts in the organization of the subcommittees. The codebook lists each

Tables A.1 and A.2 reflect an overview of every hearing held in the House and Senate from 1947 to 2006.[18] We can see significant shifts in the total number of hearings (over 2400 hearings in the House in the 101st Congress, only about one-third that number at other times) and also changes in the levels of activity of individual committees over time. Looking across any individual row shows whether the committee had an uninterrupted existence; a series of blank rows means a committee was abolished or had not yet come into existence. We see only a small number of committees that disappear (in the House, Un-American Activities, District of Columbia, Fisheries, and Post Office; for the Senate, District of Columbia and Post Office). Similarly, a few committees are created: House Homeland Security, Senate Budget and Veterans Affairs. Both bodies have the authority, at any time, to rearrange the jurisdictions of their standing committees, and they do so on a regular, if limited, basis. Generally, however, the overall structure remains remarkably similar over time. Tables A.1 and A.2 are not full of blanks indicating that the committee in question did not yet exist or had already been abolished, and the "all others" category typically is relatively small. This indicates the relative immutability of the structure of committees in Congress.

Assessing Clarity and Overlap

Given that there has been a relatively (though not completely) set committee system, but that the federal government has become involved in an increasing number of areas of activity, the clarity of the committee jurisdictions must have declined. That is, with a set number of committees overseeing an increasing number of activities, each committee must have seen its own "spread"

---

committee assigned to our consistently defined committees for each Congress as well as the subcommittees in each.

[18] A small number of hearings were jointly held by more than one committee, but the data presented in Tables A.1 and A.2 reflect only the lead committee.

of activity increase. And similarly, for any given topic of congressional interest, the clarity of the jurisdictional authority must have declined. While any single committee leader would like to assert control over "their" issue, excluding "extraneous" considerations and maintaining sole control over the issues within their jurisdictions, problems and new developments may cause others to disagree. When conflict arises, the simplest route is not necessarily to convince the authors of the status quo policy that they were wrong, but to find another ally within government to expand their jurisdiction to claim some aspect of the issue as falling within their purview. Efforts to restrict encroachments by others often focus on defining the issue in a restrictive manner, one that is clearly germane only to the committee that previously had control. By contrast, efforts to justify change often stress additional dimensions of the issue that are currently absent from the status quo perspective. The latter strategy is considerably easier when laws are not being considered—that is, when a committee or subcommittee is attempting to raise the visibility of an issue or call attention to lapses in executive agency behavior (Talbert, Jones, and Baumgartner 1995).

In previous writing (Baumgartner and Jones 1991) we discussed at length the demise of the once-powerful Joint Committee on Atomic Energy. With a virtual monopoly on all things nuclear, and with a restricted membership covering both House and Senate members, the committee presided over a dramatic expansion of the nuclear power industry from its beginnings through the 1960s. When concerns about nuclear proliferation, worker safety, waste disposal, and movements to oppose the installation of new plants in particular communities, the JCAE gave little ground. Change occurred when the committee was dismantled and its jurisdiction was split up among other rival committees that reflected better members' concerns about other elements of the nuclear industry, including environmental perspectives. The story of the JCAE

in a way encapsulates the struggle between information and control. During the period in which it prospered, the JCAE accepted only a certain view on civilian or military nuclear power: That it was fundamental to our national security and economic progress. For a while this paradigm was successful and the committee could ignore those who disagreed and downplay the concerns that they raised. As events unfolded revealing greater safety problems especially on the civilian nuclear industry, the censorship of these views was no longer acceptable to the broader chamber and the committee was seen to be increasingly out of touch or extreme. The committee was disbanded and a wider range of actors exerted influence over various parts of the issue. Clarity was gone. Control was weakened. Information, in the sense of institutionalized attention to many aspects of the issue, multiplied.

Hypothetical Simplicity and Diversity of Control

As we indicated in Chapter 2, we measure information supply using Shannon's Entropy Index. We can use this basic idea to assess both the general extent of *entropic information* (that is, the supply of information) and the degree of *expert information*. Shannon was working on the transmission across noisy telephone wires. If a message came across the wire, and the receiver observed it, what is the likelihood that the message was reflective of what was sent? A condition of low entropy would do that, because it would provide great redundancy in the messages that hypothetically could have come across the wires. In the processing of policy information, the experts agree, and send redundant messages.

But high entropy can also indicate high information, because it captures diversity in the messages. These messages may be wrong, or they may contain noise or static, but high entropy also indicates differences in problem-definition. Since Shannon was truly dealing with an engineering problem, he wanted a measure of clarity, and maximizing clarity is the goal of those

who work on the technical aspects of information transmission. But the indicator he devised—a measure of entropy—is equally adept when we want to measure the spread of attention across multiple categories—what we have called "entropic information"—as the concentration of attention on a single topic.

We can calculate entropy for any single agency or congressional committee, and this entropy may vary across congressional sessions. But we can also sum up the committee entropies and get a sense of the entropic information available within the entire legislature. Table 4.4 shows how this is done.

Table 4.4: Committee Jurisdictions and Information

	Issue A	Issue B	. . .	Issue K	Committee Entropy
Committee 1	P(1A)	P(1B)		P(1K)	$-\Sigma_Y P(1Y) \bullet \log(p(1Y))$
Committee 2	P(2A)	P(2B)		P(2K)	
. . .					
. . .					
. . .					
Committee N	P(NA)	P(NB)		P(NK)	$-\Sigma_Y P(NY) \bullet \log(p(NY))$
Issue Entropy	$-\Sigma_X P(XA) \bullet \log(p(XA))$	. . .	. . .	$-\Sigma_X P(XA) \bullet \log(p(XA))$	

The entries in the table, the P(NK), indicate the proportion of hearings held by Committee N on topic K. So for example Issue A is divided up among the committees, each of whom may be holding hearings on the policy. This may happen because different committees have different aspects of the policy assigned to them, or because some committee chairs hold hearings in areas of unclear or undefined jurisdictions. Summing across a row gives the estimated committee entropy for a committee.

Similarly, one may calculate an entropy score for an issue, which indicates how the issue is divided up among committees. The sum on the corner of the matrix (summing either rows or columns) gives the entropy index for the year or Congress.

Let us illustrate by s concrete but hypothetical example. Table 4.5 lays out a hypothetical committee system with K committees dealing with N distinct topics.[19] The numbers in the cells indicate the number of hearings conducted by a committee on an issue.

Table 4.5. A Hypothetical Committee System

	Issue 1	Issue 2	Issue 3	…	Issue N	Number of Issues with Hearings	Committee Entropy
Committee A	10	0	0	…	0	1	Low
Committee B	0	10	0	…	0	1	Low
Committee C	0	5	5	…	0	2	Medium
…							
Committee K	1	1	1	…	1	N	High
Number of Committees Holding Hearings	2	3	3				
Issue Entropy	Low	Medium	High	…			

Looking down the columns shows, for any topic, how many committees get involved. Looking across the rows shows the relative concentration or spread of attention for a given committee. In this example, Committee A has exclusive jurisdiction over Topic 1, and it does nothing but deal with that topic. Further, except for another committee that has one hearing, this committee has exclusive control over its topic. Committee A is a model of jurisdictional clarity, and provides strong expert signals to other legislators.

Contrast this situation with Committee B. It also focuses exclusively on just a single topic, but it does not have a monopoly. Committee C also has significant interests there. Finally, Committee K is an all-purpose committee that delves into virtually all areas of public policy. It has no concentration whatsoever. It generates little expert information, but considerable entropic information.

---

[19] This discussion relies substantially on Baumgartner, Jones, and MacLeod 2000, which provides greater detail.

The two right-hand columns of the table summarize the spread of attention for each committee. The number of issues on which a committee is active is a simple indicator of spread. We can also calculate an Index of Entropy to distinguish between those committees with very focused attention and those that are involved in a great number of distinct topics. Similarly for each policy topic, the two rows at the bottom of the table summarize how many different committees are involved and how broadly spread this attention is across all committees. As we noted above, we can take the average of these entropy scores, either by topic or by committee, for any given year or two-year Congress to assess the overall clarity of the committee system as a whole, and use these averages to trace information supply across a period of years.

Congress has some committees such as Appropriations and Government Oversight that do not have policy-specific jurisdictions. Others, like Agriculture or Veterans Affairs, have clearly defined and relatively narrow jurisdictions. Tables 4.4 and 4.5 simply provide a vocabulary and a set of indicators to quantify the question of clarity. As we will show, clarity differs substantially by topic, by committee, and over time.

We assess clarity by calculating an entropy score. Entropy is a measure of how widely dispersed something is. An ice cube sitting in a glass of water has low entropy; the cube is tightly contained in its own space, and the water is on the outside. But as the temperature of the water in the glass causes the ice cube to melt, entropy gradually increases until the ice is completely melted and entropy is at its maximum. At that point, there is no longer any difference between the ice and the surrounding water; the material has become completely homogeneous. Many physical processes have the characteristic of moving naturally toward their maximum entropy, or a homogeneous state, unless some energy is used to keep them in a structure. In politics, there is no second law of thermodynamics, so no reason why things would

naturally move from order to disorder. But when we look at a number of social processes, we

see a struggle between order and disorder nonetheless. Just as in the physical world, it takes

energy to maintain structure. Institutions must fight to protect their turf from the encroachment

of others. Leaders must continually convey the sense of organizational mission, lest it drift into a

large number of ancillary activities. And the definition of given social problems must be

maintained in the face of others presenting alternative perspectives.

An Empirical Consideration

Figure 4.1 gives four examples of committees that have narrow and broad spans in their

respective jurisdictions in one year.

Figure 4.1. House Committees with Broad and Narrow Scope, 1975.
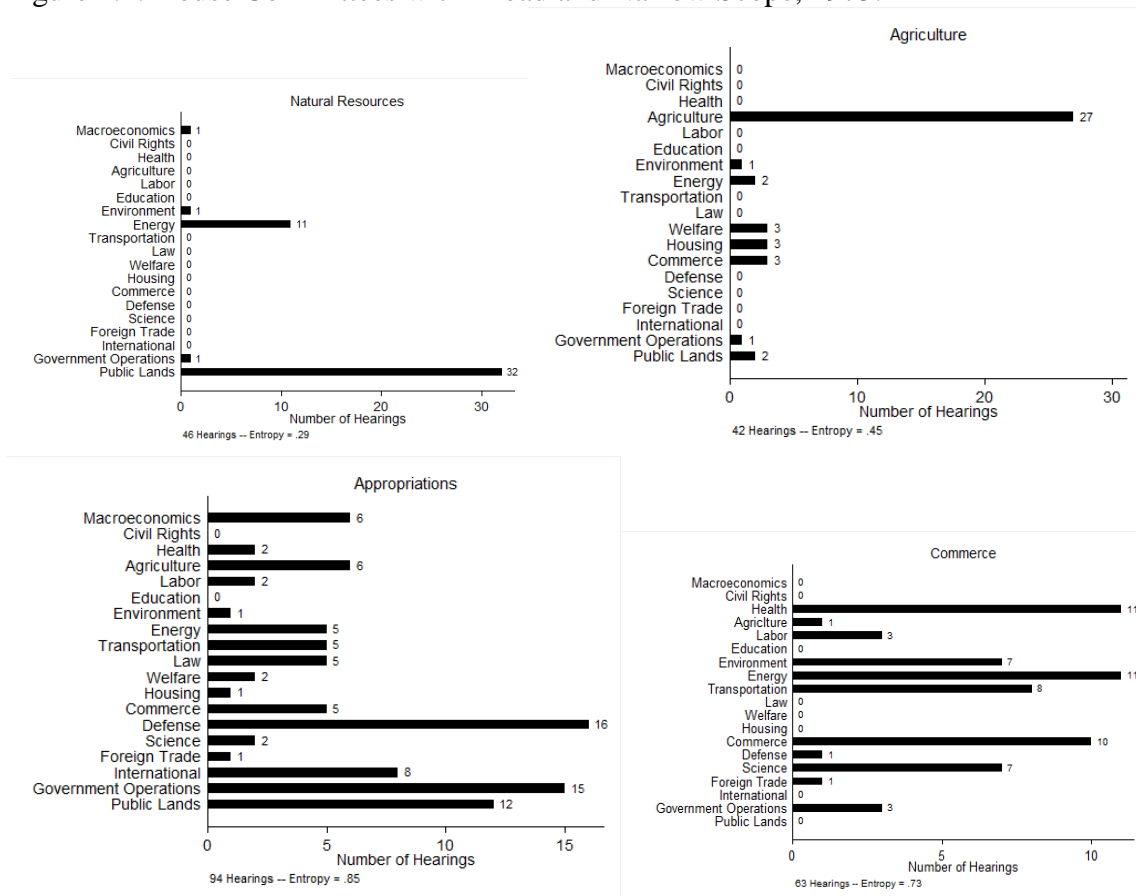
The figure shows the number of hearings held in four House committees in 1975, across the 19 topics of the policy agendas project. The Natural Resources Committee held 46 hearings, virtually all of which were in the areas of public lands management or energy (often mineral or oil resources on public lands); the Agriculture Committee similarly held the vast bulk of its 42 hearings on agriculture. By contrast, the Appropriations and Commerce Committees show broad spans of attention. The entropy score associated with each is a single indicator of this spread; low scores on entropy show high concentration of attention and higher scores show greater spread.

In 1975 the House Committee on Natural Resources (called the Committee on Public Lands at the time) held 46 hearings, of which 32 were coded by agendas project coders as in topic 21, public lands issues. An additional 11 hearings were coded as energy, primarily about oil production, nuclear power, and pipelines located on public lands (agendas project coding rules focus on the primary purpose of the hearing, and are independent of congressional rules of jurisdiction). The committee has a very narrow span of attention, making no claims for jurisdiction in the bulk of the 19 topic areas defined by the project. Its entropy score is a very low 0.29. The Figure also gives similar data for the House Agriculture Committee, also relatively narrow in its reach, but with somewhat more spread and an entropy score of 0.45.

Compare these two committees with the two at the bottom of the graph: House Appropriations and House Commerce. These two committees have very broad mandates virtually across the full range of government. Commerce gets an entropy score of .73 and Appropriations of .85. The entropy score clearly reflects the relative narrowness or breadth of the activities of the committees.

There is no reason why the jurisdictions laid out in House Rule X and Senate Rule XXV should be expected to correspond to the topics used in the Policy Agendas Project. The Agriculture Committee, for example, has jurisdiction over food stamps issues, which are coded in the agendas project as social welfare issues, not agriculture. House Interior's jurisdiction over energy resources on public lands makes sense, though in the agendas project we call those issues energy issues, not public lands ones. So our point here is not that the congressional system is faulty because it draws jurisdictional lines in ways that do not correspond to the 19 major topics of the agendas project codebook. Rather, we simply need a consistent way to compare the committees to one-another, and to compare them over time. The following analysis does that.

The differences shown in Figure 4.1 relate to the fundamental mission of the prestigious Appropriations Committee as compared to the more policy-focused committees. Certain committees have relatively narrow jurisdictions while others, such as Ways and Means or Appropriations in the House or Finance in the Senate, seem to be almost unconstrained in their activities. One major reason that the prestige committees are attractive is because of the great range of their activities. The range of activity of a given committee across issues is shown as an entropy score in Figure 4.1. And we can see that, over time, individual committees remain quite different from one-another, as Figure 4.2 shows.

Figure 4.2. The Consistency of Committee Entropy over Time
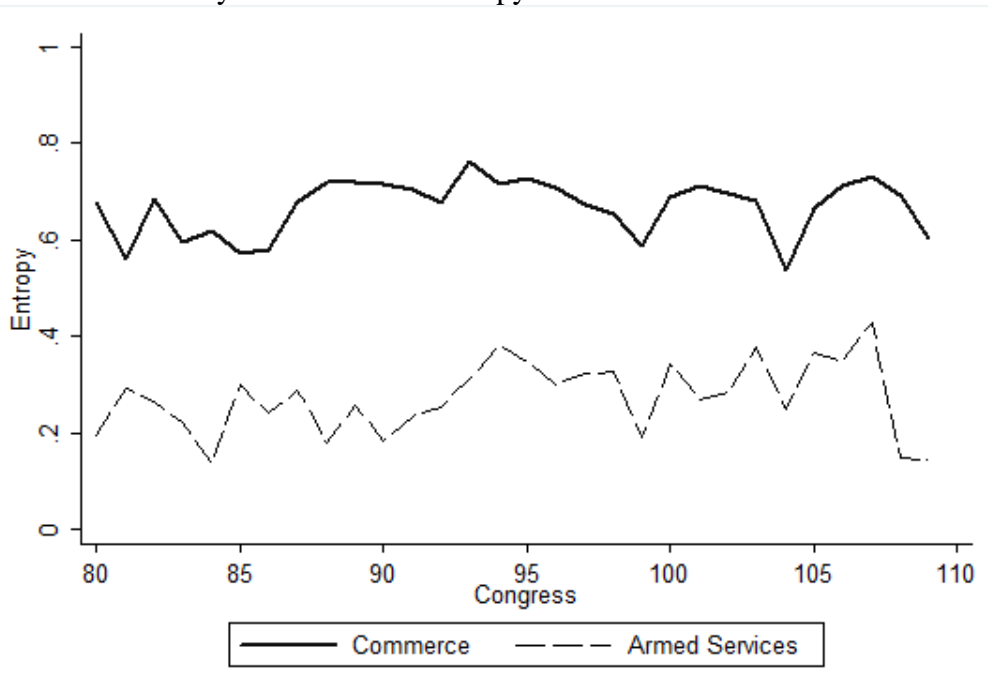
The jurisdictions of various congressional committees have differ by their range. While there have been changes in the overall structure of clarity, for any given committee, the differences remain stark and relatively consistent over time. Commerce has always had a very broad reach; Armed Services, always a much narrower one.

In the US Senate, the Commerce Committee has always had a relatively high entropy score, as, like Appropriations in the House, it delves into a great range of activities that affect its mandate, the entire US economy. By contrast, the Armed Services Committee has maintained a

narrow reach, as would be expected, throughout the entire post-war period. Generally, individual committees maintain their distinct patterns of entropy.

Another way to look at the relatively clarity or muddiness of the congressional committee structure is to ask, for any given issue or topic domain, how many committees claim jurisdiction. Certain topics, such as agriculture or education questions, are likely to fall squarely within the jurisdiction of one, and only one, committee whereas others, such as domestic commerce, energy, or social welfare, may find a larger number of committees showing interest. Figure 4.3 gives examples of narrow and broad spread of attention across particular issues.

Figure 4.3. Policy Domains with Clear and Divided Committee Control, 1975.
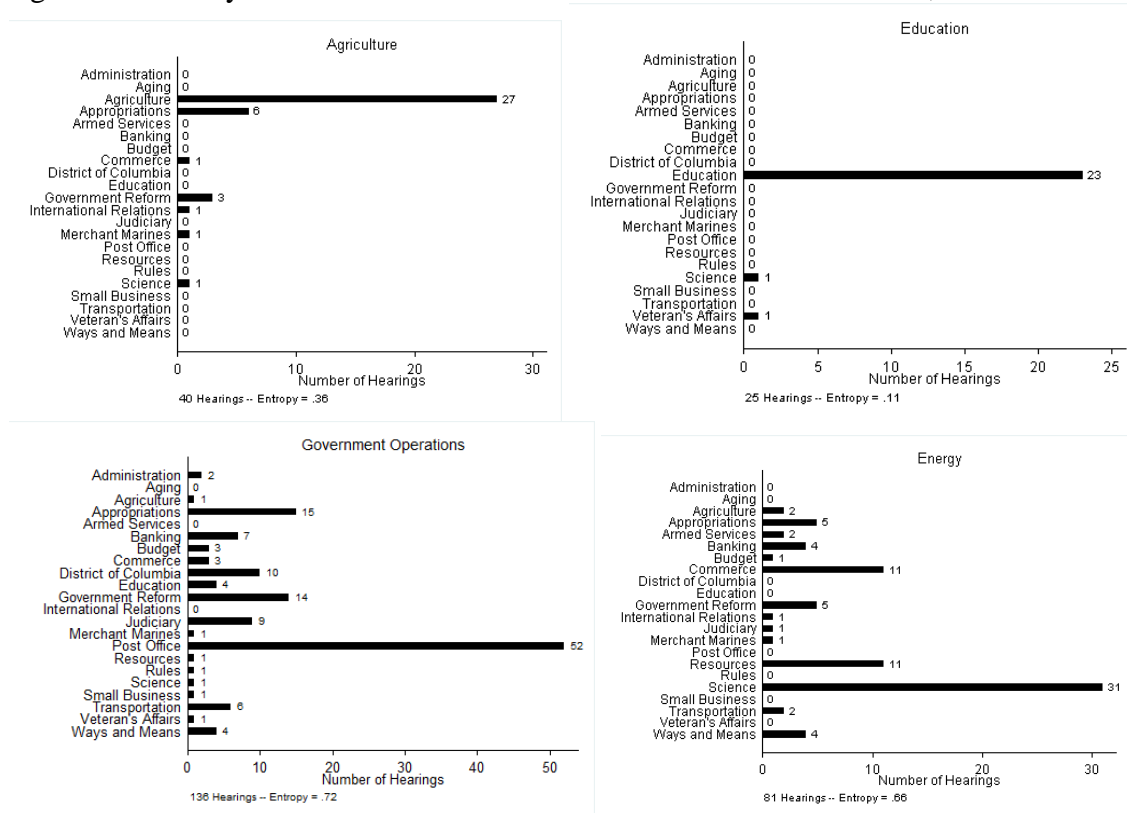
The figure illustrates that some policy domains have very clear committee structures whereas other topics have jurisdictions that span across many committees. Hearings on the topics of Agriculture and Education, shown at the top, are almost always in the corresponding committee of jurisdiction. Government Operations and Energy, shown at the bottom, saw hearings in many different committees, on the other hand. Entropy when measured by topic captures the degree to which one or a few committees are active in that domain (low entropy) or attention can come from a large number of committees (high entropy).

Figure 4.3 uses the same format as Figure 4.1 but it shows how many committees are active in each policy domain, rather than looking at how many domains a given committee is involved in. We call this "topic entropy" or the spread of committees involved in a given topic. It is clear, and comes as no surprise, that when talking about agriculture issues, the bulk of the action will be in the Agriculture Committee, with some additional attention coming from Appropriations. Similarly, education issues are virtually all dealt with in the Committee on Education and Labor, with a rare few in Committees on Science or Veterans Affairs.   By contrast, government operations and energy issues emerge in a number of committees. Many policy topics are far from the jurisdictional clarity that we read about in text books on Congress and which are illustrated by the examples of agriculture and education.

Just as we looked in Figure 4.2 at the relative stability of the committee entropy scores we identified in Figure 4.1, we can look in Figure 4.4 at the stability of the number of committees involved in each policy domain.

Figure 4.4. The Consistency of Topic Entropy over Time
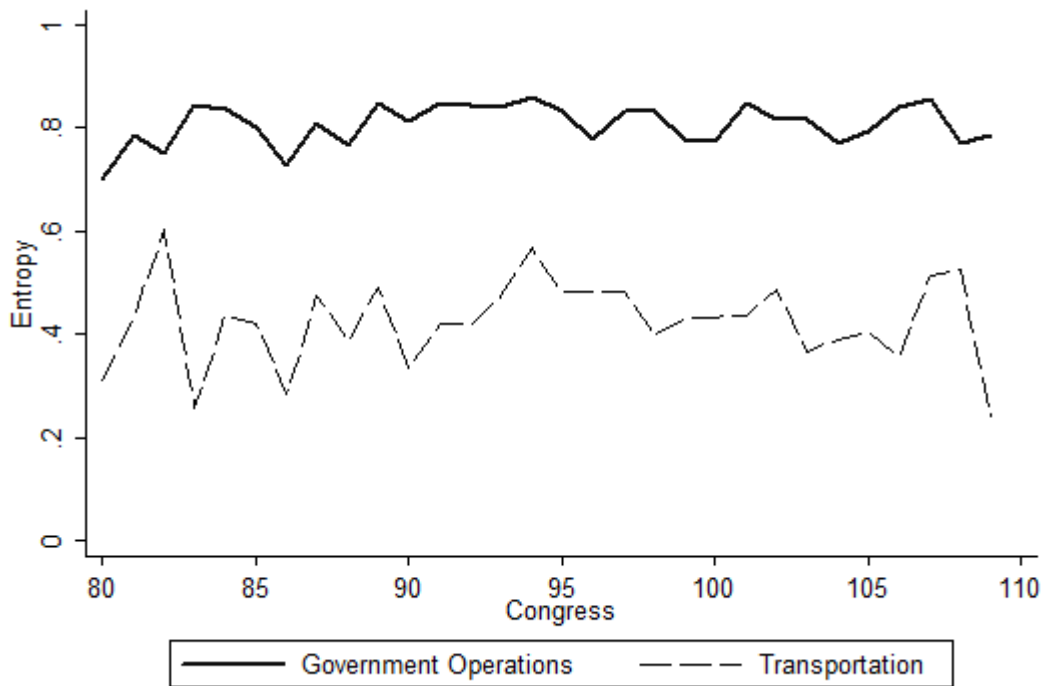
Certain topics have always been subject to more clearly defined congressional committee jurisdictions, whereas others have consistently been spread across many committees. The figure shows the cases of transportation, which has always been subject to hearings in only a small number of committees, and government operations, where many committees have consistently been involved. This is clear as the entropy scores remain distinct and relatively stable when calculated separately for each two-year Congress.

Figure 4.4 shows two examples that illustrate the degree to which the differences we laid

out in Figure 4.3, between those areas with relatively few committees involved and those with

many committees claiming some degree of jurisdiction are stable over time. The category of

Government Operations has always been subject to many different congressional masters, with

an entropy score in each successive Congress since 1948 somewhere in the neighborhood of 0.8.

Transportation issues are typically dealt with only in the Transportation Committee and

sometimes in Appropriations or one or two others; its entropy score has consistently been closer

to 0.4. So we can see through these examples that the committees differ significantly from one

another in the range of their activities; that the policy domains of the agendas project also differ in the number of committees that become active, and that these differences are relatively stable aspects of the institutional functioning of the US Congress.

The Dynamics of Committee Complexity

With these definitions and examples out of the way, we can proceed to look at trends over time: with the rise in so many new issues, but a relatively set number of congressional committees, what trends are apparent in overall levels of entropy?

Let us call the jurisdictional spread of a single committee across our topics "committee entropy" and the number of committees involved on a particular policy topic "topic entropy." (We called this "issue entropy" earlier; we switch to the term "topic entropy" to denote that we are applying the Policy Agendas Topic Coding System.) Having measured both concepts for every topic and every committee in each year from 1948 to 2006, we can build a general index of the clarity of the jurisdictional system over time. Maximum jurisdictional clarity, as we saw in Table 4.1, would be if each committee focused on just one issue and if each policy topic domain had just one committee of jurisdiction. Maximum committee entropy would occur in the situation where there was no structure at all: committees had no particular constraints, and topics found all committees equally involved. Figure 4.5 shows our measures of topic and committee entropy separately for the House and the Senate.

Figure 4.5. Four Measures and an Index of Entropy
A. By Year
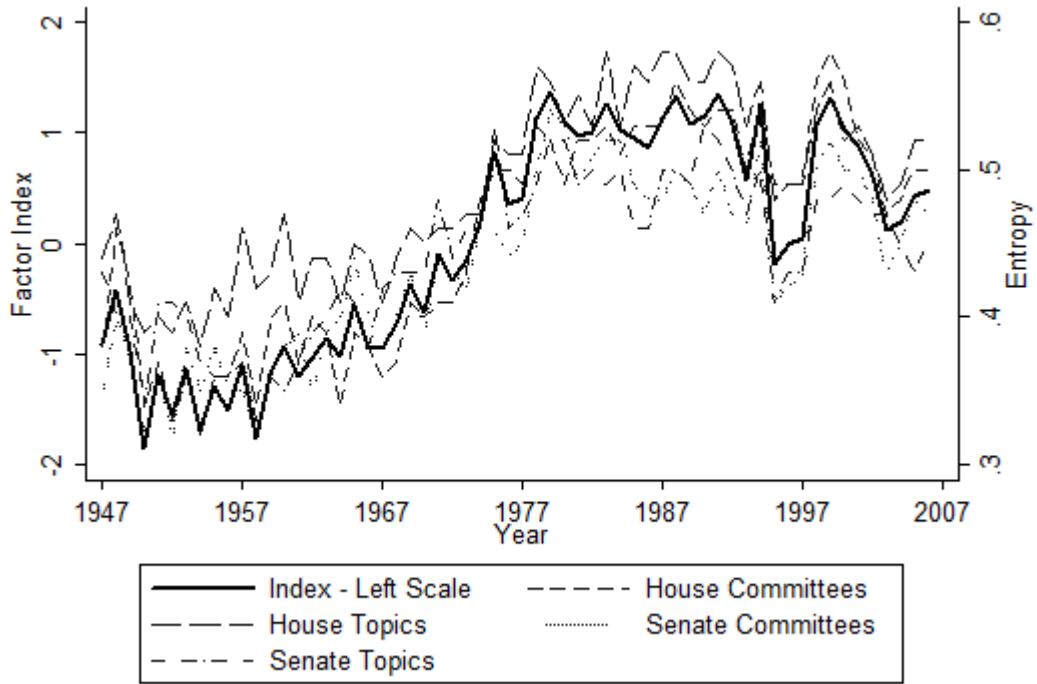
B. By Congress
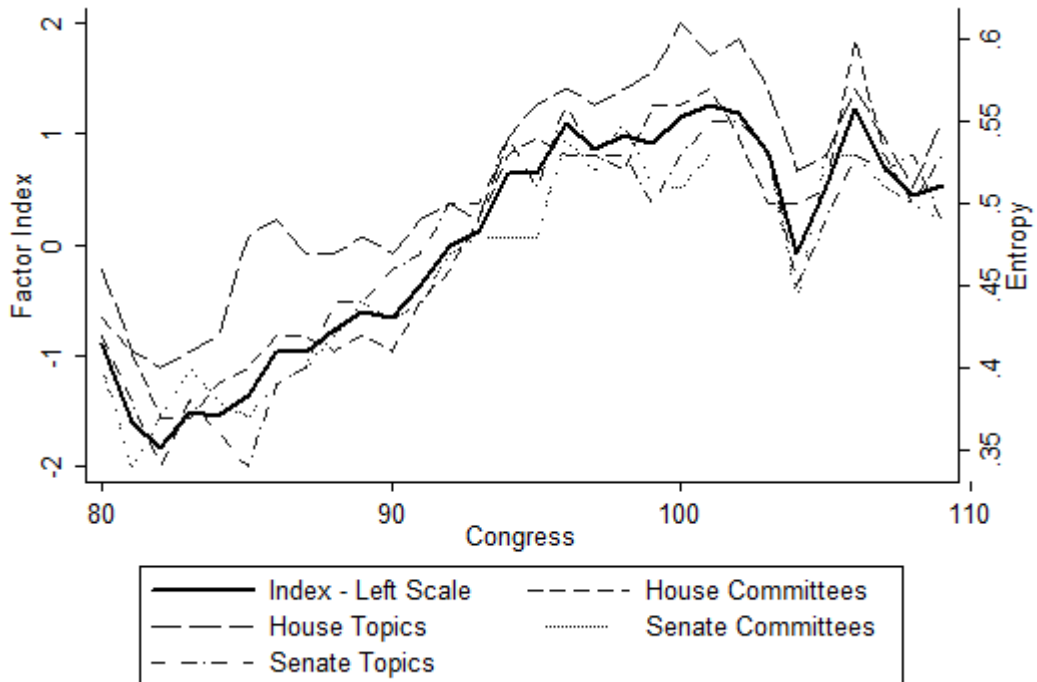
Because the four lines in Figure 4.5 are so similar, we have also calculated an Overall Entropy Index, which is the result of a principal components factor analysis of the four series in the figure. The first factor explains 89.91 percent of the variance, and the four series have the following factor loadings: .95, .96, .96, and .92. The resulting index can be thought of as a weighted average of the four individual measures, and the four contributing measures are so highly correlated with each other (these correlations range from .78 to .92) that it makes little difference which one we might use. The Overall Index is based on the greatest amount of information however, so we present that in the darker line in the Figure. Whereas the individual entropy measures range from 0 to 1, the Overall Index is scaled so that it has an average of zero and a standard deviation of one; this is made clear on the left-hand axis.

Committee jurisdictions to large extent mimic the structure of law and bureaucracy, so by examining the dynamic interplay between changes in the size of government and the nature of legislative jurisdictions we can begin to map these interdependencies. Figure 4.5 makes clear that we can think of three periods of development in congressional committee organization. The early post-war years were a period of jurisdictional stability, with little added committee complexity. Beginning in the late-1950s, and lasting for about a quarter of a century, we see a dramatic transformation. The Overall Index of Entropy goes from less than −1 to more than +1 on our scale, corresponding to a huge decline in the clarity of committee jurisdictions. Finally, from about 1980, the line stops increasing. Recent years fluctuate considerably as congressional leaders have attempted to clarify the committee system—note the big but temporary drop in

Overall Entropy in the 104th Congress (1995-1997), when Republican Speaker Newt Gingrich centralized the committee structure and weakened the power of the committee chairs. Because reforms seem to have but a temporary effect, the Overall Index of Entropy remains at roughly the same level in recent years as it has since about 1980. This level is much higher than it was in the early post-war years, but it has not increased since the late-1970s.

Why is this the case? Because Overall Entropy is an indicator of the diversity of information being addressed by Congress, the cessation of the rise in the index is most likely a consequence of changes in the aggressiveness of the search behavior of Congress. Congress, through its committees, became less interested in pursuing the complex ramifications of problems, and more interested in consolidation and expertise.

If so, then why did the Index reach an apogee and stabilize, seemingly resilient in the face of attempts to reform and centralize committees? The simple answer is that the complexity of the federal government grew substantially during the period, and for clarity to increase rather than stabilize Congress would have to refuse to oversee the panoply of agencies and programs it created.

Small Contributions Lead to Large Effects

We need to address one more issue. There seems to be an inconsistency between Figure 4.4 and Figure 4.5. Figure 4.4 seems to stress constancy, but Figure 4.5 definitely indicates change. The secret to resolving these differences lies in Figure 4.6. There we plot the separate committee entropies for major House committees. We exclude several committees because of incomplete information; the Budget Committee was only created in the mid-1970s, and the Merchant Marine Committee ceased to exist after 1994. Others were excluded because they failed to hold enough hearings to calculate a valid entropy score. The Appropriations Committee was excluded

because of difficulties in fitting hearings on appropriations bills to the Policy Agendas coding system (the bills span topic areas in many cases, and were coded as "Government Operations").

The rest of the committees were plotted alphabetically, and their entropy scores simply added up. At the bottom, there seems to be little pattern to the series, but as one moves up the ladder of summed entropies, the great bulge between the late-1950s and the late-1970s becomes increasingly clear. One may rearrange the committee order any way one pleases, but the pattern will endure. One might think that Ways and Means displays more variability than committees at the bottom of the list, but that is not true. It just looks that way because it reflects the sum of the committees below it. Entropy spreads through the system not because of the actions of any single committee but by small changes throughout.

Figure 4.6: Summed Entropy Scores for Major Congressional Committees
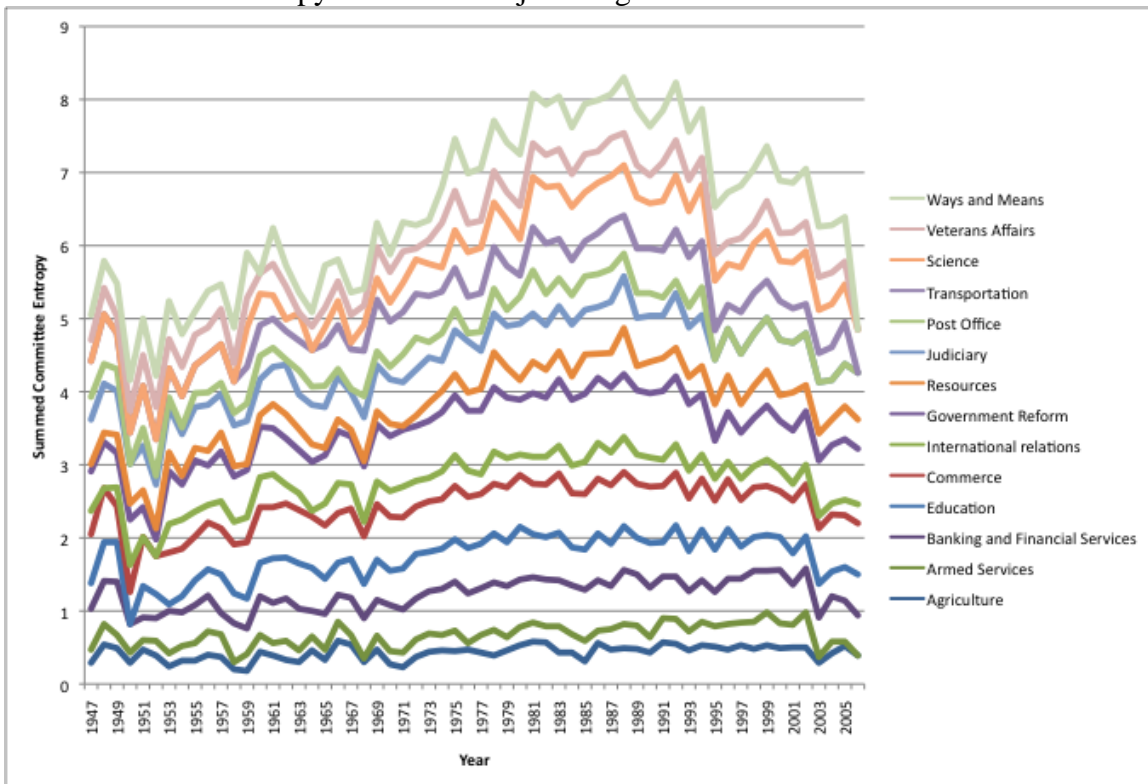
From Clarity to Complexity

In this chapter we have presented detailed calculations about the clarity of the congressional committee system from 1948 to 2006. From a position of relative clarity in the early post-war period, things have gotten more complicated. Steadily from the late-1950s to 1980, jurisdictions came increasingly to overlap. For any given issue, more committees were involved in policymaking in the areas. For any given committee, chairs found a way to reach into a greater number of issues. The committee system by the late-1970s had been transformed substantially so that overlap and breadth of jurisdiction were much greater, as compared to the earlier period. Significant reforms decentralizing power to subcommittees in the mid-1970s were an important part of this. However, our evidence shows no single year or particular reform that generated this transformation. Rather, it was steady, indicating a general shift occurring over an entire generation as the scope of government became much broader but the number of committees remained relatively stable.

This was no simple secular trend, and since the 1980s, there has been almost a complete cessation of this growth. While the clarity index we created has become less stable from year to year, it has neither grown nor declined. From a purely organizational perspective, the gains from creating specialized agencies in government or committees in Congress that have exclusive control over issues are great. In fact, the value of division of labor is so great as to make one wonder why we have such a complicated, convoluted, confusing, overlapping, inefficient and frustrating system of committees or institutions of government that we see. It seems simple enough: division of labor suggests that one committee should deal with education, another with poverty, another with defense, and each should keep out of the work of the others. In exchange, the system gains from the expertise that such specialized institutions can gain; and the clarity of authority makes it easy to understand just who is in charge. But this does not characterize the

interaction between issues and committees. Confusion and overlap increased during an important part of the post-war period, and, while the trend is no longer increasing, neither are those characteristics declining.

This confusion and overlap are characteristic of systems gathering what we term entropic information. So the system by 1980 was much better in encompassing a greater supply of information than it was 20 years before. But it did so with less clarity and hence generated less expert information. It is perhaps no accident that the non-partisan Congressional Budget Office was created in the mid-1970s, during a period of strong growth in entropic information, and the General Accounting Office (now the General Accountability Office) expanded the scope of its expert advice. Committees are probably less trusted in Congress, while the non-partisan professional agencies have come to play an increasing role in the provision of expert information. In 2011, the Senate's chief deficit hawk, Senator Tom Coburn of Oklahoma, authored a report defending the role of the General Accountability Office against proposed cuts, writing "If the mission of GAO is compromised by excessive cuts, where else can Congress turn to find unbiased data to improve programs and save money?" (Coburn 2011).

The struggle between information as expertise and information as entropy reflects the classic agenda struggle among groups seeking access to the public agenda. Whenever one organization seeks to claim a monopoly of political control, it faces potential challenges from those on the outside who may criticize the incumbents for overlooking important aspects of the question. Unless the government entity—be it a congressional committee or an executive agency—is able fully to understand and master the issue with which it deals, it can at least potentially be attacked for an over-attention to those aspects it defines as most important to its organizational mission and under-attending to those aspects that outside critics might like to see addressed. So while the creation of specialized agencies leads to great gains in expertise and

division of labor, it also creates an inherent tension between those who are inside and those who are excluded.

This dynamic is the struggle between information and control. Analysts and journalists pay attention to shifts in organizational mandates and control for many reasons, one of which is the political power-game that they reflect. This can make interesting news. But more important than the personalities involved, different organizations typically "organize in" certain aspects of the underlying social problem and "organize out" others. When a committee with an environmental focus examines regulations on how farmers apply pesticides, and an agriculture committee attempts to keep them out of "their turf," this can make for interesting stories. Worsham and Stores (2012) document the ability of the Congressional Agriculture Committees to stymie efforts to interject issues of civil rights, particularly the blatant discrimination by the Department of Agriculture in its treatment of black farmers in the South, for 70 years, The issue reflects the dynamic we are discussing here: clear jurisdictions imply narrower definitions of what is at stake, what information is relevant, and how this information should be interpreted. Messy and overlapping jurisdictions imply contests about what is at stake, what information is relevant, and what goals we are trying to maximize.

"Seek and Ye Shall Find"

In the first two chapters of this book we distinguished between two forms of information: information that is relevant to the processes of problem-discovery, definition, and prioritization, and information as solution expertise. Discovering what problems are relevant in the policymaking environment requires open systems characterized by overlap and confusion. Solution expertise, and the implementing of those solutions, requires closed and accountable systems—that is, control. But more and more expertise about solutions cannot solve the issue of

trade-offs among priorities. That requires not expertise but entropic information. As a consequence, the tension inherent in the assignments of congressional jurisdictions reflects the struggle between control and information.

Just as important, the existence of a large supply of entropic information ensures the discovery of problems. A limited supply implies control and containment. The agriculture policy subsystem's ability to shut out attempts to raise the issue of discrimination against black farmers meant that expenditures were controlled and expertise focused on commodities subsidies and other technical agricultural business. It also meant that justice would not be done. By censoring the civil rights implications of agricultural policies, decision-making was simpler but problems were ignored. The House Agriculture Committee invited almost no witnesses focusing on civil rights between 1945 and the late-1990s, when the issue broke through and was taken seriously (Worsham and Stores 2011: Figure 9).

Clearly the opposite is also true. Lots of entropic information leads to lots of problem discovery. The tight connection between seeking and finding inherent in the paradox of search implies that the increased search by congressional committees during the third quarter of the 20th Century led to more problem discovery, and hence more legislation, budgetary commitments, and government expansion. We turn to these issues in the next chapters of this book.

One of the most important transformations of American government in the past 50 years has been the increased relevance of issues of jurisdictional dynamics such as those we are discussing. Greater numbers of institutions mean that more perspectives on issues are systematically organized into the political discussion. This greater richness creates problems of overlap, redundancy, and contradictions within government as different agencies approach the same issue with different goals in mind. There are constant efforts to clean things up, to clarify

hierarchical rules and jurisdictional boundaries. But tensions inevitably rise again because the

issues themselves raise myriad problems across a great number of dimensions of evaluation.

Organizational clarity promotes control and accountability but restricts information.

Part 2

The Consequences of Search

Chapter 5

The Search for Information and the Great New-Issue Expansion

Government today is not only bigger than it was two generations ago; it is messier. Just as various congressional committees have increasingly found themselves sharing rather than controlling authority within their in policy domains, so too do government agencies in the federal executive and in the states and localities find themselves in positions that overlap with the authorities of other units of government. Government grown both bigger and more diverse—it is involved in many more issues today than in the 1950s. One can imagine government limited in the span of issues it addresses, but involved intensively in those issues. But this is not the pattern, and the decline of clarity in legislative jurisdictions is a primary indictor of this. Clarity has declined as more issues have become institutionalized on various government agendas.

How did this happen? How did government become both more intense in the areas it traditionally operated in, and more expansive across issues? It did so in a burst of frenetic policymaking activity that carved a great historical arc of problem-seeking activity and legislative results that peaked and declined, but left in its wake a changed politics, government, and administrative organization. In this chapter we offer evidence of what we term "the Great New-Issue Expansion"—a period of some two decades from the late-1950s to the late-1970s in which the reach of government into arenas previously left to private action expanded on an annual basis. Then the process of issue expansion ceased, and a period of consolidation began. That period, however, did not return the system to the status quo ante.   The Great New-Issue Expansion had destroyed that. The residues of the period are easily observable in the shift of

congressional activities from legislation to oversight, indexed by a decline of legislative activities and the continuance of oversight at the same level as in the peak of the expansionary period.

Problem Definition and Government Growth

The US government, as measured by inflation-adjusted funds spent per capita, has grown by a factor of 400 (from $20 to almost $8,000) over the period of 1791 to 2008. Other measures might not show exactly the same ratio, but all would point in the same direction: government is huge compared to what it once was. (If we just look at expenditures—adjusted for inflation—government grew by a factor of over 30,000.) And the process is on-going. Government today is more complex even than it was in the 1940s and 1950s. As the country emerged victorious from World War II, it experienced large increases in the scope of what we expect from government.

Let us be clear: we are not complaining about the growth of government. Indeed, we appreciate the concern with social welfare, transportation, stopping disease, and improving lives that have generated so much growth in government. It is easy to point to social problems, such as excess poverty among the elderly, which have been substantially reduced or virtually eliminated by such programs as Social Security and Medicare. But we can also point to policies that are not so attractive, such as the farm subsidies that go primarily to a limited number of growers of a few commodities.

Problems can present opportunities to enact policies alleviating the problem, but they can also facilitate the attachment of special benefits that do not address the underlying issue. Moreover the solutions can become increasingly complex as each new government provision generates attempts to correct or extend the existing policy. Whyman and Jones note:

The Banking Act of 1933, also known as Glass-Steagall, established the Federal Deposit Insurance Corporation (FDIC), imposed banking reforms to regulate commercial bank securities activities and limited affiliations between commercial banks and securities firms. The Act effectively curbed systemic risk in financial markets by regulating these and other activities and managed to do so in just 53 short pages. Fast-forward 77 years, after the repeal of Glass-Steagall, and into the midst of the worst financial crisis to hit the U.S. since the Great Depression and the passage of the Dodd-Frank Frank Wall Street Reform and Consumer Protection Act of 2010. Like its predecessor, this act sought to limit systemic risk and create stability in U.S. financial markets, although it did so in 848 pages (Whyman and Jones, 2012).

Laws become more complex for several reasons, but the most important are that both problems and solutions are more complex than in the past. In any case, with the growth of a wide range of policy initiatives has come the need to understand the dynamics of information and size of government.

Let us consider some of the differences between the period of Truman and Eisenhower and more recent times. One of the most striking is the number of issues on the policy agenda. By any measure the range of activities in which the federal government is simultaneously engages is overwhelming. Government can deal with thousands of issues simultaneously by hiring more staff and creating more agencies, and this is what has happened. The creation of new agencies, new programs, and new levels of bureaucratic oversight by Congress ensures that a wider and wider range of social processes is systematically monitored. Good data does not necessarily imply better policy, but surely the converse is true: bad or absent data invariably leads to poor policies. In some areas, such as weather prediction, the connection between information and

policy is close and obvious. In others, perhaps the economy, the connection is less clear—in part because of the "friction" of ideologies and interests.

New agencies institutionalize systematic attention to particular social problems or aspects of their potential solutions. As more agencies, programs, and incentives in the tax code have been created to address poverty, education, agriculture, health care, energy, scientific research, international competitiveness, and other factors, more and more of the complexities of the social world are systematically monitored. At the same time the institutional consequence of this greater diversity in government is that it becomes more difficult to coordinate or control these disparate programs. Information and control are in inherent conflict. The more information, the greater the problem of setting priorities or maintaining control.

The expanded range of action has made it more important that we understand the tradeoffs between information and control. Because leadership and control is much harder where information is overwhelming, leaders have a tendency to limit information by suppressing or censoring attributes. That is, either policymakers ignore, fail to appreciate, or actively deny aspects of a complex problem that can cause difficulties. This may work for long periods of time, and it may even work forever, but for some issues at some times the suppression strategy will fail, and when if fails it may fail spectacularly. This is a consequence of what we termed "error accumulation" in *The Politics of Attention,* which at base was about the politics of suppressing attributes. As a consequence of the dynamics of attribute suppression and error accumulation, political systems experience an alternation between relatively stable periods of allegiance to established ways of doing things and other periods during which massive adjustments in the very goals and stated missions of various government agencies occur.

This attribute-suppression process is not the sole province of left or right. In the expansionary period liberals tended to underestimate the long-run consequences of what they proposed; in the conservative contraction that followed, conservatives often denied that some problems even existed, lest they evoke calls for government solutions.

Thickening and Broadening of Government

It is common to view government as growing "bigger" and "more intrusive" as if these were two sides of the same coin. They are not. Since the end of World War II government has both *thickened*, in that it is involved more intensely in the areas it traditionally was involved in, and has *broadened*, in the sense that it has become involved in a much wider range of activities than previously. These two aspects of government growth are not necessarily tightly coupled. Public budgets get bigger because government is more intensely involved in what it traditionally does. Part of this thickening comes from increases in population or other demographic, social, and economic developments that cause government to need, for example, more schools and roads. And another part comes from a denser network of actors within the domains of traditional activity—that is, not just more activity, but more intense activity.

In either case, we need to distinguish thickening from broadening, in which government takes on novel tasks. When President Johnson enacted Medicare and Medicaid, most political analysts recognized the Rubicon that had been crossed; government had intruded in a major way into the health-care market, and that market could never be the same as before. Similarly the establishing of a Consumer Protection Agency independent of bank regulation in the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 was a similar broadening, if less dramatic. We present evidence that the thickening process was on-going in the 1950s (indeed, it

is probably characteristic of most policy changes in most eras), but the broadening process happened later, and when it did, was more intense.

Measures of the size of government can underestimate its scope. A single federal law, regulation, or court decision may impose burdens on all entities within a class of economic actors, and the impact is greater where the action moves into a previously unregulated area. As a consequence, the agenda-setting process, in which political actors begin to see a social or economic condition as a problem ripe for government action, has consequences of greater import than even larger actions later in time. The reason is the path dependent nature of politics—once government has intruded in a novel economic or social arena, it is unlikely to retreat from that arena.

The Rise of New Issues

In the previous chapter, we measured the extent of information entering the public debate—accessing the governmental agenda—and showed how the measure of information supply changed over time. Here we examine the consequences of changes in the supply of information represented in the congressional committee structure. We first develop a simple indicator of agenda expansion that reflects the entropy measures of information presented in Chapter 4, and which can be calculated on most of the measures of policy change coded by the Policy Agendas Project. Then we examine multiple measures of agenda expansion and trace them across time.

We can measure with considerable precision the role of government within various policy arenas and compare this role over time. We do so by calculating the expenditures of government within an area divided by the total size (GDP share) of that area. That requires good measures of the GDP share of health care as well as government expenditures within the area. It is important that we begin to measure the broadening of the policy agenda with an equivalent degree of

precision. Indeed, that was the essential motivation for developing the Policy Agendas Project

datasets in the first place. We are interested in both the informational components of agenda

change—when political leaders begin to conceive of a social condition as a policy problem—and

in the policy components of agenda change—when policy changes to incorporate a new policy

arena.

The Policy Agendas Project enumerates 226 different topics of governmental activity.

Each of 19 major topics such as Macroeconomics, Agriculture, and Health Care, is subdivided

into a number of more precise subtopics, such as those for Macroeconomics: inflation,

unemployment, monetary supply and the Federal Reserve, national debt, and so on.   The number

of hearings conducted during a year assesses the intensity of congressional activity, but it does

not necessarily assess the span of issues that Congress addresses. A large number of hearings

could be concentrated in a small number of policy topics, which would lead to low entropy and

less diversity in information. We use the number of subtopics in which Congress held at least

one hearing as a measure of the breadth or span of the legislative policymaking agenda. This

measure may be viewed as a rough equivalent of the measure we termed topic entropy in Chapter

4. The correlation between the average topic entropy and the subtopic measure is 0.86.[20]

In 1947 Congress held 1,508 hearings and these were spread across 143 distinct

subtopics. During the Korean War hearings activity declined momentarily and only 102

subtopics were discussed in the 828 hearings held in 1952. After this the numbers increased

regularly and by 1975 there were 1,809 hearings and attention had spread to 196 of the 226

---

[20] Topic entropy displays higher variability at the upper end of the scale than does the subtopic
measure, but the two measures are strongly correlated.

possible subtopics. So we see a dramatic transformation, not only the level of activity, but in the

spread of congressional action. This spreading out is shown for the full period in Figure 5.1.[21]

Figure 5.1. Number of Policy Agendas Subtopics With at Least One Congressional Hearing
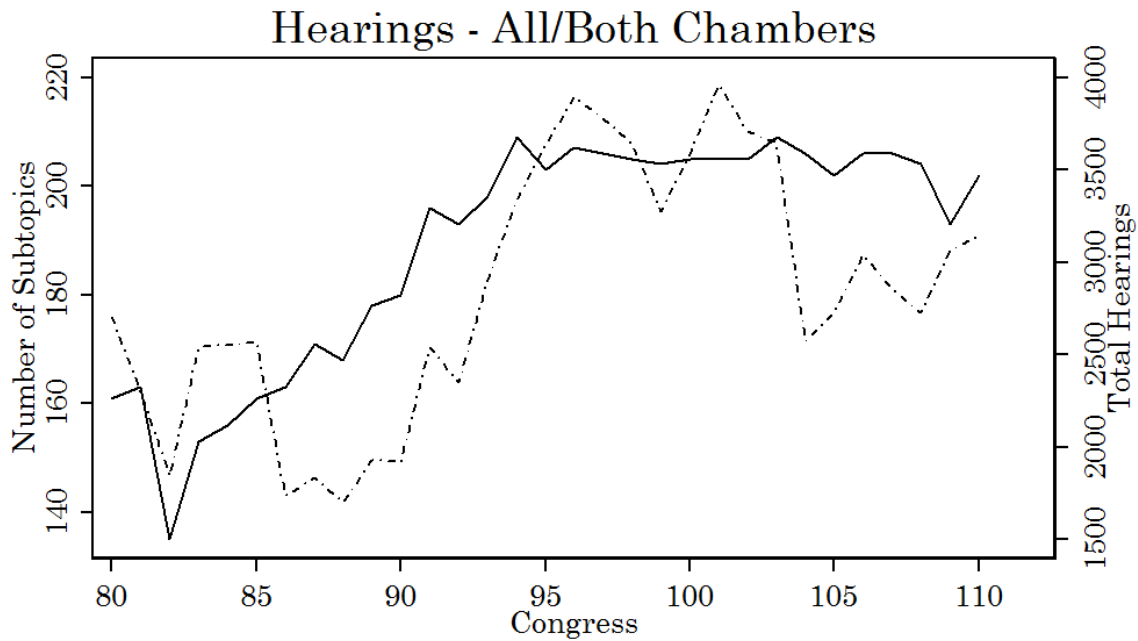
The figure makes clear that Congress has not only become more active, but also that this

attention has spread across a wider range of topics.   This spread of attention traces the

incorporation of new issues into the polity, and as a consequence US government has moved

from generally clear and distinct policies within reasonably coherent domains to increased

complexity and spillover among policy areas. The trend ended by the late-1970s, and since then

the number of subtopics attracting hearing activity has levelled off and slightly declined. We

[21] The series above counts the number of subtopics on which at least one hearing was held in a given year.
Counting the number of subtopics with at least 2, 5, or 10 hearings produces series very similar to the
one shown. Correlations with this series are as follows: .972, .922, .817.

term period from the mid-1950s to the late-1970s the "Great New-Issue Expansion" as the number of issues and their complexity incorporated into the political sphere increased markedly during that period, but that New Issue Expansion has neither continued nor been repeated—at least by the measures we use (Policy Agendas subtopics subject to hearings and the decline of clarity in congressional committee jurisdictions).

The Great New-Issue Expansion

We are not the first to note that government activity rose in the 1950s or early 1960s and peaked in the late-1970s. Arthur Schlesinger (1986) and Samuel Huntington (1981) both point to the rise and decline of a more progressive and aggressive government between the late-1950s and mid-1970s. Huntington points to a "horseshoe" of political (especially protest) activity. Hacker and Pierson (2010: 99) write "1977 and 1978 marked the rapid demise of the liberal era and the emergence of something radically different." They offer a list of failures by the huge Democratic majorities in Congress and a Democratic president to enact major reforms in that year as crucial pieces of the evidence. Similarly, Grossman (201x), based on his analyses of secondary accounts of policy development, refers to the period of the 1960s and 1970s as the "Long Great Society."

These studies fail to distinguish between the expansion of the issue agenda and the level of activity, which are not identical, as Figure 5.1 shows. Our analysis shows the effect of active problem search and agenda expansion on the breadth of government activities, and it leads to a crucial distinction between thickening and broadening of government activities. Because the Policy Agenda Project codes policies similarly across institutions and venues, we can also compare the broadening of government across institutions, and begin to understand leads and lags in the agenda-expansion process.

Since the end of the Second World War, the intrusion of scores of "new" issues has transformed the agenda of American politics. What we term "new issues" are those not previously seriously addressed by government. These issues did not enter the system incrementally, however. Rather in a period of two decades these new issues transformed the political space. John Kingdon (1984) noted that a social condition, such as cancer, pollution, or the break-up of the traditional family does not become a political issue until political actors demand that the government do something about it. But the result, as James Q. Wilson (1979:41) noted in the midst of the Great New-Issue Expansion, is that "Once politics was about only a few things, now it is about nearly everything." Perhaps a major reason for the leveling off of the incorporation of new issues into the political sphere is that politics had invaded so many aspects of life that there were no "new issues" left. That does not mean, however, that agenda politics is dead. In a meaningful sense, agenda-setting has moved from a process by which conditions become political issues to one in which a new aspect of the issue becomes salient.

The national political agenda became more crowded as things that were once accepted as social conditions or facts of life have become questioned and government resources have been mobilized to do something about them. Technological advance has also had a lot to do with it, both directly and indirectly. One consequence of technological advance is that it is possible now to solve some problems, or at least ameliorate them, that were once impossible to address. So technological advances can lead to "new" political problems because they allow the possibility of addressing old problems. Many "new" problems are not really new issues; they are only new to government. Often they have been around, as social conditions, for many decades.

Even within the historical period covered by this book, cancer was once discussed only in hushed tones and usually in private, among family; during the 1950s and 1960s, it was barely a

topic of polite discussion, much less political mobilization. Today, medical advances have made it possible for people to mobilize and demand that government declare and win a "war on cancer." Many other issues have arisen as technological advance has created potentially addressable political issues out of what were once considered to be only unfortunate social conditions. Groups such as the mentally ill or the physically disabled that were once virtually invisible politically are now the objects of significant political attention and massive government programs. The translation of "conditions" into "problems" can stem from social mobilization or from technological advance that makes it possible to do something about conditions that were once accepted as unavoidable.

Of course technological advance also creates new problems. Increased concern with privacy in the wake of the creation of large databases, telecommunications policy, space, nuclear warfare, cloning, fetal tissue research, and global warming are all examples of new political issues having developed as the consequence of technological advance. (So some "new" issues really are new!) Technological advance creates solutions to some conditions, making them ripe for political attention, and it also creates problems of its own.

New issues, and old ones redefined, enter the political system through argumentation and information. Government officials take new information, new claims, new evidence, new ways of thinking about old problems, and react. They argue about it; they ignore it; they deny it; they assert it; they discount it; they discredit it; they claim it is not important; or they assert it is fundamental to the public debate. In the political system, individuals and groups argue about the relevance of new bits of information. Information is everywhere, and it determines the public response to potential political issues. Technological advance is a major source of new issues in government, though not the only one; social mobilization also matters.

When new issues arise on the government agenda, new institutions are often created to deal with them, or old institutions revise their mandates and missions in order better to take them into account. Similarly, the social transformations that often accompany the rise of new issues (or cause them in the first place) such as mobilization for war, the growth of new areas of the economy, the geographic and economic mobility of the population, and changes in the scope and size of social movements and interest groups serve also to keep them alive in the political realm. As a consequence, it is impossible to understand the evolution, growth, and development of the institutions of American government over the long haul without simultaneously paying attention to the agenda of government: the portfolio of issues with which it deals. Changes in the size and composition of this portfolio have transformed the institutions of government and affected the mobilization of interest groups and social movements outside of government. And as the institutions have changed, so also has their receptiveness to the new political issues.

## The Legislative Impact of the New Issue Expansion

Using the data available in the Policy Agendas Project, we can trace the impact of the New Issue Expansion on legislation and on other aspects of government. We begin with the immediate legislative impact of the explosion of issues onto the public agenda.

Figure 5.2 divides hearings into two categories: those in which a bill was considered (termed "legislative" hearings) and those in which no bill was considered ("non-legislative hearings"). This latter category consisted of hearings concerning oversight of existing programs and the implementation of them by the federal bureaucracy (classic oversight hearings) and those directed more generally at problem definition and illumination of problems that could require legislation).

The figures graph both the numbers of hearings conducted in the categories and the number of hearings on at least one Policy Agendas subtopic. The pattern is striking. Hearings considering legislation declined from the early 1950s to the end of the period of our data (2007). Each year Congress conducted fewer hearings on potential new legislation. But our measure of the broadening of the policymaking agenda, the number of agendas subtopics with at least one legislative hearing, clearly traces the New Issue Expansion of the 1960s and 1970s. During the period of the Great Society and following, Congress not only considered a broader array of issues, it drafted bills on them and scheduled formal consideration of them. The broadening process peaked in the late-1970s, and began to decline steeply in the late-1980s. Congressional lawmaking activity became increasingly focused on a smaller number of topics throughout the 1990s and 2000s.

Figure 5.2: Legislative and Non-Legislative Hearings


Hearings - Law/Both Chambers
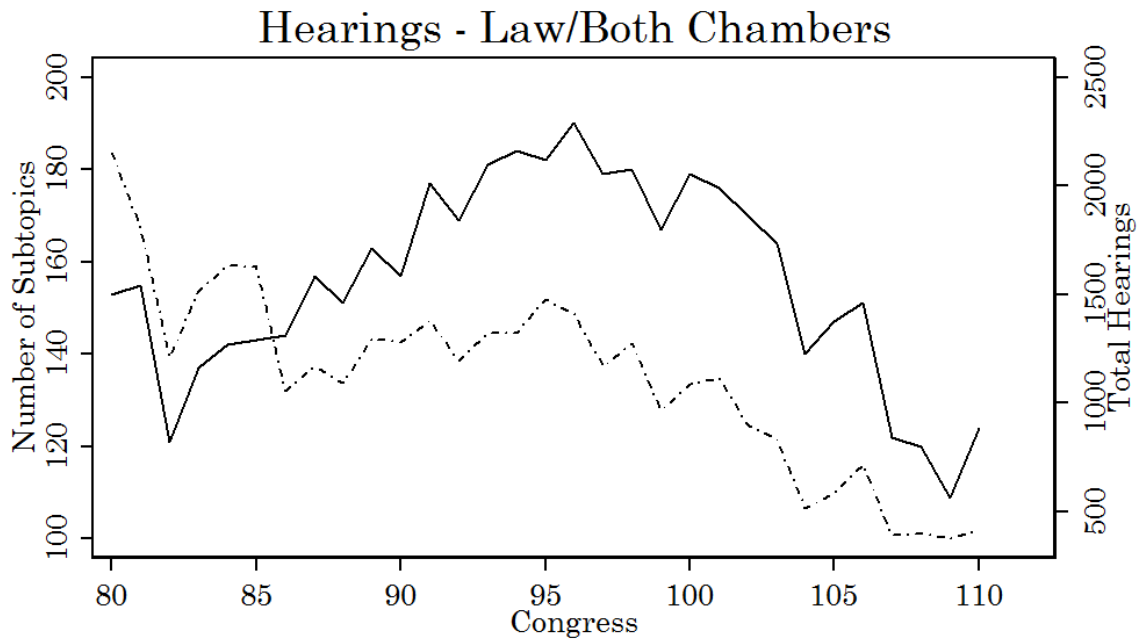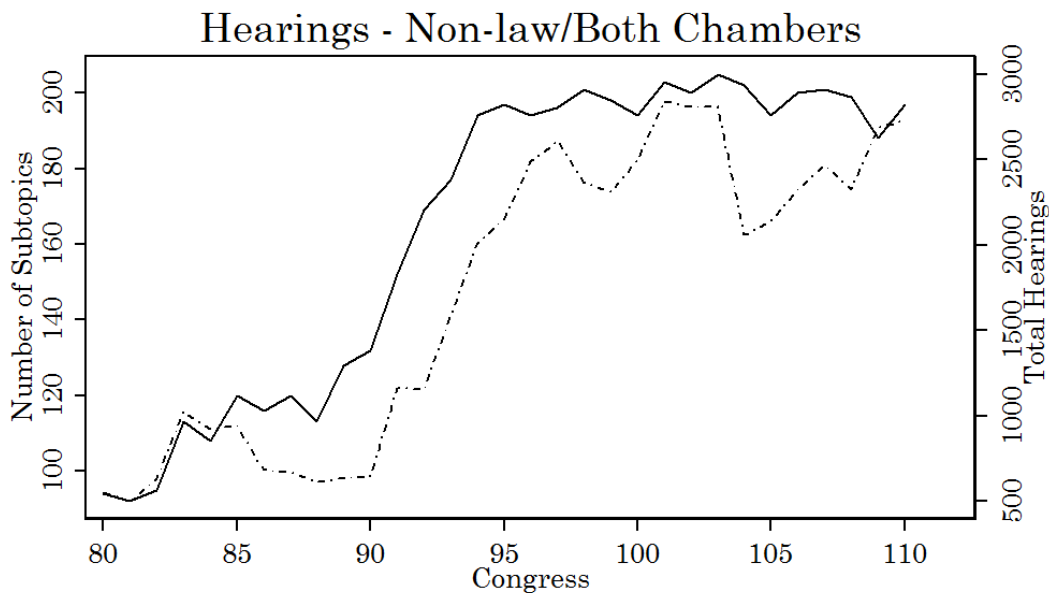
Hearings on non-legislative matters display a similar pattern for the period of new issue

ascension to the policymaking agenda, and both the number of hearings and their breadth of

content follow the same pattern. As in the case of legislative hearings, hearings on problems and

bureaucratic oversight reach a peak, both raw numbers and in breadth of policy topics, in the

late-1970s. After the peak, there is no decline in either measure. It would seem that once

legislation is enacted and programs created, Congress expends considerable energy in examining

the results of its legislative activity.

Figure 5.3 reinforces this interpretation. The figure depicts both the number of statutes

enacted and the number Agendas project subtopics with at least one statute.[22]   The number of

laws increases during the 1950s, but then declines throughout the period of study. On the other

---

[22] Congress passes a disproportionate number of statutes in the second session of each
Congress; graphing by Congress instead of year eliminates this saw-toothed pattern.

hand, the number of subtopic with at least one statutes—our measure of the broadening of legislation across the issue space—generally follows the New Issue Expansion pattern noted in legislative hearing activity.[23] The data show first an expansion as the diversity of the lawmaking agenda increased, then a steady state issue agenda at around 150 subtopics addressed by legislation during the 1970s and 1980s. A rapid consolidation of the lawmaking agenda begins with the 102nd Congress (1993-1995), and accelerates in the 103rd Congress with the Republican ascension to congressional constricted the lawmaking agenda to about the same size as it was in the mid-1950s.

Figure 5.3: Statutes Passed
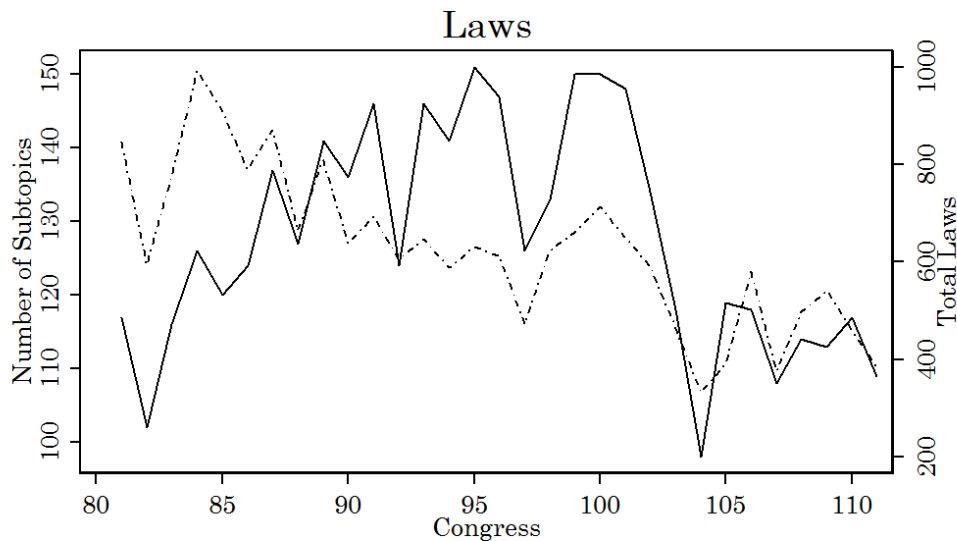
Spillovers to Other Governing Institutions

Congress does not exist in some sort of vacuum—rather the institution is intimately linked with the other governing institutions. As Congress passes laws, it affects other parts of government—clearly the executive branch, but also the courts. Perhaps most importantly, the statutes Congress enacts cumulate to form the corpus of US Federal law (which is assembled in organized fashion as the US Code of Laws), and these laws form the framework for rulemaking in the executive branch, court interpretations of the law, and further lawmaking by Congress. Figure 5.4 graphs the monthly pages of statutes passed, which can also be (roughly) interpreted as the addition to the corpus of laws—how much larger the body of law becomes as a result of congressional legislative action—and how much more complex law becomes as well.[24]

---

[24] There are some qualifications to this interpretation. Sometimes Congress repeals parts of the Code, or replaces parts (such as would occur with a reauthorization) or the courts declare parts invalid. But our examination of the Code suggests that in the main statutes passed translate directly into the Code.

Figure 5.4: Cumulative Pages Added to the Corpus of Laws, by Month
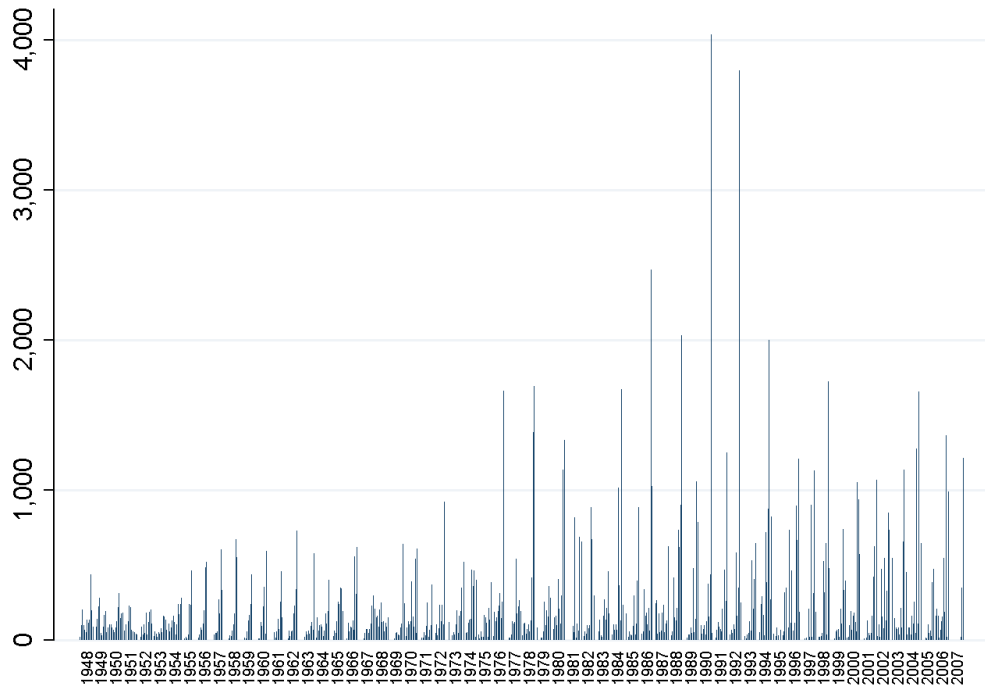
The first thing one may note about the graph is its "seasonality"—there are more laws passed during the later months of the second session of a Congress than in other months. Even more powerful, however, is the great increase in the contribution to the size and complexity of Federal law that is put in motion by the intense lawmaking activity of the 1960s and 1970s. The Code begins to grow at an increased rate during the mid-to-late-1950s, and receives another boost in the late-1970s, peaking in the early 1990s. After a decline in the mid-1990s, contributions to the Code decline and stabilize, but at a much higher level than before the 1950s and 1960s.

Whyman and Jones (2012) tabulated the cumulative pages of statutes per year based on Figure 5.4. This may be interpreted as the amount of law added to the corpus of Federal law (the US Code) each year. They then examined fits to the graph separately for the periods 1948-1965, 1966-1994, and 1995-2007. The U.S. Code experienced a modest linear rate of growth (Congress

created an average of 1,371 pages of law per year) between 1948 and 1965, an exponential

growth rate between 1966 and 1994, and a linear but more robust rate of growth after 1995 (with

Congress creating an average of 3,136 pages of law each year). During the expansionary period,

law was cumulating at a much faster rate than during the earlier or later periods, but exponential

growth ceased around 1994. The greater growth rate in the later period represents the shift in the

velocity of law accumulation as a consequence of the expansionary period.

What is going on? We suggest that in the early in the expansionary period laws were

fairly simple, with few titles and a simple structure. But as government became involved in

more and more issues, and as executive branch agencies issued rules to implement the laws, and

as interest groups became increasingly involved in claiming particularistic benefits and gaining

exceptions to the simple and general statutes, laws became increasingly large and complex.

Whereas a statute in the 1950s might affect one or a few of the fifty titles in the Code, today it

could affect many. The necessity for reauthorization of programs gives Congress the opportunity

to revisit what is working well and what not so well, and it gives policy entrepreneurs the

opportunity to add provisions to the original law, hence adding complexity (Adler and Wilkerson

2012).

It would not be surprising to find the court system affected by the New Issue Expansion,

and the increase in the complexity of laws generated in it. In a 2011 lecture, Justice Antonin

Scalia claimed that declines in the number of cases decided by the Supreme Court was in large

part caused by declines in legislative activity by Congress. Because Congress has passed fewer

major statutes in recent years, the Supreme Court had a lower caseload (Cohn 2011).

Figure 5.5 offers some support to Scalia's perspective. After an early increase and rapid

decrease in cases decided just after the Second World War, both the number of cases and

diversity of the Court's agenda increased from the mid-1950s thorough around 1990, and then

both fell off rapidly. The number of subtopics addressed increased from around 35 in the late-

1950s to a peak in the 45-to-50 range from the mid-1970s to the late-1980s. After a rapid

decline in 1990, the diversity of the agenda fell back to the mid-30s throughout the 1990s and

2000s. The Supreme Court's caseload, and the diversity of topics addressed, generally followed

the pattern of New Issue Expansion that characterized legislative activity.

Figure 5.5: Supreme Court Cases
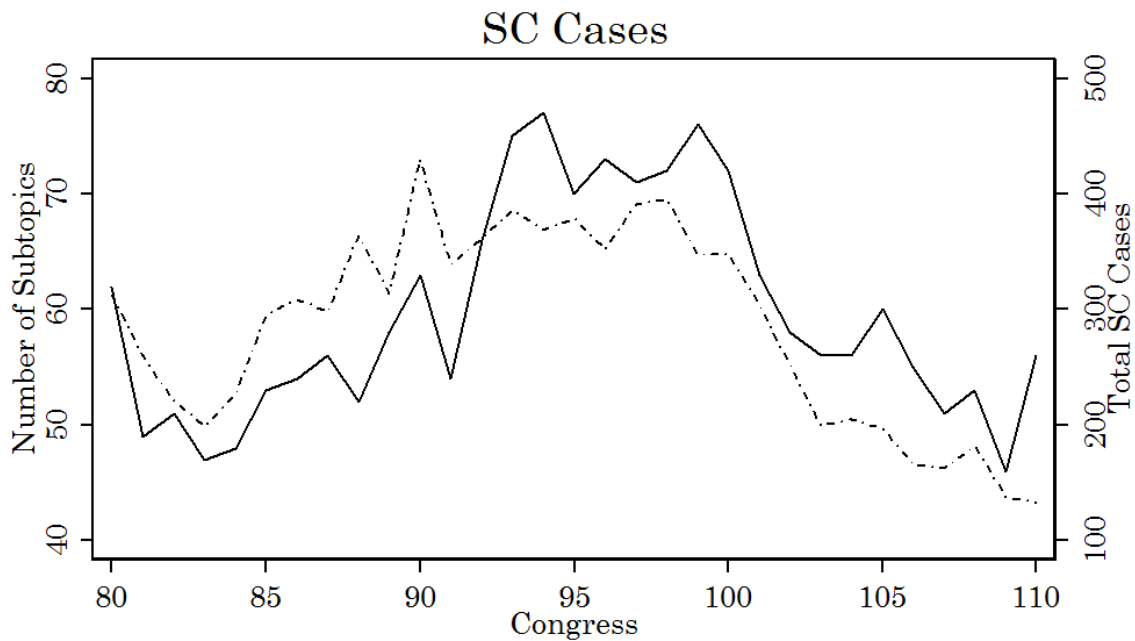
The New Issue Expansion also affected press coverage. Not surprisingly the diversity of

coverage of issues in the Congressional Quarterly, which specializes in the coverage of the

activity of the Federal Government, parallels closely the New Issue Expansion (and Contraction)

period detected in our analyses of Congressional activity—rapid increases in the diversity of

coverage beginning in the late-1950s, a levelling off at around 120-140 subtopics from the mid-1970s to the early 1990s, and a rapid decline after 1995.

Figure 5.6: Congressional Quarterly Coverage of Issues
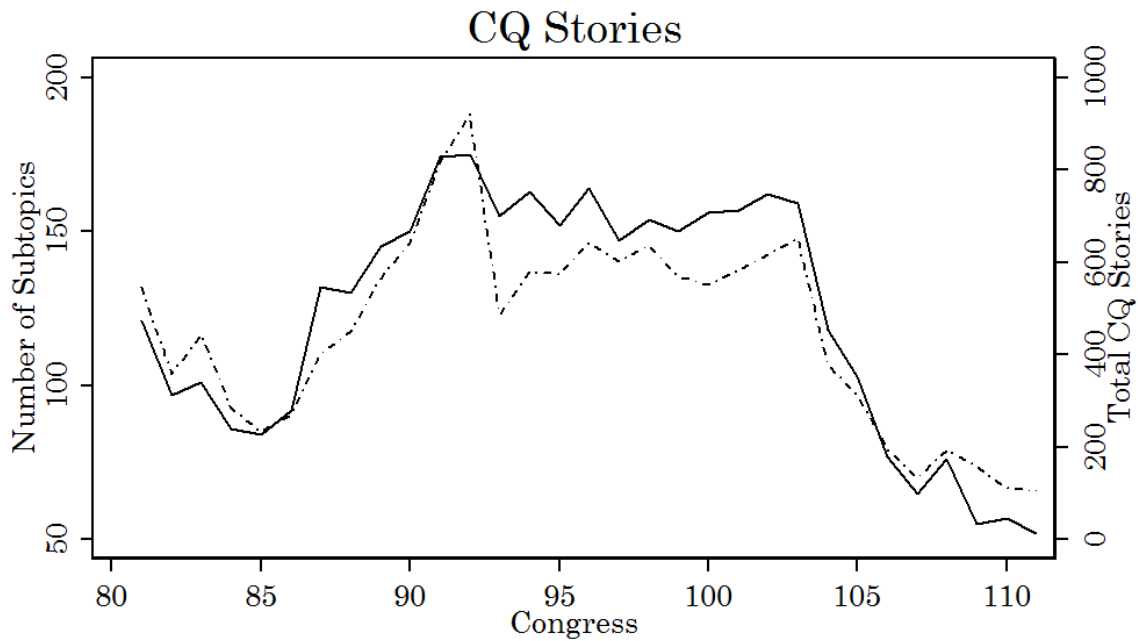
The Arc of New Issue Expansion and Contraction

Figures 5.1 to 5.6 depict two distinct patterns of changes in the diversity of the policymaking agenda. The first pattern is a broad arc of issue expansion through time: increases, peak, brief stability at a higher level, and general decline. Legislative hearing activity, CQ coverage, lawmaking, and Supreme Court issue diversity all fit the arc of expansion and contraction. Figure 5.7 graphs this generalized historical arc.[25] The steepest increases and declines occur in legislative hearing activity and Congressional Quarterly coverage; the Supreme Court

---

[25] Each arc is fitted by a quadratic function of the form $Y = a + b X - c X^2$. Details of the fits are in the appendix to this chapter.

experiences shallowest increase and decline, with lawmaking intermediate. The arcs all peak about the same time—generally in the 95th Congress (1977-79).

Figure 5.7: Issue Expansion and Contraction Across Governing Institutions
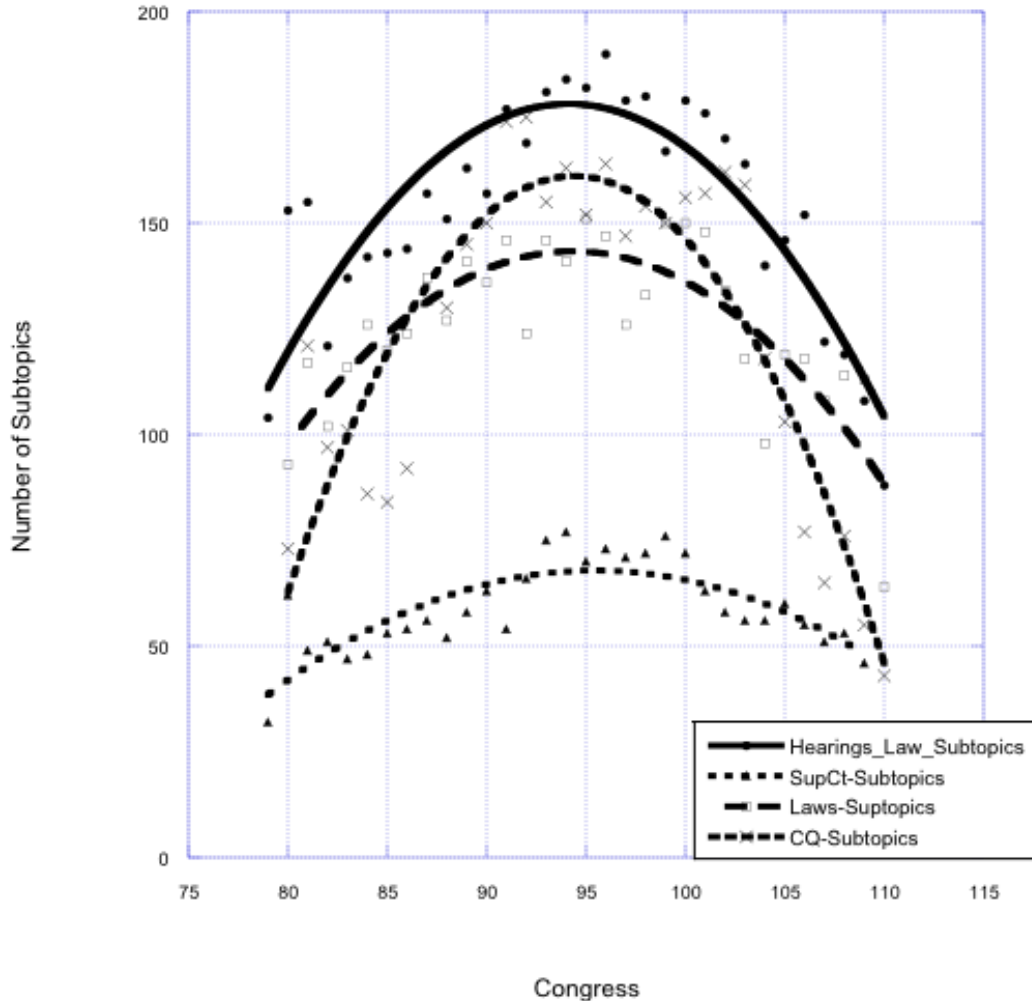
The second pattern is one in which the increase segment of the arc occurs, but the decline fails to materialize. The first pattern, the arch of expansion and contraction, represent the contemporaneous activities of government. The second part reflects the residue of the Great New-Issue Expansion. It includes non-legislative (and total) hearings, and roll-call votes. With increased issue diversity in the agenda (assessed by the number of Policy Agendas subtopics addressed in hearings), increased intervention in the economy and society occurred (assessed by the number of subtopics addressed in statutes), and the more other institutions were affected by

139

the increasing span of government involvement (assessed by subtopics addressed in Supreme

Court cases and Congressional Quarterly coverage).   Most of these measures declined beginning

in the late-1980s, but the programs and agencies assembled to implement the legislative

expansion remained, as did the need for Congress to oversee the new bureaucracies. As a

consequence, non-legislative hearings continued at a robust pace. Figure 5.8 shows the patterns

for all hearings and roll calls together on a graph like Figure 5.7. The levelling off after the

95the Congress is clear, as is a downturn late in the period (which may or may not be

permanent).

Figure 5.8: The Continuity of Issue Expansion
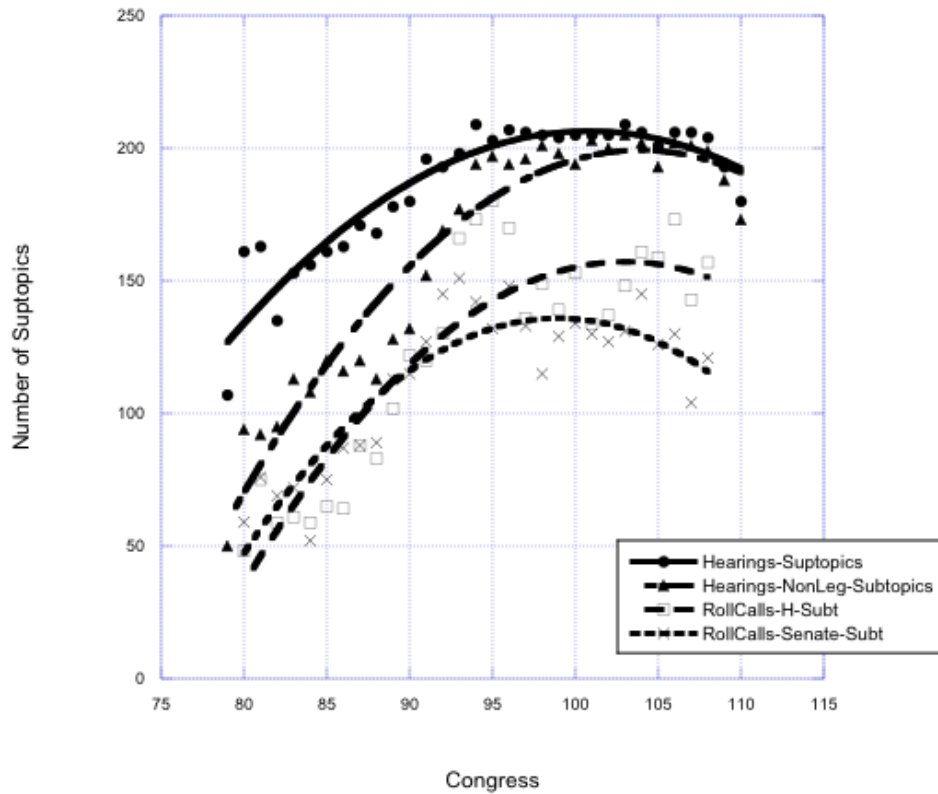
Why did roll-call votes not decline with the decline in lawmaking? (There is evidence of

decreases in diversity of roll calls in the Senate, but that is minor compared to the collapses in

lawmaking and legislative hearings). The answer is that Congress is taking more votes per

measure—because those measures are becoming increasingly complex. The residue of the

increasing complexity of statutes is the increasing diversity of roll-call votes on procedures and

amendments on bills.

Press coverage, as assessed by the Policy Agendas Project's sample of *New York Times*

articles, followed the general contours of the Great New-Issue Expansion.[26] Figure 5.9 plots

articles on matters concerning domestic issues, less banking and finance (because the business

pages of the *New York Times*, where most such articles appear, are unlikely to track the new

issue revolution). Similarly, we have omitted Defense and International Affairs. The

coverage—at least in quantity of coverage—spiked much more rapidly than the congressional

activities, and declined quite sharply as well. Another rise began in the early GW Bush

presidency. The figure also includes a measure of interest group population, to which we turn

immediately.

---

[26] The NYT Dataset is based on a sample of the Times Index; as a consequence it is somewhat more
unreliable than the other datasets of the Policy Agendas Project. It also is tabulated only on major topics, making it
impossible to calculate the agenda diversity indexes that we presented for other measures. See
http://www.policyagendas.org for details. We omitted Major Topics 15, 16 and 19, and started the graph with the
81st Congress, because of post-war instability in coverage.

Figure 5.9: *New York Times* Coverage and Interest Group Growth
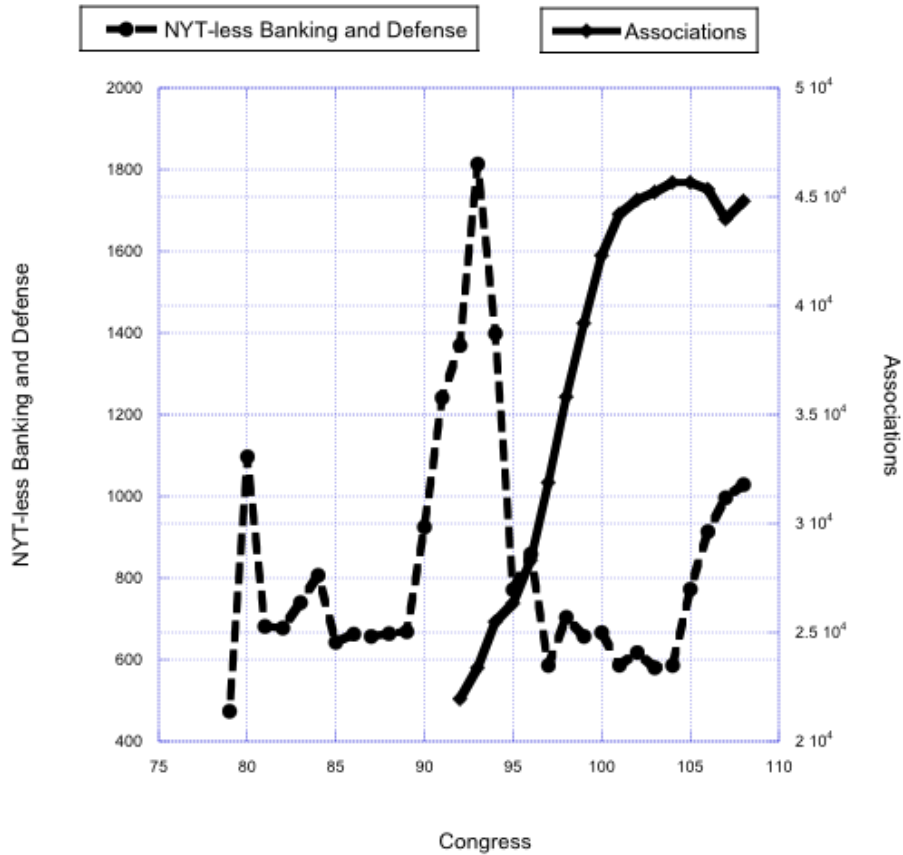
Source: Tabulated by the authors from Policy Agendas Project datasets

The agenda expansion period during the second quarter of the 20th Century led to new

programs, agencies, and increased ability to find new problems through expanded search

capacity. Perhaps less evident is the possibility that the expansion led to a different politics.

Once Congress established new programs and made the budgetary commitments to them, interest

groups of all stripes mobilized to make claims on these resources. Interest-group scholars have

noted for a very long time that many political scientists have the story of government growth

backward. Rather than associating interest groups with program creation, it is more likely that

macropolitics caused program creation, which then drew groups to fight over incremental

adjustments in them (Walker 1991; Baumgartner and Leech 1998).

The self-sustaining nature of the Great New-Issue Expansion is evident in the number of associations tabulated by the *Encyclopedia of Associations*, as can be seen in Figure 5.9. Our tabulation began in the 92nd Congress (1971), so we can't make any inferences about the nature of groups in the US before then. But there was a very rapid rise that generally lagged the periods of increases in the series presented in Figure 5.8. The juxtaposition of *New York Times* coverage with the number of associations tabulated by the *Encyclopedia* shows clearly that the large increase in the interest-group system followed the Great New-Issue Expansion by several years. While agenda expansion levelled off in the late-1970s, interest-group growth only began then, peaking more than a decade later.

Could the same be said about polarization? Could it have been a consequence of agenda expansion? The most important studies of in policymaking come from Keith Poole and Howard Rosenthal's methodological innovations in linking dimensional (left-right) positions across Congresses. To estimate polarization, median party positions are calculated for a year or Congress, and then one party median is subtracted from another. [27] There is no doubt that polarization has increased since the 1970s, and considerable evidence that the polarization has been asymmetrical—that is, Republicans have moved more to the right than Democrats have moved to the left (Voteview).

Most explanations of polarization center on exogenous events that have caused the political parties to become more ideological, or changes in the organization of Congress that have fostered intra-party solidarity (Theriault 2008). These include the realignment of the South,

---

[27] This requires some assumptions that probably ought to be questioned more than they have, because the method uses a linear interpolation to link the scores (and because subtracting ordinal data is not strictly speaking justified), but it is nevertheless an important methodological accomplishment and a very useful tool to track polarization across time.

redistricting to maximize partisan gains, a more partisan media, increased mobilization in primary elections, and stronger congressional party leadership, among others. We don't doubt the importance of these. But it is also worth considering the role in the Great New-Issue Expansion in provoking a counter-reaction from conservatives. Figure 5.10 provides some suggestive evidence that this explanation has some validity. Roll call polarization drifted upward between the 80th (1947) and 95th Congresses (1977) and then began to rise at a far more rapid rate. The critical burst in polarization did not begin to increase until the Great New-Issue Expansion had peaked. How one might interpret this could vary. On the one hand, it is evidence that the expansionary period was not characterized by particularly large partisan differences. That makes sense, because to some extent both parties were caught up in the wave of policy activity that characterized the period. The polarization is a feature of the post-expansionary period, and hence in one sense the New Issue Expansion could not have contemporaneously caused the polarization. On the other hand, counter-mobilizations do not occur instantaneously. It seems inconceivable that the conservative counter-mobilization and the consequent asymmetric polarization could have occurred without the New-Issue Expansion. Moreover, the expansion of the governmental agenda left a much-enlarged administrative state, and these residues are potential contemporaneous causes of polarization—in the sense that they didn't go away after the expansion ceased.

Figure 5.10: The Number of Policy Agendas Subtopics Addressed and the Polarization of Roll Call Votes
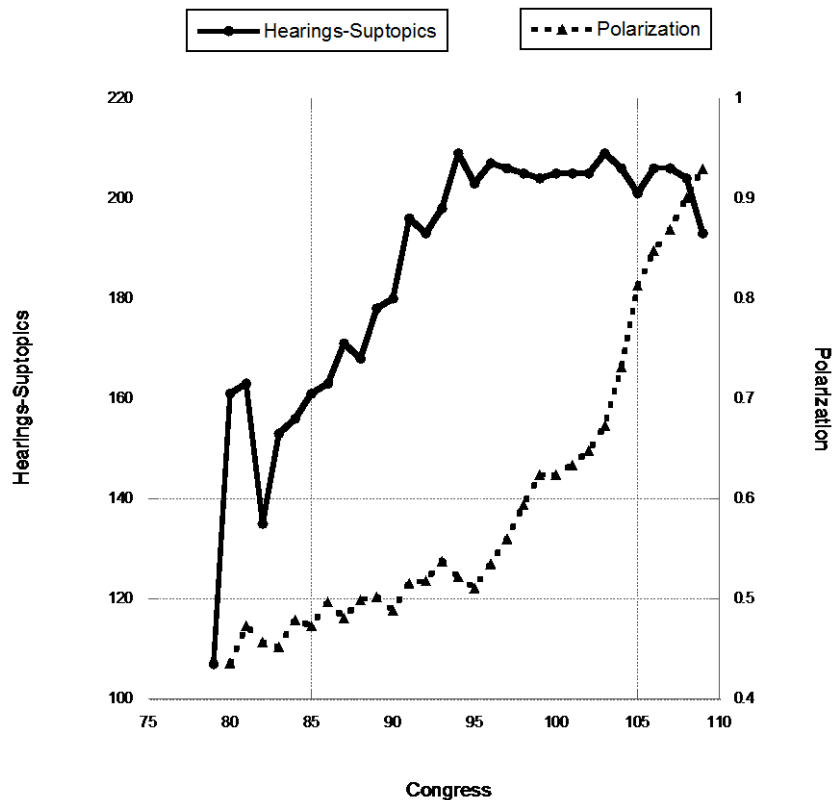
Support for the notion that issue development influenced the emergence of partisan polarization comes from a study by Jochim and Jones (2012) of issue-based polarization in congressional roll-call voting. Using Poole and Rosenthal's scaling algorithm, they scaled votes within each of the Policy Agendas major topic categories for the period 1965-2004, for each Congress. They looked for differences in how well Poole and Rosenthal's first dimension, which is the strong ideological dimension that has characterized American legislative voting since the dawn of the Republic. That dimension captures debates regarding the degree of involvement of the federal government in economic and social affairs. They divided the period of study into two parts: 1965-1980, and 1981-2004. For almost all of the issues, dimensionality and polarization (assessed by standard intra-party unity measures) increased during the period. However, issue

145

susceptibility to polarization varied greatly. They detected three distinct patterns in the development of polarization. The first set of issues were those that were polarized and of low dimensonality for the full period of study, and included economics, housing, and labor and employment. The second set was less polarized during the first period, and remained so in the second: agriculture, foreign affairs, transportation, trade, and public lands. The final set were those moving from less polarized to more polarized: health care, education, civil rights, law and crime, and defense. This last set of issues (with the exception of defense) that form the core of the new issues that broadened government, not just thickened it.

It is also possible that the expansion of the interest-group system had a role in increasing polarization. Lowi (1969) noted even before the peaking of the expansionary period that political parties were in many ways conglomerates of interest groups. More recently, Bawn et al. (2012) developed an update and expansion of the idea that groups and coalitions of groups form the backbone of parties, and hence party differences. One possibility is that groups are intermediaries between agenda expansion and partisan polarization. Figure 5.11is suggestive. Group expansion, as indicated by the *Encyclopedia of Associations*, led increases in partisan polarization. The time ordering is clear: Issue expansion came first, then expansion of the interest-group system, then increases in partisan polarization. Policy, then groups, then parties.

Figure 5.11: Groups and Polarization
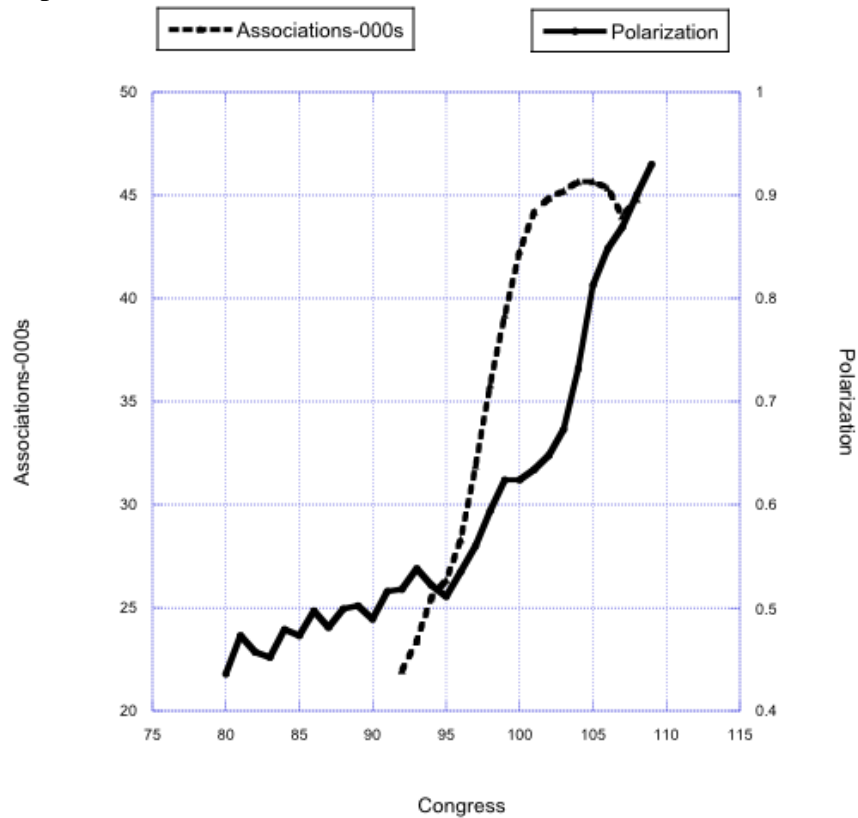
The Role of Legislative Rules[28]

One possible way to account for at least some of the trends we observe is that there was some

sort of congressional rules changes at about the same time we observe the Great New-Issue

Expansion. We deem this highly unlikely. First, the changes we observe do not occur all at

once, and the patterns of increase and decline follow an understandable historical narrative.

Rules changes should lead to more abrupt changes. There were rule changes, however, and some

of these may have influenced some of the variables we study. In particular, changes in the rights

and responsibilities of subcommittees could have led to more hearings. Most important are the

changes wrought by the Legislative Reorganization Act (LRA) of 1970, which decentralized

committee power to subcommittees. However some of the reforms of the Act were put in place

---

[28] This section relies substantially on Lewallen (2012).

147

during the 1965-1970 period, in both House and Senate. The LRA was a response to the efforts

of the Joint Committee on the Organization of Congress that met in 1965 (and continued until

1966 in the Senate). Most of the joint committee's recommendations were signed into law with

the LRA of 1970. Fenno (1973: 136) indicates that the House put reforms in place in 1965 and

Smith and Deering (1990: 46) write that the Senate did the same thing. Given the sequencing of

events, it is more likely that the rules changes were a result of the issue expansion rather than a

cause of it.

A second issue is whether the shift from legislative to non-legislative hearings can be

explained by rules changes or other aspects of member behavior. Smith and Deering (1990: 140)

show no real change in the percentage of legislation reported out of committee that had been

referred to a subcommittee during the period 1969 to 1988. In the 90th Congress cosponsorship

of bills was allowed, and it is possible that this change led to the overall decrease in the number

of bills introduced documented by the Congressional Bills Project. A member could simply co-

sponsor legislation rather than introduce a bill for the purposes of position-taking (Congressional

Bills Project, Trends). It is possible that there were fewer legislative hearings because over time

there were fewer bills introduced. However the correspondence of the behavior of the

lawmaking series, with fewer but larger laws being passed, suggest that these trends both were

effects rather than causes. We can't rule out that this rules change had some impact, but given

the patterns of the trends we document in this chapter we think a rules-based explanation to be

highly improbable.

Chicken or Egg?

The increasing diversity of problems that government began to detect, both through mechanisms

such as congressional hearings and investigations by executive agencies, and the demands of

citizens, led to an expansion and diversification of the policymaking agenda. As the agenda

diversified, the arenas in which government intervened to address those problems increased.

While it is not invariably true that government expands when the agenda diversifies, certainly

that is the general tendency.

But what came first: the information or the policies? Or was this nothing more than the

enactment of preferences of a liberal majority? After all, there are winners and losers in politics.

Figure 5.11 shows that agenda expansion in the search process and expansionary lawmaking

increase in tandem. After the peak, the two series diverged.

Figure 5.11: Agenda Expansion and Lawmaking
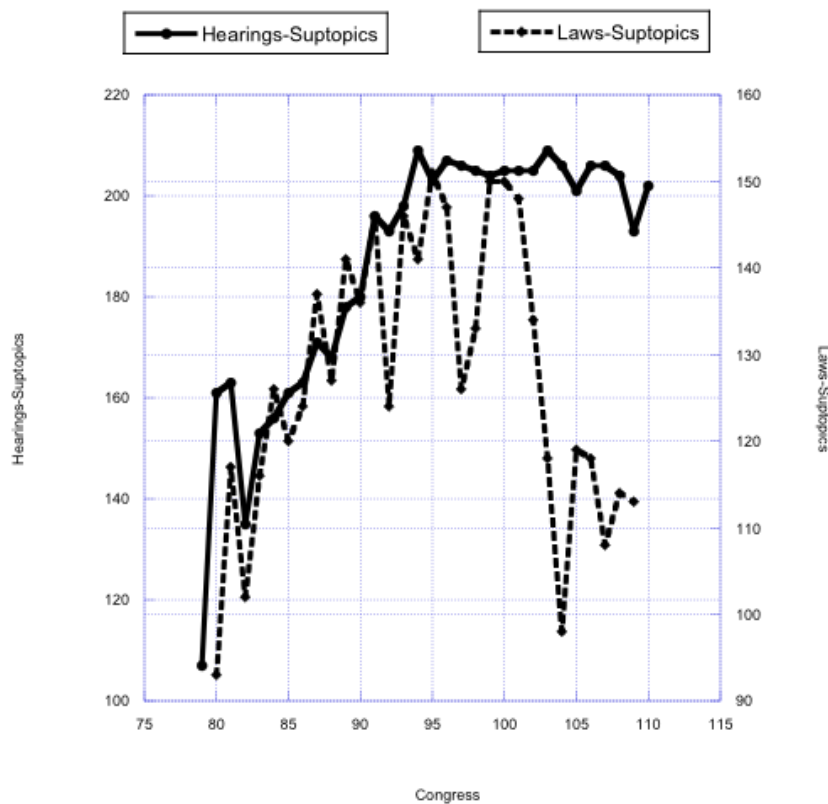
Maybe the growth of government was a consequence of the preferences of the mostly

liberal partisan majorities in the 1960s and 1970s, which caused Congress to become involved in

overseeing more programs through hearings. Two papers show definitively that the story is more

complex. We studied the interaction between committee hearing entropies, our measure of information, and the size of government. Causal flow is primarily from information to programs, and the feedback from government programs to information flow is weak (Jones, Baumgartner, and de la Mare 2005). In a second, statistically sophisticated study, Workman (2012a) examined the influences of both the informational component and the partisan changes in government on the size of the bureaucracy. He found that information caused program increases, but that partisan divisions were not related to either information acquisition or program adoption. He concludes that "changes in the administrative state have much to do with the changing problems facing government."

The likely reason for these findings is that during the period of New Issue Expansion Congress aggressively sought out problems that needed addressing—and this held whatever the partisan composition of the legislature or the presidency. Republicans, however, never held both branches of Congress during this time, although they regularly held the presidency and held the Senate for much of the 1980s.

The Rise and Decline of Search Capacity in the Executive Branch

Considerable qualitative evidence indicates that the executive branch experienced decline in its search capacity and policy analytic capacity after Ronald Reagan was elected president. Much of the evidence comes from the sustained efforts of Walter Williams, who spent much of his academic career documenting and decrying the decline of the policy analytic capacities of executive agencies. Regardless of his penchant for muckraking titles, Williams' work is carefully argued and documented; his *Honest Numbers and Democracy* is a masterful statement of the bases of policy analysis and its tight connection to problem search. Williams saw the increase in policy analytic capacity from the 1950s through around 1980 as a result of a bi-

partisan consensus on the necessity of getting the president and the cabinet the best available information on potential problems and opportunities in the decision-making environment. President Eisenhower built a strong structure for bringing information to the top of government. President Kennedy's Secretary of Defense, Robert McNamara, established a policy analysis office based on the systems analysis perspective developed at the RAND Corporation, a nonpartisan research organization. President Johnson brought the concept into the domestic agencies through his Planning-Programming-Budgeting (PPB) system. The idea was to rely on a staff of experts who would be responsible for systematic analysis of goals and means within agencies.

The establishment and growth of search and analysis capacity in the executive branch paralleled the growth of that capacity in Congress. Presidents Nixon, Ford, and Carter all supported the use of sound information in the policy process, and relying on its provision by policy analysis professionals (Jones and Williams, 2008: Chapter 9). Support for the system was bi-partisan, and its utility remained unquestioned until the Reagan Administration.

Williams traces a great deal of this decay in capacity to President Reagan, whose presidency he termed "anti-analytic" (Williams 1990; Williams 2003). Reagan and many of his advisors distrusted the professional policy analysts, on the grounds that government search and analysis invariably led to the discovery of more problems. The Reagan and subsequent Republican administrations increasingly turned to conservative think tanks for policy advice, and cut the funding for domestic policy analysis. "The Department of Health, Education and Welfare (now Health and Human Services) had around 300 staff members in the Carter administration and supported major social policy experiments over time. Under Reagan, the office suffered a

loss of two-thirds of its staff and ceased funding new large-scale projects of this type" (Jones and Williams 2008: 243).

In general, the rise and decay of analytic capacity of the executive branch seems to have followed the Arc of New Issue Expansion, with its apogee at around the same time as the Arc's. The shift in analytical capacity is associated with a change in attitude toward the information gathering and analysis capacity of government. Unlike the Republican presidents who went before him, Reagan distrusted analysis and tended to rely more on ideological understandings of the policy process (Williams 2003). He was less interested in having access to data and examining the nature of problems facing government and more interested in imposing solutions suggested by conservative ideas. This is perhaps most evident in his adopting of notions of supply-side tax cuts as a panacea for both economic growth and budget control (Jones and Williams 2008). Whether intended or not, President Reagan's attack on policy analysis may have been key to putting the brakes on the growth of government.

At the subsystem level, the operations of problem search and solution recommendation continue, but they have been affected by changes in the partisan composition of Congress. Workman (2012b) has intensively analysed the interaction between the activities of congressional committees and those of executive agencies (the latter assessed by rulemaking). He finds evidence of shared responsibility for defining and acting on problems, a process he terms a "dual dynamic." However, the operation of the dynamic shifts with changes in the partisan composition of Congress. When the control of Congress shifted from Democratic to Republican in 1995, problem search and rulemaking changed little overall, but the issues within which search was more aggressive changed. Executive agencies whose rulemaking within the

Policy Agendas codes for Business and Finance and the Environment became more active, while Transportation, Public Lands and Water, and Education lost favor.

Information and the Great New Issue Expansion

The capacity of Congress to engage in problem search to some extent follows the experience of the executive branch. Recall that our measure of information supply in the legislative branch is entropy, which we've used to assess the spread of topics addressed by congressional committees. Figure 5.12 plots changes in the capacity of congressional committees to supply diverse information in its deliberations. Note that that capacity peaked in the mid-1990s, and has stabilized or slightly declined since then. This lessened capacity does not come from the lessened complexity of society or the economy. Indeed, during the period the financial industry experienced a great burst of innovation in new financial instruments relying on great leverage. Rather it likely represents the preferences of legislators not to expand the capacity of the system to assess diverse sources (in an attempt to ignore some problems lest they stimulate more government programs) or some limits in the carrying capacity of the institution.

Figure 5.12: The Arc of Information Supply in Congress
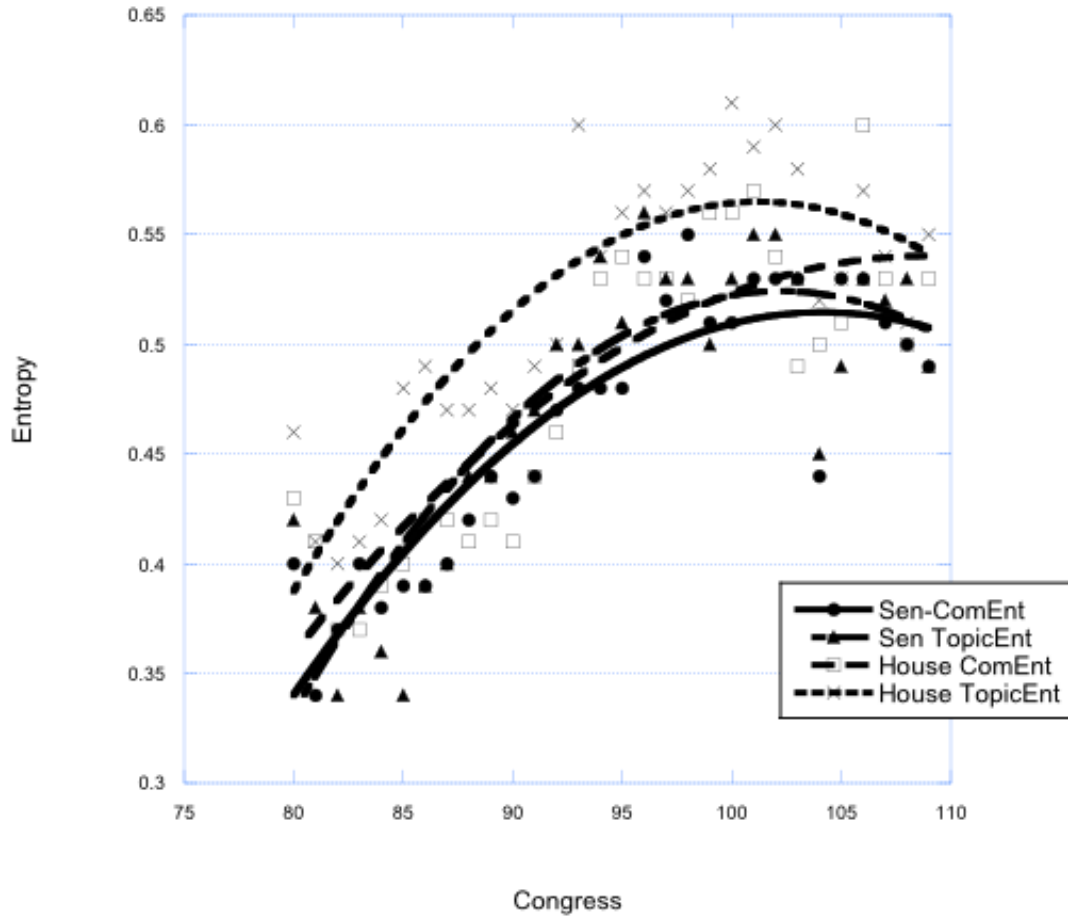
Source: Calculated by authors from Policy Agendas Project datasets.

Conclusions

Government, politics, and American society were all transformed in a brief 20-year period in an explosion of legislative activity. President Lyndon Johnson and the Democratic majorities in 1965 built the legislative platform for the modern American administrative state. What is less appreciated is the vigorous expansion of the policymaking agenda across virtually all areas of American life. Many conservatives react viscerally to this reach, and most liberals think that the work is incomplete and even flawed. Indeed, Ted Kennedy's "the dream shall never die" speech to the Democratic National Convention in 1980 can be seen in hindsight as a reaction to the

consolidation process begun in the Carter years—a consolidation bitterly resented by the liberal wing of the Democratic Party.

The Great New-Issue Expansion left not just a panoply of new programs and administrative agencies; it left a heightened ability of government to detect and define problems in the policymaking environment. The complex, confusing, and overlapping network of federal, state, and local agencies, linked through fiscal federalism and the classic mechanisms of congressional committees and subcommittees, left government better at information processing—in the sense of attending to multiple attributes of complex problems. It also left government prone to enact both more and more intrusive regulations and legislation, because finding and defining a problem is not the same as designing an efficient solution to it. Hence the modern tension between liberals and conservatives, Republicans and Democrats was born in the Great New-Issue Expansion. But the burgeoning administrative state transformed the old partisan divisions. Conservatives urged quick and decisive policymaking activities in military and foreign affairs, something alien to the party prior to the 1950s, as well as in such areas as crime and justice, immigration, and even marriage—DOMA defined marriage rights, traditionally left to the states, for example. Indeed, Workman (2012b) shows that government adopts as many regulations during Congresses controlled by Republicans as those controlled by Democrats, but the agencies issuing the rules shift. Growth, then stabilization of government, has been a bipartisan process.

The Great New-Issue Expansion fundamentally altered the pattern of conflict between the parties, and it forms the basis for the polarized and vitriolic politics of today. We do not deny the contemporary sources of this conflict—redistricting, the emergence of a more partisan media, the flood of money entering the political realm, for example. But we think our understanding of

today's partisan polarization is incomplete without an appreciation of the radical transformation of the agenda during the 1960s and 1970s. It was driven by a self-reinforcing process of seeking and finding, then of suppressing the search for new information in order to stifle the growth of government. None of these trends can last indefinitely, and the strategy of ignoring trends by not monitoring them does not make them go away.

Appendix to Chapter 5

The arcs in Figures 5.7, 5.8 and 5.11 are estimated through least-squared fits for the quadratic

equation $Y = a + b X - c X^2$. The tables below present parameter estimates and correlations

between the point estimates based on the parameter estimates for the polynomial equation and

the actual data.

Table 5.A1: Subtopics

Parameter estimates	All Hearings	Non-Legislative Hearings	Legislative Hearings	Lawmaking	Supreme Court	CQ Coverage	House Roll Call Votes	Senate Roll Call Votes
a	-1495	-2237	-2424	-1589	-917	-4062	-2280	-2278
b	33.75	48.88	55.27	36.55	20.63	89.47	47.33	48.78
c	-0.167	-0.225	-0.293	-0.193	-0.108	-0.474	-0.230	-0.246
R	0.93	0.96	0.88	0.81	0.79	0.89	0.904	0.90

Source: Calculated by authors from Policy Agendas Project datasets.

Table 5.A2: Average Entropies

Parameter estimates	House Average Topic Entropy	House Average Committee Entropy	Senate Average Topic Entropy	House Average Committee Entropy
a	-3.474	-2.043	-3.529	-2.727
b	0.0798	0.0475	0.0793	0.0622
c	-0.00039	-0.00021	-0.00038	-0.000298
R	0.87	0.86	0.87	0.90

Entropies were averaged across all major topics or committees for each Congress.

Source: Calculated by authors from Policy Agendas Project datasets.

Chapter 6

The Thickening and Broadening of Government

Diversity of information is closely connected with the diversity of the public agenda (e.g., the number of different issues being discussed), the diversity of debate (e.g., the number of different aspects of a given issue being discussed), and the diversity of authority (e.g., the degree to which jurisdictions over given issues are shared by many rather than allocated cleanly to a single institution). Cut off the jurisdictional messiness and you cut down on information. Cut down on the range of issues being discussed, and you cut down on information. But the process also works the other way: cut off the flow of information, and you can cut off the rise in new issues and in the size of government itself. Indeed, we show in this chapter that the broadening of government is more closely associated with subsequent government growth than is simple thickening.

James Q. Wilson (1979, 41) recognized that this could well be the case. He wrote, "Once the "legitimacy barrier" has fallen, politics takes a very different form. . . . New programs need not await the advent of a crisis or an extraordinary majority, because no program is any longer "new"—it is seen, rather, as an extension, a modification, or an enlargement of something the government is already doing."

Government gets thicker when it increases its activities within a previously-occupied arena. It gets broader when it intrudes in an arena previously unoccupied. The process of occupation opens the way for a subsequent thickening of government within the now-occupied arena. The Civil Rights Act of 1957 was not particularly important as a lawmaking enterprise,

but it was a critical agenda breakthrough engineered by Senate Majority Leader Lyndon

Johnson—and was recognized as such by Southern lawmakers (Caro 2012). Broadening often

leads to subsequent thickening (see also Sparrow 1996).

The process of broadening generates a whole new political landscape. The rise of new

issues in politics generally leads to institutional and political changes. Once new institutions are

created or revised, and once social movements and interest groups are mobilized around a given

issue, the conditions are in place to keep the issue alive for future years. Interest groups come to

Washington on the heels of issue expansion—the initial group presence that is important in the

politics of initiating programs attracts even more group activity as the program grows. Issues

rarely recede from political view as easily or as quickly as they appear in the first place.

Contrary to myth, issues and institutions sometimes do disappear; there is no guarantee of

permanence even in government, even if the growth of interest in a new area is typically faster

than the decline of interest in an established one. While there are more creations than

eliminations, public agencies within the executive branch do sometimes disappear (Lewis 2003;

see Figure 6.8 below). Once created or given a new mandate, institutions of government

themselves play an important role in maintaining interest in a given policy.

Consider the missions of these public agencies: The Civil Rights Office of the US

Department of Justice, NASA, the Department of Education, and the Department of Homeland

Security or one of its components such as the Transportation Security Administration or the

Coast Guard. Each has a mandate to focus attention on its particular area of federal government

policy. Each generates reports, fields or oversees thousands of workers, and undertakes activities

designed to further its particular mission. Each also interacts with other government agencies at

the national and other levels of government that address the same or related issues, but perhaps

from a different perspective or with a slightly different mandate. In fact, the number of different agencies of government addressing different aspects of the same question is a fundamental driver in the political process. Workman (2012a:35) writes, "In particular, bureaucracies monitor the agenda for changes in existing issues, redefinitions of older issues, and the emergence of new issues. They further help to define problems for government action." New government agencies define into the political system systematic attention to greater and greater numbers of dimensions of evaluation.   Over time institutions and issues interact recursively, with each affecting the other, and each also being affected by related issues, by related institutions, by exogenous events outside of the control of any institutional leader, and by other factors. The growth of agencies, oversight activities in Congress, spending, and bureaucracies at the federal, state, and local level both provides the fuel for and are in part explained by the rise of new issues in politics.

Social actors of all kinds attempt to influence the production and discussion of information. Among the most important actors in this process are government institutions themselves. They are in a privileged position not only because of their role in collecting information directly. Government institutions have much greater legitimacy than many other actors. "Official" studies carry more weight than those done by "interested parties" (and government agencies often conduct among the largest and the best empirical studies of various types, such as in collecting economic information). But government agencies are particularly important as information sources because their democratic legitimacy ensures that others will take them seriously. When the Administrator of the Environmental Protection Agency focuses on a given environmental problem, others will follow suit. Many of those also involved in the debate may be government officials from rival agencies, states, and localities armed with equal levels of democratic legitimacy, but a different set of concerns. Many may mobilize to resist the

implications of the problem-focus. More institutions addressing different elements of the same problem increase the likelihood that multiple dimensions of that problem will be addressed explicitly in public discussion and debate. More government institutions and larger government in general assure that a greater range of issues will be discussed. So the growth and thickening of government are tightly intertwined with the rise of new issues and the supply of information regarding diverse aspects of those issues.

As society has become more complex, government has both broadened and thickened. As Chapter 5 showed, government has broadened by increasing the span of issues it is involved in; government today does many more things than government in the 1950s. It has also thickened through the process of increasing density of connections among executive agencies, legislative committees, courts, and private actors. What government does it does more intensely.

One of the most important implications of the increasing density of government is that it generates a greater diversity of information. The increased overlap, conflict, and competition among government agencies of all kinds are consequences. This is because, for any given policy issue, as there are more government agencies involved, each tends to focus attention on a different dimension of the problem. A system with perfectly clear jurisdictional structures would potentially be the most efficient, some might argue. But a confusing multiplication of levels of government, unclear jurisdictional mandates, and competition is generally healthier in terms of the generation of information. And this is what the separation of powers and federalism are all about. In any case, whether we have too much or too little jurisdictional clarity across our government agencies, there is no doubt about the linkage between jurisdictional "messiness" and information.

Government leaders do not necessarily like the abundance of information that is increasingly part of the policy process. Much of the information may be embarrassing, counter-productive, or supportive of the wrong policy solution. Private actors often don't like the increased informational density either. As a consequence, the politics of information suppression can blunt the impact of the information. Nevertheless there is little doubt that the rise of new issues in politics has generated much more information in the system, and that while the legislative "will" do enact more legislation has declined, the structures generating more information about those issues remain as residues of the "Great New-Issue Expansion."

Jurisdictional Clarity in Financial Regulation

An example of seeking jurisdictional clarity among administrative agencies may be drawn from financial regulation. As the business of finance became more complex, so did the regulatory agencies with responsibility for regulating it. Beginning in the 1970s, the previously staid business of banking became "exciting" (Johnson and Kwak 2010). It had been exciting before the Great Depression of the 1930s. Government responded by the earlier period of excitement with a round of regulatory activity that led to the New Deal's "alphabet soup" of regulatory agencies, and expanded regulatory capacity in the Treasury Department and the Federal Reserve. As banking became exciting again, regulatory authority was divided among the various agencies, the Treasury, and Federal Reserve. Gradually at first, and then in a wave during the Clinton and GW Bush Administrations, banking regulations were relaxed and made more "banking friendly." But lots of regulatory activity continued, and regulators faced an increasingly complex environment with (it turned out) much enhanced risk to the economy.

We can anticipate the issues that emerged: the more the overlap, the more the potential information (if the capacity of the agencies to address the complexity was maintained), and the

more the difficulties the emerging financial companies had with regulators. Unhappy is the regulated business executive in a deregulatory era. While each regulatory agency had its own area of jurisdictional superiority, the increasing size and complexity of financial companies meant that many companies were under the jurisdiction of more than one regulator. One of the responses to the inability of financial regulatory agencies to divide up the terrain in a simple manner was to allow companies falling under more than one regulator to choose which it wanted to be regulated by. This particularly bad idea meant that complex financial companies could fall under the regulatory authority of an agency with little expertise in areas where the company was engaging in the riskiest activities. American International Group (AIG), an insurance conglomerate with a massive derivatives business, chose the lax Office of Thrift Supervision as its regulator because it held a savings and loan. This kind of jurisdictional clarity—probably most kinds of jurisdictional clarity—under-produces the information necessary to make sound regulatory decisions.

The existence of overlapping regulatory responsibilities also can counteract what Johnson and Kwak call "cultural capital" in which regulators adopt the mind-sets of the regulated industries. In 2012 the Commodities Futures Trading Commission (CFTC) announced a major settlement against Barclays Bank, and the pursuit of several other major financial institutions in the US regarding the manipulation of the London Inter-Bank Overnight Rate (LIBOR). LIBOR is the unsecured rate that banks charge one another for overnight borrowing—necessary to clear unbalanced accounts when withdrawals at a particular bank exceed liquid assets. The banks' regulators were uninvolved in the settlement, due perhaps to the cultural capital issue. The CFTC could become involved in a bank regulatory issue because of its role in regulating

currency futures, which was authorized in the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010.[29]

The financial regulatory example illustrates another point. Regulatory complexity is a consequence in large part of increasing financial complexity and the clear and present danger of an unregulated financial system. Simplifying jurisdictions may simplify things, but they do so at great cost.

Information as Diversity in Administrative Agencies

It is common to think of administrative agencies as the implementing arm of legislation, which is the realm of Congress. This is far too simple; indeed, taken too literally its application would lead to a vast undersupply of necessary information. In addition to their duties in the implementation process, administrative agencies act as information processors, focusing on parts of a complex policymaking environment, and feeding that information both into Congress and to their own rulemaking operations (Workman 2012).

When we refer to information, we do not refer only to scientific studies or reports. We also mean the number of different dimensions of discussion that are organized into the political debate for a given issue. The same information, or information along the same dimension, simply repeated many times from multiple sources, adds little to the debate. But a greater diversity of perspectives generates a wide diversity of information. This is difficult to interpret and to evaluate as compared to other relevant pieces of information along different dimensions, to be sure—decision-making is much easier when less information is available! In any case, one of the most important elements of the "thickening" of government is that government agencies

---

[29] The bank violations involved the banking division within a bank (responsible for reporting overnight rates) setting rates at the request of currency futures traders in the bank's trading division—a violation of the "firewall" that was supposed to separate the two divisions. As a consequence, CFTC was able to assert jurisdiction.

overlapping with others dealing with the same or similar issues will generate a greater diversity of information relating to that issue.

The complex interactions among various factors have made causality difficult to pin down. But one source has been indirect attack on government information by conservatives who sought to limit government growth. At one time, Republicans used to complain that if you search for a problem, you tend to find an answer in a new government program. If politicians can constrain the range of situations investigated by government, they can limit the subsequent governmental activity in the arena. This process, however, has the unintended consequences of denying the existence of problems that actually need to be addressed. Decision-making with less information may be easier but it is not necessarily better. In fact, it may be more likely to lead to mistakes, errors, and inefficiencies. These must be corrected later, often at great cost.

An information-rich system makes leadership more difficult but may be more adaptive and therefore more efficient. On the other hand, there is little doubt from our analysis that more problem-search leads to more government solutions. This puts politicians on the right in an admittedly difficult situation, and we return to this dilemma in the concluding chapter.

Thickening and Broadening in the Budget of the Federal Government
Increases in the size of government through thickening versus broadening leave different traces in the federal budget. Older issues grow mostly through the process of thickening, and hence tend to experience increases in expenditures as policy subsystems buttressed by interest groups and interested congressmen solidify. But they can experience losses in the percentage of the budget they claim as new issues break onto the agenda and new policies are consequently enacted.

We illustrate by comparing two "old" issues—that is, issues that have experienced government involvement for an extended period of time—with two "new" issues—issues that government "invaded" during the Great New Issue Expansion, using the Policy Agendas Project's tabulations of consistent Congressional Budget Authority data.[30] Figure 6.1 shows that, in absolute figures, the old issues grew during the period of study (from Fiscal Year 1950, after the budgets stabilized from the disruptions of the Second World War, to Fiscal Year 2007, before the disruptions associated with the Great Recession). Transportation spending increased from less than $10 billion (in 2009 dollars) to over $80 billion. It did so in several "steps," the last of which took place in the late-1990s and early 2000s. Agriculture similarly cost the government more in 2007 than in the early 1950s, but it traced a more erratic path due to the manner in which subsidies are calculated. Indeed, the year with the highest absolute level of spending for agriculture was in 1974. These changes represent the thickening of government—growth within established policy areas.

---

[30] Congressional Budget Authority is the money that federal agencies are legally authorized to spend. Outlays are the actual expenditures. The Office of Management and Budget presents consistent Budget Authority data beginning in FY 1976; the Policy Agendas Project has extended these consistent figures back to 1946.

Figure 6.1: Inflation-Adjusted Budget Authority for Agriculture and Transportation, (Panel A) and Health and Justice Administration (Panel B), 1950-2007 (2009 Dollars) [a]
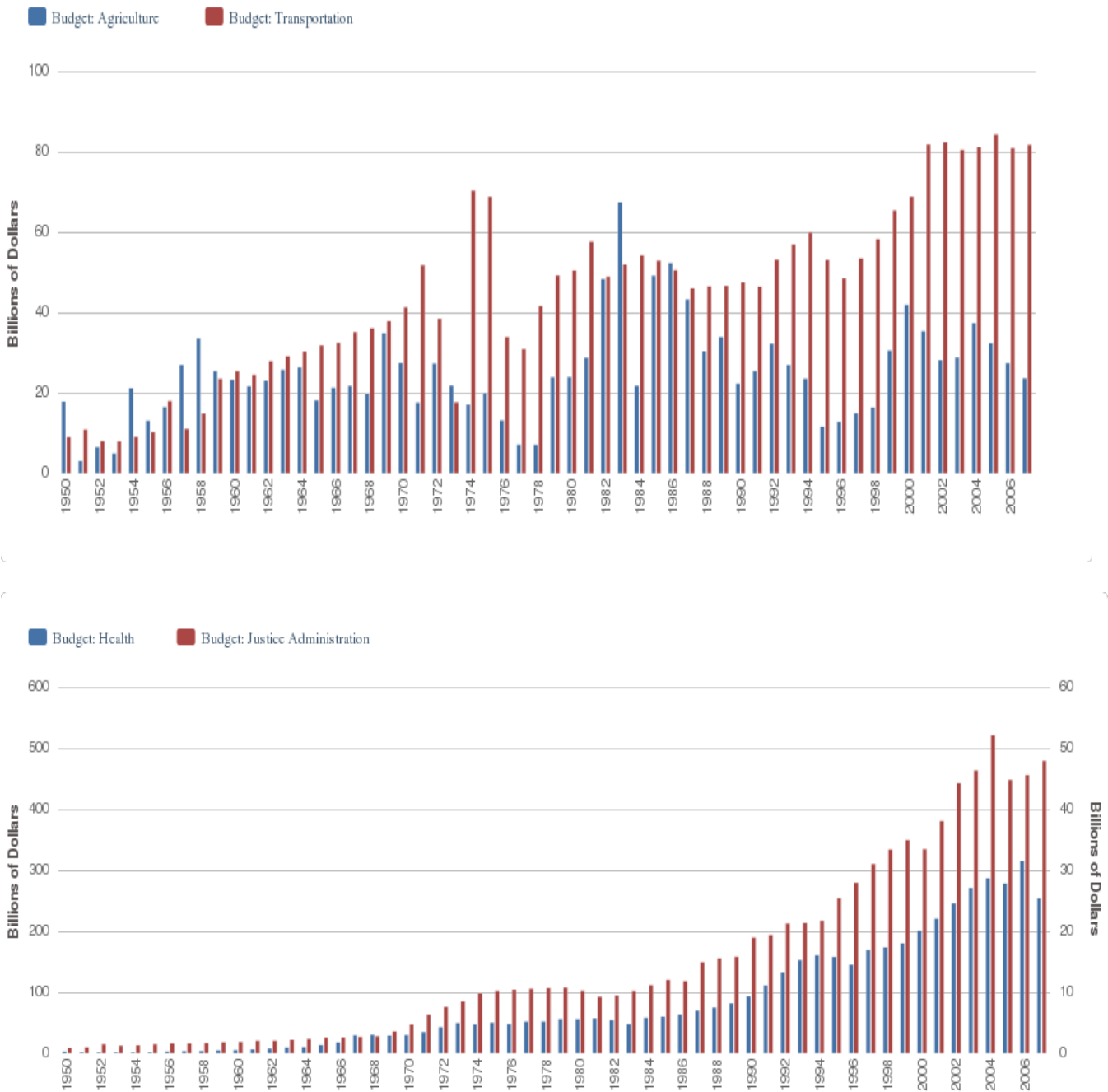
[a] In Panel B, Health is graphed on the right axis; Justice on the left axis.

Source: Calculated by authors from Policy Agendas Project datasets.

The new issues, in comparison, literally leaped onto the budget in the late-1960s and early 1970s. Health grew from around $10 billion in the early 1960s to over $300 billion in 2004—much of this through the Medicare and Medicaid programs. Justice Administration grew even more spectacularly—from under $3 billion in the early 1960s to over $50 billion in 2004.

As the Great New Issue Expansion proceeded, more issues elbowed themselves into a place at the table; as a consequence older issues grew more slowly. The older issues lost budgetary shares in comparison to the new issues. Figure 6.2 compares the percentage of the total Federal Budget consumed by the policies. The two older issues, Transportation and Agriculture, are depicted in Panel A; the two newer issues, Health (not including Medicare) and Justice Administration, are depicted in Panel B. The older issues lost budgetary shares during the period, with especially severe declines during the late-1970s. On the other hand, the new issues gained budgetary shares, especially in the early 1970s and after 1988. (Panel B is plotted on dual axes to emphasize the share gains of the areas; the health budget is a great deal larger than the justice budget.)

Figure 6.2: Changes in the Percent of Total Budgetary Authority for Agriculture and Transportation (Panel A) and Health and Justice Administration (Panel B) [a]

Legend: Budget: Health, Budget: Justice Administration

Source: Calculated by authors from Policy Agendas Project datasets

Like Transportation and Agriculture, Defense and International Affairs both experienced growth during the period—the Defense budget grew by more than a third between 1951, the peak of the Korean War, to the mid-2000s, in real dollars. But the budgetary shares of these programs steadily declined—for Defense, from 60 percent in 1951 (and even 40 percent in the peacetime year of 1958) to 20 percent in 2008.

The new issues of Education and Training, Natural Resources and Income Security (including Supplemental Security Income) follow a roughly similar pattern to Health and Justice. All experienced great growth in the late-1960s (Education) or early 1970s (Natural Resources and Income Security), but unlike Justice Administration and Health, began to lose budgetary shares quickly after becoming established. We might say that they "aged" quickly in comparison to Health and Justice.

It seems fair to conclude that during the post Second World War period, the broadening of government was a much more powerful dynamic than the thickening process. While one might think that the activities of subsystem participants—bureaucrats, legislative leaders in

substantive areas, and interest groups would cause government to grow, that is a misleading picture. The old issues have grown in absolute terms, but they have lost ground substantially in relative budgetary shares. The new issues have captured budgetary shares from the older issues. This causes few crowding problems during times of robust economic growth, but can cause a politics of trade-offs in periods of economic stagnation.

We have thus far analyzed the broadening process as separate and distinct from the thickening process, and in many ways this makes sense. But new initiatives within complex policy areas can result in the agenda disruption process that we've documented in Chapter 4 and in the above discussion of budgets regarding new issues. For example, Medicare experienced such a "New Issue" disruption with the addition of drug coverage (Part D) to Medicare, and the entire health care system is experiencing such a disruption with the Patient Protection and Affordable Care Act of 2010. Much of the Patient Protection and Affordable Care Act involve the thickening process as the Federal Government puts in place incentives to institute cost control and increase health care quality. However, the major features of the Act, especially the insurance mandate and shift from a Medicaid program based on categories to one based on percent of poverty, do involve agenda disruptions and hence broadening.

Thickening and Broadening in Government Employment

We can look at the growth and spread of government from a number of angles. No matter how we look at it, we can recognize a silent revolution in the structure of government during the roughly thirty years from the 1950s through the 1970s. While various social movements also occurred during this time, perhaps more significant changes were taking place in the structure of government itself. Of course, these trends were related. It is important to note, however, that the trends toward increased government involvement in various aspects of social life began well

before the social events of the 1960s. These trends toward broader and thicker government continued through the late-1970s. Since around that time, the growth in government has largely stopped if not reversed. But the transformations that took place during the 30-year period from roughly 1947 to the late-1970s were enough to change the nature of government.

One of the standard conservative mantras is that the federal government is growing out of control. Yet when one looks at measures of overall growth, the pattern is more complex. We save a full analysis of the federal budget until next chapter, focusing now on federal employment. Figure 6.3, a stacked area graph of Defense and Non-Defense workers, shows the post-war federal government's employment.

The impact of World War II on *civilian* employment in government, not just defense employment shows clearly in the figure. Civilian employment in the federal government rose from approximately 443,000 in 1940 to 777,000 in 1947. Military employment, of course, rose much more, but after the war it declined closer to its pre-war base. Civilian employment ratcheted up by 75 percent during the 1940–47 period, then remained relatively close to its peak level for years after that.   From about 1955 until the late-1970s, civilian employment rose steadily, from 673,000 in 1955 to approximately 1.2 million in 1979. This steady growth corresponded to a period in history when unprecedented numbers of new issues were rising on the government agenda. Finally, these trends were reversed. Federal employment did not grow inexorably, but rather was stopped after a generation of steady increases, after approximately 1979. Rapid declines in military employment more than offset increases in civilian employment, and civilian bureaucracies stopped growing after the 1970s as well. Overall federal employment reached 3.4 million in 1945, declined to 1.4 million in 1950, rose to 2.3 million in 1969, then declined to reach a low of 1.8 million in 2000 and increasing to 2.1 million in 2009. The trend

most of interest in Figure 6.3 is the dramatic increase in civilian employment from the mid-1950s through the 1970s.

Just as dramatic is the reversal of the trend beginning in the late-1970s. Perhaps surprisingly, the overall employment figures for the executive branch is lower today than in the 1980s, or even the 1960s, even though the country is much more populous and richer than then (and these factors are associated with more government). Part of this is due to the "hollowing out" of government—the replacement of government workers with private contractors. These figures are difficult to trace, so we can't say much about this. We can say, however, that the main reason that government employment has not grown since the mid-1960s is the steady decline (until 2006) of civilian Defense Department workers. This has been matched by a steady growth of non-Defense workers.

Figure 6.3: Defense and Non-Defense Civilian Employment in the Executive Branch of Government

So what is the beef? If we return to the distinction between thickening and broadening of government, we find that the old issues mostly subject to thickening have added few new government workers, but the new issues that come about through the agenda politics associated with broadening have added workers in a major way. Figure 6.4 charts the growth of federal civilian employment in four older issues (Panel A) and three newer issues (Panel B). In the older issues, Veterans' Affairs, Agriculture, Interior, and Treasury, government involvement was established prior to the Second World War. The newer issues, Health and Human Services and Education (tabulated together by OPM), Justice, and Homeland Security, became prominent political issues after the Second World War by taking on major new (and often controversial) responsibilities.

Figure 6.4: Civilian Employment, Old Issues (Panel A) and New Issues (Panel B)
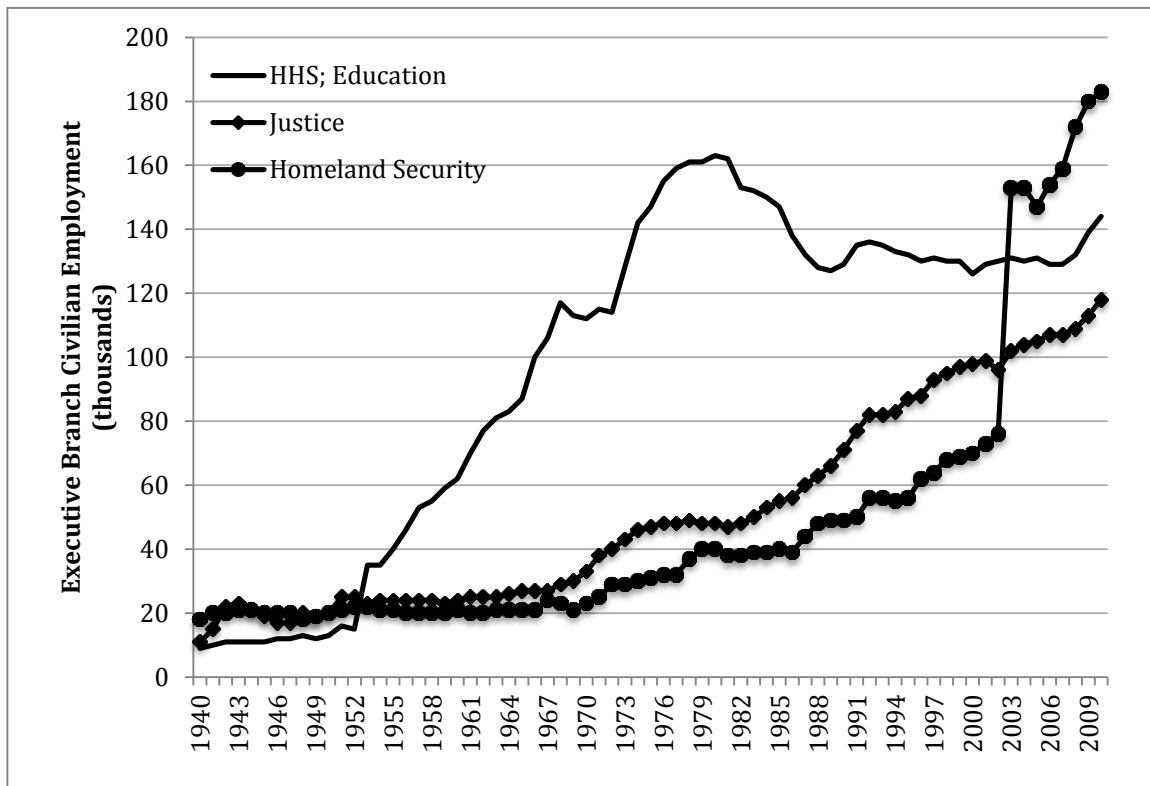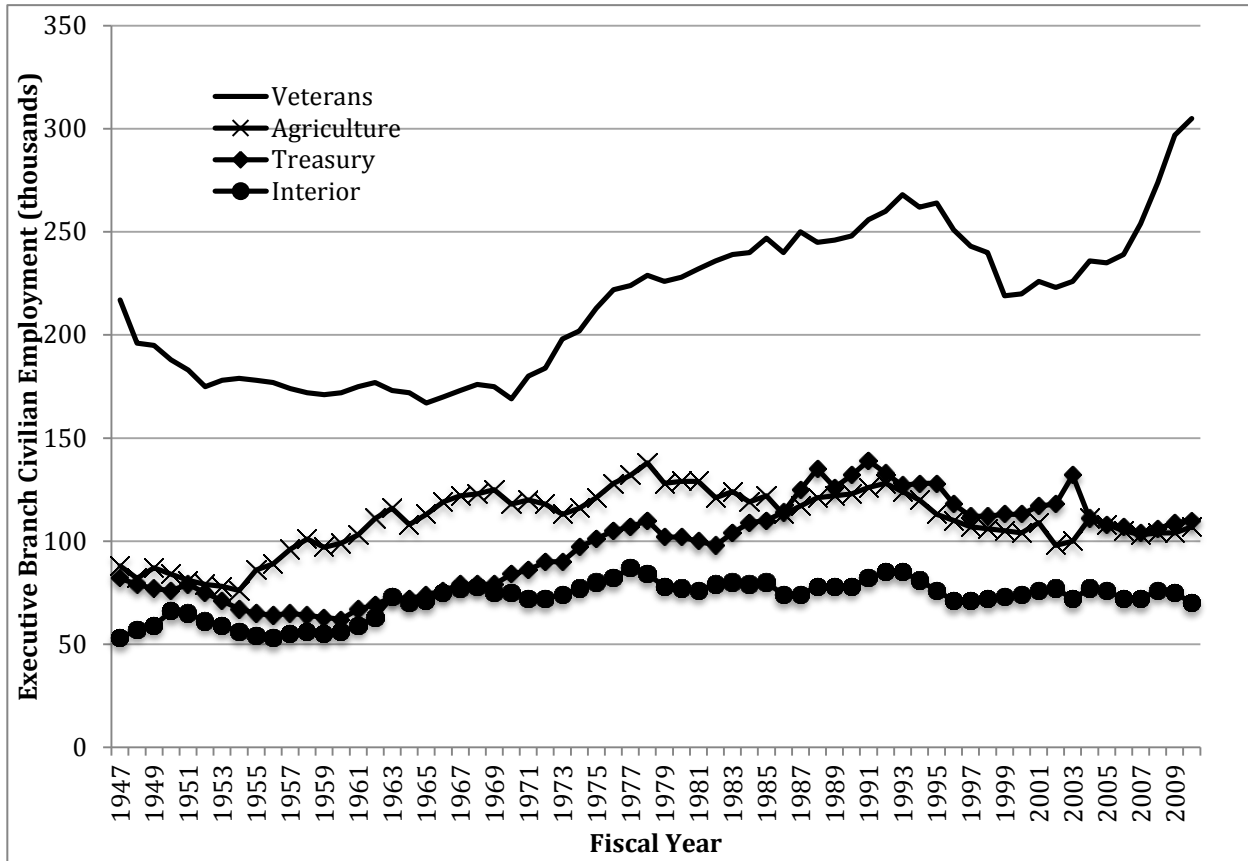
Source: Calculated from US Office of Personnel Management, Federal Workforce Statistics, Historical Tables (http://www.opm.gov/feddata/HistoricalTables/ExecutiveBranchSince1940.asp).

None of the established policy areas increased employees by more than a third. Another older policy area, Transportation, which is not depicted in Figure 6.4 because it was not tabulated separately until 1968, did not grow at all. Among these agencies, the thickening process was modest indeed. The operative policy subsystems perhaps protected turf, but they were not able to add substantial numbers of employees to carry out their assigned responsibilities.

On the other hand, the newer policy areas added employees in great numbers. Justice grew from around 20,000 employees in 1967 to 120,000 by 2007. HHS and Education experienced rapid growth in the 1950s, 60s, and 70s, before leveling off and even declining. Homeland Security (that is, the agencies that were combined in 2003 into the Department of Homeland Security) began to grow incrementally beginning in the 1970s, but exploded after 2001. Indeed, as the overall government figures indicate, the period after 2001 was a period of substantial broadening of government, particularly in the areas of homeland security and clandestine intelligence.

The Growth and Organization of Clandestine Intelligence
There is one area of government growth that is not fully traceable through standard sources: clandestine intelligence. In their book, *Top Secret America*, Dana Priest and William Arkin document the ever-expanding network of government agencies and private contractors that operate under the veil of the highest level of secrecy granted under Executive Order 12356. In addition to the numerous government agencies operating under some form of secrecy, Priest and Arkin documented over 500 companies who had contracts with these government agencies doing top secret work. Priest and Arkin (2011:12) write that "Top Secret America, its exponential

growth and ever-widening circle of secrecy, had been set in motion by one overwhelming force: the explosion in the number of covert and clandestine operations against al-Qaeda leaders and people suspected of supporting them."

Whatever one thinks about this intrusiveness—necessity to protect Americans from harm, or violation of basic Constitutional rights—the clandestine intelligence services represent the probably the broadest and most intrusive incursion into the lives of ordinary Americans in recent years. Second, it was generated by a serious and visible problem. Third, it enjoyed considerable support from members of both political parties. Fourth, the initial growth spurt, and much of the following growth in the area was generated by agenda politics—a major expansion of the more limited (in hindsight) clandestine activities that were established during the Cold War. This is not to say that subsystem politics—the network of intelligence agencies, congressional supporters, and contractors—did not contribute to the pattern, nor that the parties did not differ on critical components of the issue. At base, however, the discovery and definition of fresh problems are a critical component of government growth, and that the parties have collaborated in many of these expansions.

The emergence and fading of problems on the agenda as they are defined and addressed by government causes an ebb and flow of attention to these issues at the expense of other issues. In the previous chapter, we documented that process for a cluster of new domestic issues. Figure 6.5 offers a different perspective: the emergence, fading, and re-emergence of espionage, terrorism, and civil defense as topics of major interest to Congress. The figure graphs four Policy Agendas Subtopics of relevance. Three of these center on military intelligence, civil

defense, and terrorism, and one on civil liberties.[31] Two major peaks of intense interest occur:

the 1950s, generated by the Cold War competition with the Soviet Union, and the 2000s, caused

by the 9/11 terrorist attacks on the US. Anti-Government Activities (under the major topic Civil

Rights, Minority Issues, and Civil Liberties), peaks at much higher level in 1954, and faded from

view by the early 1970s, but all tend to travel together through time.

Figure 6.5: Congressional Hearings on Espionage, Terrorism, and Civil Defense
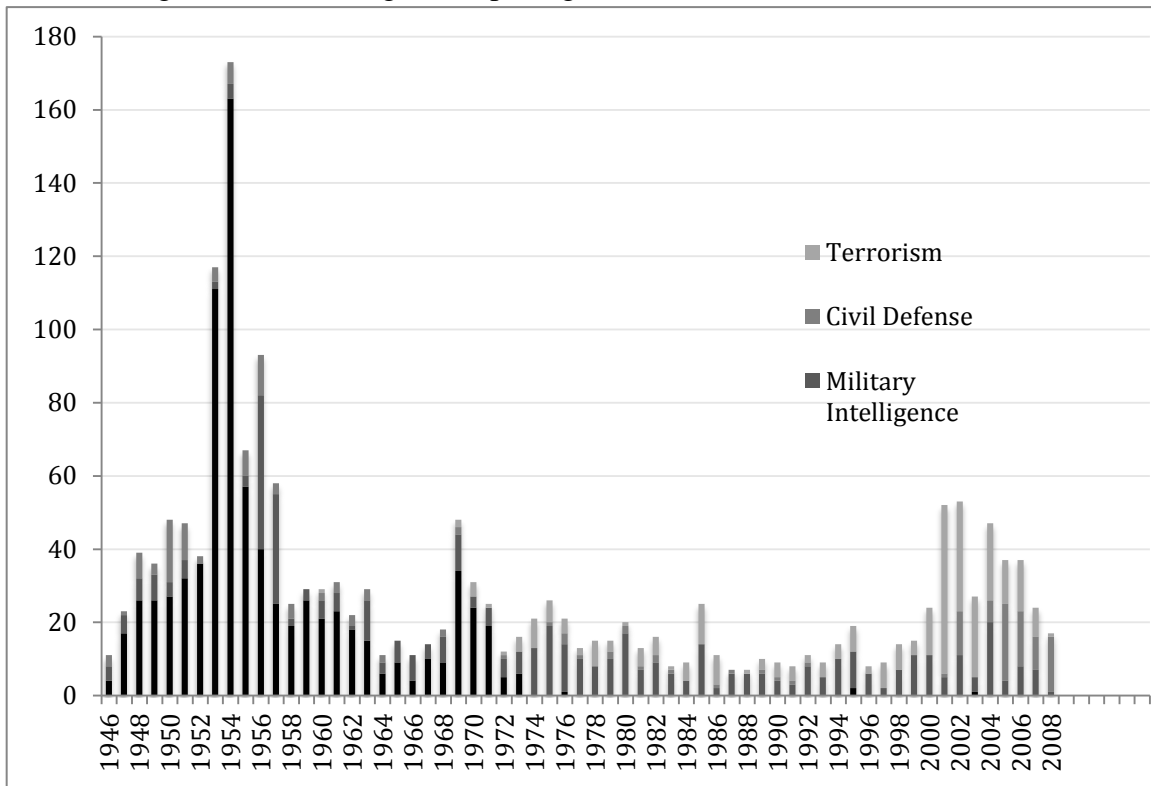
Source: Calculated by authors from Policy Agendas Project datasets.

Figure 6.6 details hearings and laws on civil defense issues; not surprisingly, laws passed

track congressional interest as indicated by hearings activity.[32] The two strong peaks of hearings

are matched by two more intense periods of writing and passing laws. It perhaps should not

---

[31] Military Intelligence, CIA, and Espionage (Defense); Civil Defense (Defense); Anti-Government Activities (Civil Rights, Minority Issues, and Civil Liberties); and Terrorism and Hijacking (International Affairs).

[32] Laws are presented as percentages of totals because of the tendency for laws to become larger and for fewer to be passed through time.

surprise us that laws follow hearings, but there remain some political scientists and others who

maintain that hearings are simply symbolic activities and do not result in more substantive

action. Budgetary commitments to the aggregate intelligence activities of the US government

cannot be traced reliably, because no figures were released prior to Fiscal Year 1997. At that

time, the aggregate intelligence budget was $26.6 billion (CIA FAQs); by 2010, the aggregate

budget was estimated to be $80 billion (Global Security.Org).

Figure 6.6: Congressional Hearings and Laws on Civil Defense
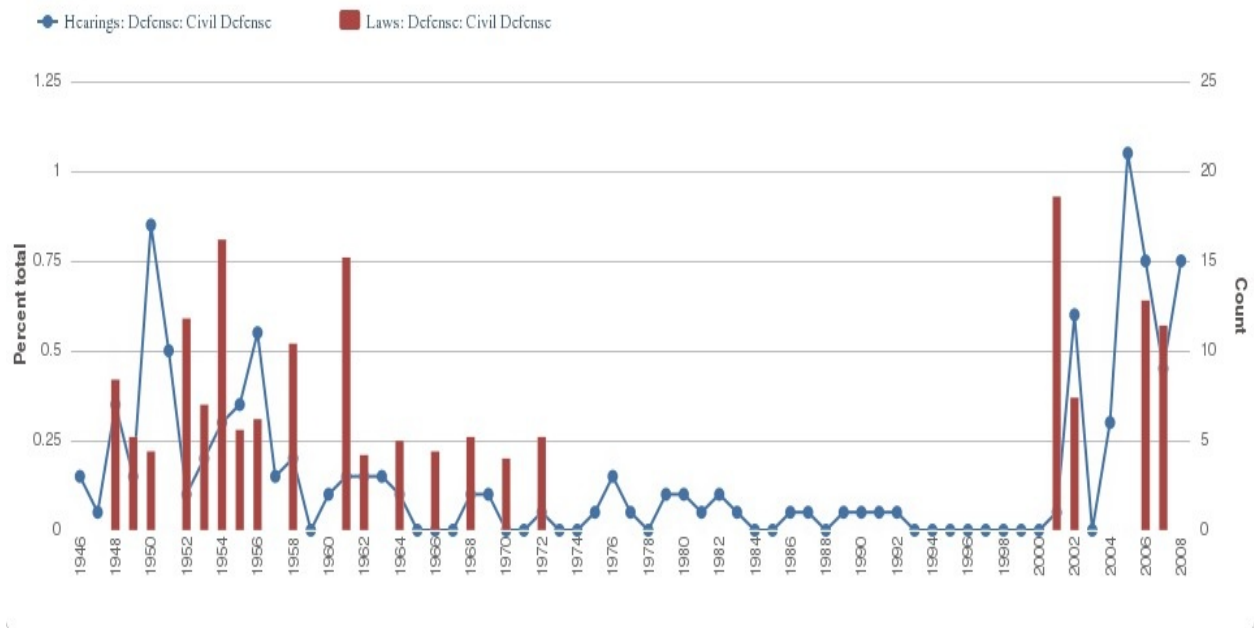
Source: Calculated by authors from Policy Agendas Project datasets.

During each of the two peaks of intense focus, government took on major new

responsibilities associated with detecting foreign and domestic threats. In each case, advances in

technology were both generated by the problem and pushed government's requirements for more

intervention. In each case, government grew rapidly as a consequence not of the successes of the

intelligence subsystem (that should have resulted in more sustained incremental budgetary

growth rather than the apparent bursts of appropriations), but because of the emergence of

serious problems that required addressing. Naturally the proponents of more government within

178

the subsystem utilized the new problem to their budgetary advantage, but the process began with 9 / 11.

The Intelligence Community (IC) consists of sixteen agencies within six cabinet departments (Defense, State, Treasury, Justice, Energy, and Homeland Security); the Central Intelligence Agency (CIA) is an independent agency. The numerous overlapping intelligence jurisdictions would seem to provide optimal structure for the production of information, and indeed we believe that it does. There are of continual calls for hierarchy, structure, and "rational organization" to the sprawling mass, but even in the supposedly more hierarchical arrangement established and re-established by amendments to the enabling statute, the National Security Act of 1947, and executive orders over the years (most recently by the Intelligence Reform and Terrorism Prevention Act of 2004), considerable bureaucratic autonomy remains.

Nevertheless, there are issues particular to the intelligence domain that make competition among agencies less effective in generating information. In the normal flow of information in systems of overlapping jurisdiction, there is an implicit competition that encourages a potential supplier of information (whether that supplier is an public agency, interest group, or other entity) to produce information. Otherwise the entity loses out to a competitor in the issue definition process. This dynamic is muted in the case of intelligence agencies because of the secrecy surrounding the process. Only a limited number of congressmen have appropriate clearance to receive the information, and they jealously guard this prerogative. As a consequence, jurisdictions are considerably more fixed than in domestic affairs. Leaks of information are punished, which facilitates censoring of attributes. This secrecy leads to accusations of failure to share information and "petty bureaucratic politics." We don't doubt that these very human tendencies are part of the process, but we strongly suspect that the inability of analysts to weigh

the value of the information in an environment where the information is cannot be made generally available, hence limiting feedback to a few select decision makers, is even more important. While the overlapping jurisdictions may aid the production of information, the secrecy of the system detracts from gaining knowledge from the information.

Social Problems and Government Growth

Two general conclusions emerge from our analysis of government growth thus far:

Much of the growth of government is due to the broadening of government rather than thickening. Older more established issues grew more slowly than the newer issues in which government took on new responsibilities. This is true both for domestic issues and defense issues, although they trace different patterns though time. It is also the case that any broadening of government has tended to lead to subsequent thickening.

Much of the growth of government comes about because problems are recognized and addressed, not because one philosophy or platform prevails over another. While many accounts of increases in the depth and scope of government center on differences between political parties, the preferences of elected governmental officials, and philosophies and ideologies of the role of the public sector, we stress a competing account. Much of government growth has only tangentially to do with the prevailing accounts. The one "old issue" that added the largest number of employees is Veterans' Affairs, yet that issue has not divided the parties. Among the new issues, the growth in Justice employees was mostly due to the increased federal involvement in crime control, again an issue that crossed the partisan divide. The biggest increases in the scope of government in more recent times have centered on Homeland Security and Intelligence; again these are increases in government scope that were responsive to problems that most

political actors saw as pressing and worthy of vigorous policy action. And in these cases,

Republicans have generally been more supportive than Democrats.

This does not mean that these new functions are uncontroversial; often they are. We are

not questioning the notion that ideologies and policy preferences are important in politics. But

many times preferences are activated within a framework of problem identification, and in the

identification of problems information is critical. Nor do we mean to imply that the policy

activities directed at the problems are proportional to the intensity of the problem in light of other

competing problems that simultaneously require attention. Indeed, the whole notion of

"disproportionate information-processing" (Jones 2001; Jones and Baumgartner 2005) implies

that this is almost certainly not the case. Rather the system tends to lurch from under-reacting to

a problem (when it is off the policymaking agenda) to over-reacting to it. For many analysts the

vast build-up of the clandestine intelligence infrastructure and the extreme secrecy that surrounds

it is exactly this kind of over-reaction (Priest and Arkin 2011).

The Creation of Administrative Agencies

The broadening of government generally results in the development of a much more robust

administrative state. Congress creates agencies not only to implement the programs enacted by

Congress, but also to continue to monitor and alert Congress to any needed changes in programs

(Workman 2012). Figure 6.7 charts the percentage of congressional hearings that included

consideration of creating new government agencies. The now-expected pattern emerges:

Congress considered agency creation disproportionately during the Great New Issue Expansion.

The process peaked in the mid-1970s and subsequently fell. With ups and downs, the process

stabilized at a lower level and continued until the early 1990s, when it ceased for all practical

purposes, interrupted only occasionally (such as the debate creation of the Department of Homeland Security in 2002).

Figure 6.7: Congressional Hearings Considering the Creation of Government Agencies
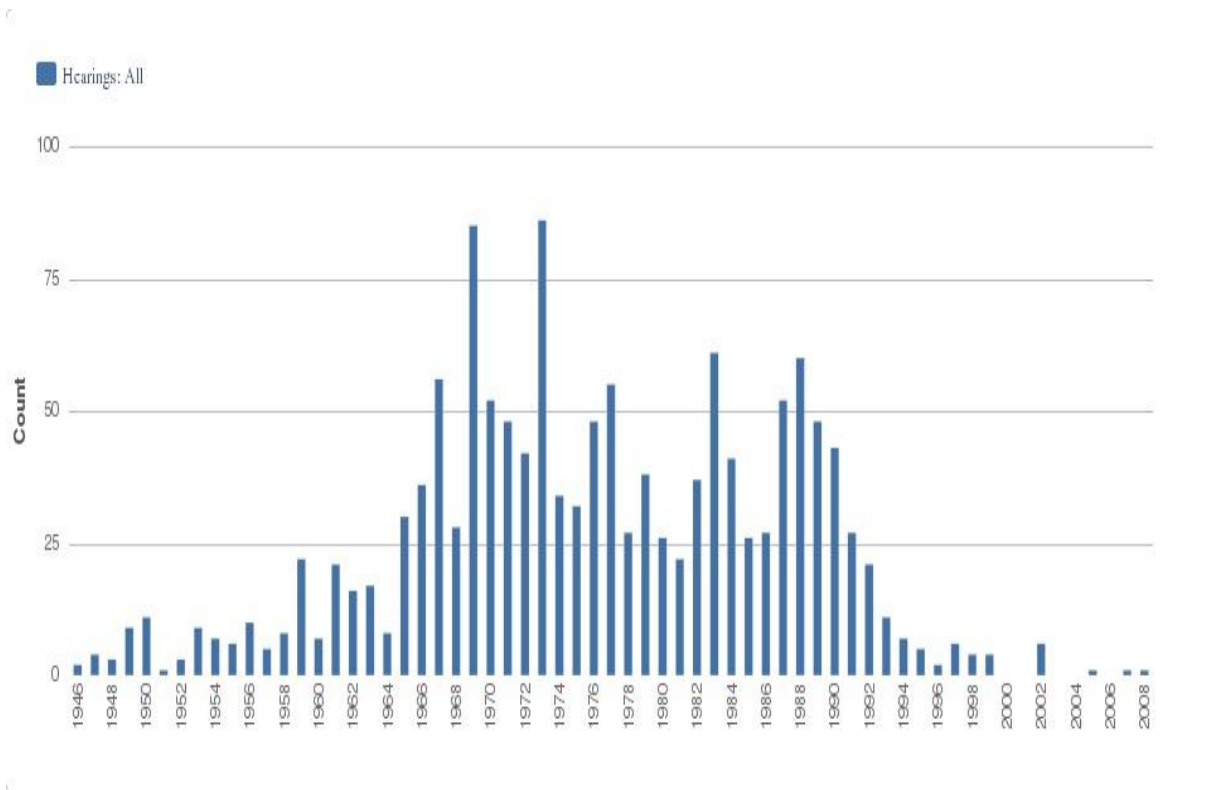
David C. Lewis (2003) provides the most complete description of the growth of the administrative state in the post-war period. His analysis of the creation, destruction, and design of various administrative agencies puts the emphasis on how agencies are created with the express purpose of insulating them from presidential control. From the National Transportation Safety Board to the Federal Election Commission, congressional and presidential decision-makers have wanted to create professional agencies that adhere to relatively neutral standards and are immune from presidential control. Of course, within executive agencies as well, there can be conflict between professional staff and presidential appointees. But one striking element

of the post-war period has been the multiplication of independent sources of bureaucratic power.

Figure 6.8 shows Lewis' data on the creation (and elimination) of executive branch agencies.

Figure 6.8: The Growth of Executive Agencies

Data from David Lewis
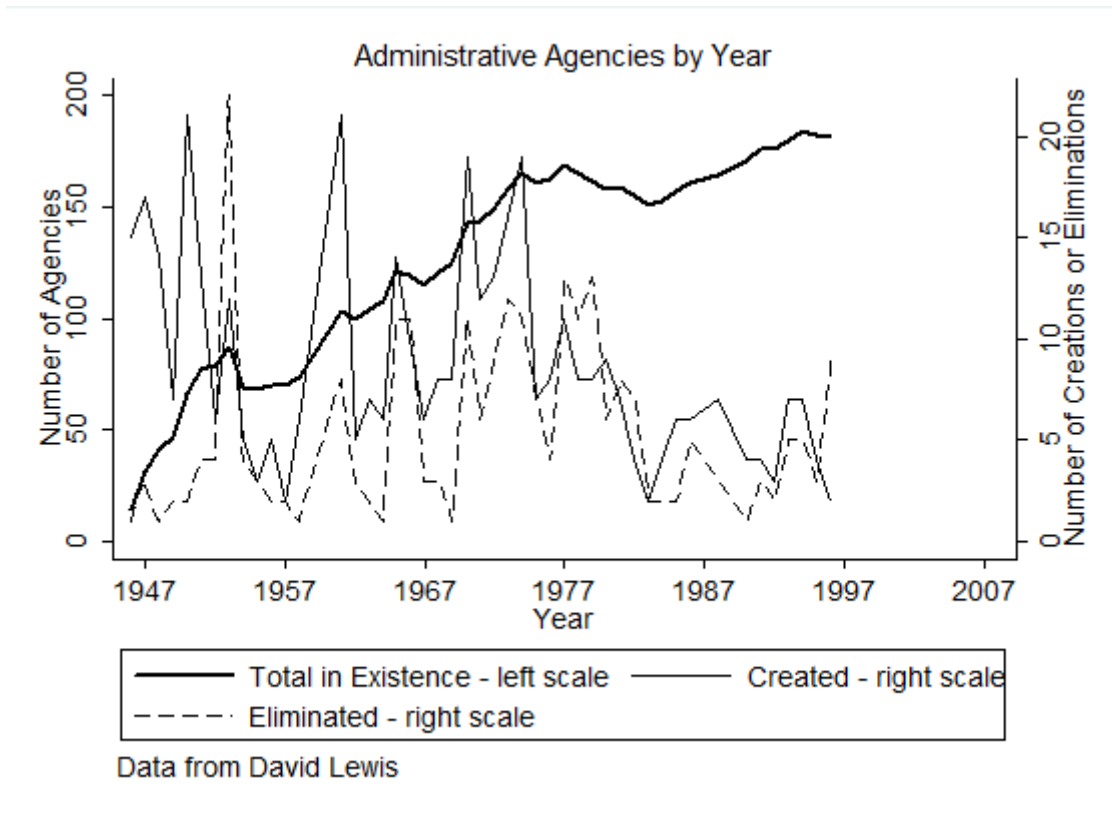
Fifteen executive agencies were created in 1946 and one was eliminated in that year. For the next twenty years, agencies were created and dismantled at such a pace that 146 more such organizations existed in 1974 than immediately after the war. In fact, as the figure makes clear, the idea that organizations are not eliminated once they are created is a myth. From 1946 to 1974, 143 executive agencies were disbanded, according to Lewis' figures. The net growth of 146 new organizations is based on 290 agency creations. Clearly, the two decades that followed the end of World War Two were a period of great expansion of the federal regulatory state. Agencies of many types were created, from the Air Force and the Central Intelligence Agency to

the Maternal Child Health Bureau and the Office of Bilingual Education and Minority

Languages Affairs. Just as important, scores of agencies were eliminated. Massive shifts took

place in the structure of government, but the net result was a much thicker administrative

structure as organizations were created to oversee and implement policies that did not exist

before World War Two or which took on much larger importance as the economy grew, the

population grew more diverse, and the state took on scores of new functions.

The distinction between thickening and broadening can be traced in Lewis' data—indeed,

agency creation is one direct estimate of administrative broadening. In the late-1970s, the

broadening of the administrative state levelled off and declined, and when it resumed a decade

later, the process was far more muted. Legislation comes about as a consequence of government

directing attention to problems; agencies are created both to implement the programs created by

the legislation and to continue to monitor problems in the area.   The net creation of federal

agencies parallels the great broadening of government between the late-1950s and the late-1970s

(indeed, Lewis' data suggests that agency creation may have begun earlier).

A Management Explosion

Modern government is not just bigger, but it has more executive-level managers, and the rate of

growth in managerial employees has been greater than growth in general employment. Paul

Light (1999, 70–72) shows a 400 percent increase in the numbers of senior administrative

positions in the federal executive from 1960 to 1992, with most of the growth coming in the

early part of that period. From 1960 to 1992, the number of employees with the title "deputy

undersecretary" grew from 78 to 518. Similarly, there were four individuals with the title

associate assistant secretary in 1960, but 208 in 1992. There were 52 deputy administrators in

1960, and 190 in 1992. In all, Light counts 452 senior administrators in the federal bureaucracy in 1960 and 2,408 in 1992.

As federal bureaucracies have grown, successive presidential administrations have added new layers of presidential appointees. As the president has exerted more control through these mechanisms, Congress has reacted by increasing its oversight of the bureaucracy (Aberbach 1990), further increasing government but also increasing the supply of information about public problems and programs. Congress also responded to the growth in executive employment by creating more independent commissions and agencies that are harder for the President to control. And all the while state and local governments have exploded. The net result of these changes, which were particularly stark during the period from 1960 to 1980, is that the government has both broadened and thickened. It has become denser and more complex as its functions have multiplied.

More Congressional Oversight

As the executive branch grew and as the number of federal agencies blossomed, Congress had to respond or else lose the capacity to be an equal player with the executive branch. As we noted in Chapter 4, lawmaking hearings declined after 1978, but nonlegislative hearings, including oversight hearings, continued unabated. In 1949 Congress held 1,287 hearings, of which 1,043 or 81 percent, were associated with bill referrals. Just 244 hearings were focused on overseeing federal agencies, assessing the severity of social problems, or on other topics that did not involve active consideration of a legislative bill. These percentages were generally in the area of 60 / 40 toward referral hearings until the late-1960s. In 1971 for the first time there were more oversight than referral hearings, and this trend then accelerated until in 2005 fully 89 percent of the hearings were unrelated to the consideration of a particular piece of legislation.

Why would Congress now devote the bulk of its hearing time to monitoring problems, discussing the severity of various social indicators, and overseeing the activities of federal agencies rather than to considering legislation? Most obviously, there is much more to oversee. With the multiplication of new programs, new agencies, and scores of issues that were once not part of the political agenda, there is simply much more to do.

State and Local Government Employment

With public and congressional pressure to limit the size of the federal bureaucracy, we have seen great use of government contracts, grants, and privatization of services. Paul Light (1999, 38) notes that if we consider not only employees directly employed by the federal government, but also adjust for those working on federal contracts, through federal grants, working in states and local governments on projects mandated (but not necessarily funded) by the federal government, and adding the Postal Service and the military, we see approximately eight times greater employment. From 1.9 million direct civilian employees at the time of his estimate, he suggests a more accurate total of 16.9 million federal or federal-related employees.

Moreover most of the growth in public employment has not been at the federal level but at the state and local levels. Figure 6.3 shows total employment from 1940 to the late-1990s.

Figure 6. 9 Local, State, and Federal Government Employment.

Number of Government Employees
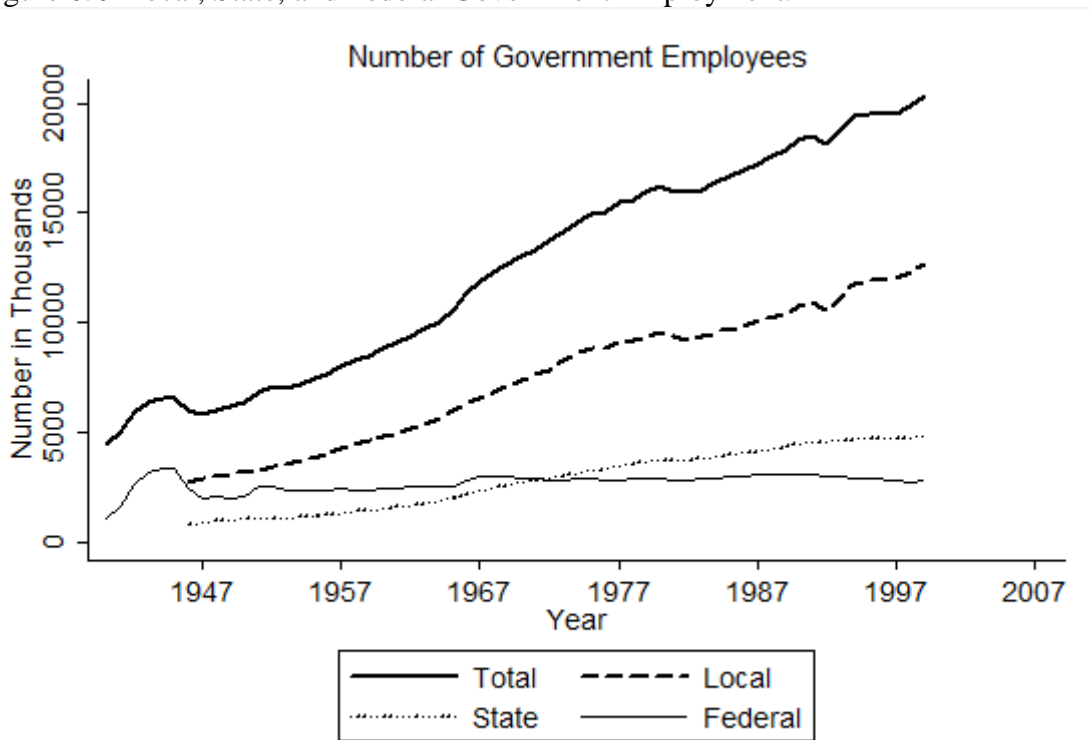
Source: Historical Statistics of the United States

Local governments expanded as well in the period following World War Two. Whereas in 1947 their total combined employment was only slightly greater than that of the federal government (2.8 million local government employees, 2.4 million at the federal level), by 1960 the number of local employees had grown to 4.8 million whereas federal employment remained at the same level. By 1980, there were 9.6 million local government employees, 2.9 million at the federal level, and 16.2 million employees including state governments as well. As Light's analysis reminds us, there could be others as well working on federal grants or through federal mandates that are not counted in these estimates. However, the timing and the vast scope of the expansion is clear no matter what particular numbers we use.

One of the facets of American federalism is that when the federal government initiates new programs, it often relies on the states to implement them. The primary mechanism is the grant-in-aid, with the federal government providing monetary incentives to the state to

implement programs initiated at the center and laden with rules and guidelines for the administration of the program (every federal dollar comes with strings). A major consequence of this is the increasing complexity of programs with states having substantial discretion in many programs but having to meet federal guidelines.

The "grant-in-aid state" was a product of the 1930s and the New Deal, but the US vastly expanded its use after the Second World War. Indeed, increases in the total federal grants to state and local government paralleled the vast broadening of the federal government, as Figure 6.10 shows. In 1957, federal grants as a percentage of GDP was under 1 percent; that percentage rose from 1958 until it peaked at 3.5 percent in 1975. After a steady fall until 1988, the percentage grew with ups and downs until in 2010 it reached 4.1 percent—both as a consequence of declines in the GDP in 2008 and 2009, and because of the impact of the 2009 stimulus bill. The result is a far more complex and overlapping system of government

Figure 6.10: Total Federal Grants to State and Local Governments as a Percentage of GDP
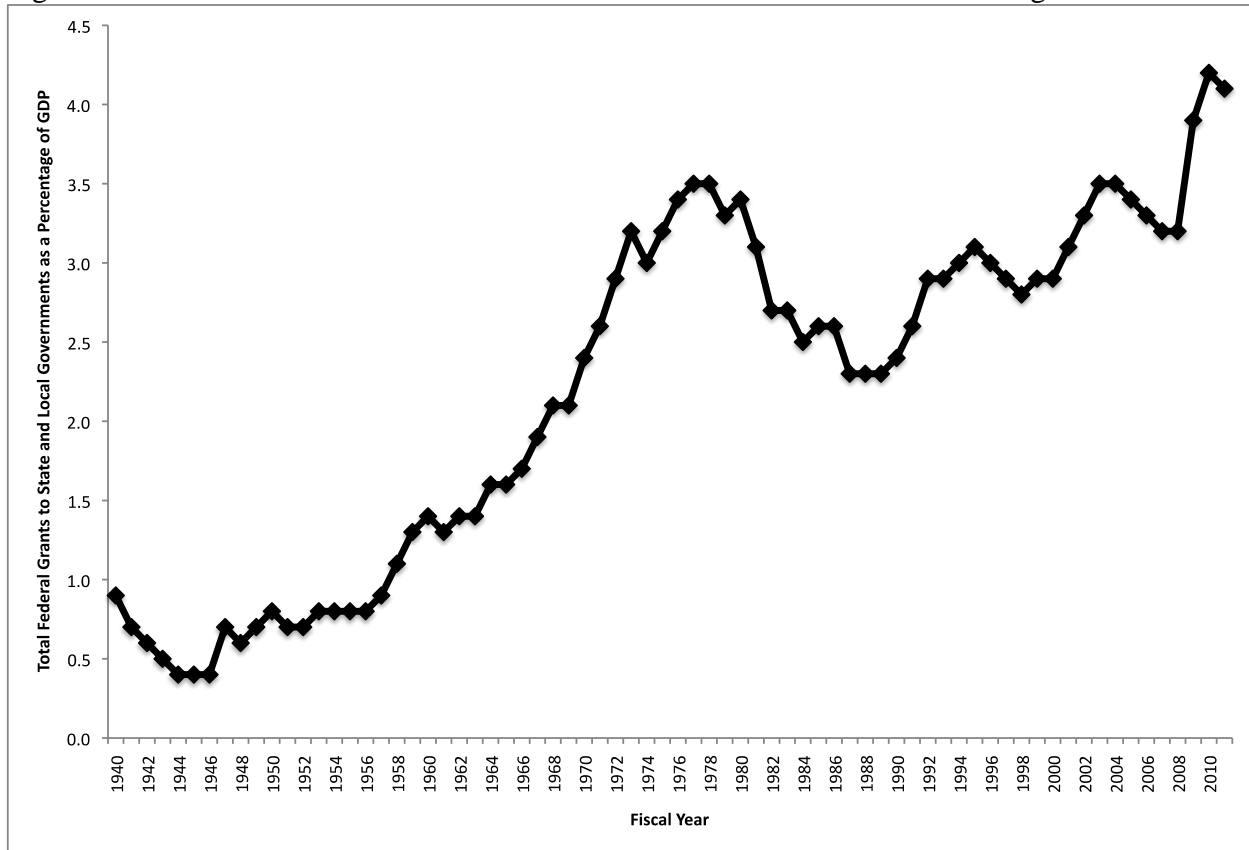
Source: Office of Management and Budget, Historical Tables, Table 12.1

Not Just More Government, More Governments

"The government" is made up not just of the three branches of the federal government and the 50 states, but includes thousands of local authorities and an increasing number of specialized governments, also at the local level. There has been no growth (but also no significant decline) in the number of counties, municipalities, or towns / townships over the past decades. The number of independent school districts actually declined substantially in the decades following World War Two as thousands of smaller districts merged into "unified" or "consolidated" school districts. Still, when the US Census Bureau surveys and enumerates local governments in the US, it reports over 87,000 units.

States, counties, and municipalities or towns / townships are relatively stable parts of the structure of federalism in the US. These multi-function government units employ the police officers, fire fighters, building inspectors, judges, bus drivers, and other civil servants that make things work. Nowhere is the American love of localism in government more apparent from the simple fact that we have over 13,000 independent school districts (and more than 1,000 "dependent" ones, integrated into their city government). As noted above, these numbers actually declined from over 67,000 in 1952 to less than 16,000 by 1972; this was a period of dramatic consolidation in school districts (US Census 2002, Table 5). But the table makes clear that the most common type of government in the US is one most Americans have never considered: Special purpose districts. The country has over 35,000 of these.

What is a special purpose district? It might be an agency created by several counties together to manage an airport. It could manage a region's public hospitals, libraries, or public parks. It could provide electricity or clean drinking water to a set of municipalities each of which is too small to provide these services in a cost-effective manner only to its own citizens. Its leaders may be appointed by state officials or elected. A general-purpose government (such as a county) is involved in all types of services. Special purpose governments and school districts, by contrast, have a limited mandate to be involved only in one area of public service. With the huge numbers of local governments of all types, and with the increase in the numbers of special purpose districts, it is clear that there are not only more government employees, but that there are more government entities. Special purpose governments grew from less than 12,500 in 1952 to over 35,000 in 2002.

Too Much or Too Little Government?

At any point in time, it is difficult to judge whether there is too little or too much government intrusion into the economy and society. The adaptive systems perspective, however, suggests that there is some sort of ideal level of intervention—although that level varies greatly by issue and time, is plagued by difficult and often unrecognized tradeoffs, and is infused with high levels of uncertainty. Moreover the practical problems of interested parties bringing biased information to the table and the requirements of supermajorities to achieve action increase the probability that the optimum level of government will not be achieved.

The theory of disproportionate information processing points to a pattern of under and overreaction to information, and this leads both to too little and too much government. This variability is inconsistent across issues—in the same administration, one area may be overregulated and characterized by unnecessary spending, and another may be neglected and hence under-regulated and suffer inadequate levels of appropriation. Because responses to information tend to be disjoint, inconsistencies develop. Yet, as we have shown, government in some eras searches more aggressively, finds more problems, and produces more public policies than others.

Everyone has his or her favorite story of inadequate government ("why doesn't the government do something…," and almost as many have anecdotes of overbearing government. These stories may exaggerate, but they are often pretty near the mark. It is difficult, however, to know when government is under- or over-supplied, just as it is difficult to recognize asset bubbles, which occur when prices for assets, such as commodities or stocks, get out of line relative to values. As the housing bubble of the 2000s developed, the Federal Reserve argued whether it was a bubble or reflected underlying economic realities, and Federal Reserve Chairman Alan Greenspan (2004) downplayed indicators that a bubble was developing.

Similarly, political actors dispute that an intervention by government is needed on all sorts of issues. The debate surely reflects interests and ideologies, but it also reflects the certainty that government both under-reacts and overreacts but the great uncertainty concerning which it is doing at any one point in time relative to a particular issue.

One of the key responsibilities of congressional oversight at its best is detecting this pattern of under- and over-reaction. As we have documented at various points, the Department of Homeland Security was born out of a sense of urgency following 9 / 11. It suffered from attempts to focus diverse agencies to focus on a single issue—counterterrorism, when the component agencies performed many diverse functions—leading to declines in performance (May, Workman, and Jones 2008). It centralized management to accomplish this, leading to high variability in output. And, as a recent report from a subcommittee of the Senate Homeland Security and Governmental Affairs suggested in a devastating critique at counterterrorism "fusion centers," set up by state and local governments to coordinate activities concerning the detection of potential terrorist activities, the program has been enormously wasteful, with the Department of Homeland Security unable to account for the money it spent, and the local fusion centers producing little useful information and considerable faulty information on innocent citizens. "National security programs tend to grow, never shrink, even when their money and manpower far surpass the actual subject of terrorism" (Sullivan 2012). Yet in an example of the diversity of information that can exist within a multiplicity of jurisdictions, the Chairman of the full committee, Joe Lieberman, issued a press release critical of the report's conclusions (Majority Media 2012).[33]

---

[33] The Permanent Subcommittee on Investigations conducted the investigation at the request of Senator Tom Coburn, the ranking minority member of the subcommittee, and

No matter what disagreements there might be on the validity of the critique about our

nation's "fusion centers," one could hardly find a better example of over-government. There are

enough indicators to suggest that the counterterrorism activities of not just Homeland Security,

but the whole counterterrorism initiative by the Federal Government is far too large, expensive

and intrusive relative to the task. It is difficult to dismantle agencies and programs that have

grown as a consequence of real and severe problems, yet represent inappropriate responses (as

the agglomeration that is called the Department of Homeland Security almost certainly is) or

overinvestments of public effort (as the entire counterintelligence community probably is).

Over-reactions are so consequential that the politics of information suppression are an

understandable response, however frustrating to academics and others who would like real

problems to be openly addressed and discussed, with proportionate policy responses

forthcoming. But, in a way eerily similar to what we noted in an earlier work about the rapid and

enthusiastic expansion of civilian nuclear power (Baumgartner and Jones 1991), the policy

image of "protecting America" combined with restrictive institutional venues that keep

"unqualified" critics away may be enough to ensure that one cherished value—protecting

Americans—is over-stated while another—maintaining our domestic liberties—gets short

bureaucratic shrift. Ideas, institutions, and political agendas intertwine.

Diversity, Attention, and Control

Government today is larger, more diverse, and richer in information than it was two generations

ago. It is also more complex, more internally contradictory, more confusing, and possibly more

frustrating to those who would like to lead it. Growth in government did not stem simply from

existing programs getting bigger; rather it came from a multiplication of programs and activities

the Chair of the subcommittee, Senator Carl Levin, issued a statement supporting the
report (Media, Permanent Subcommittee on Investigations 2012).

in areas where government was once absent. From health care to the space program, from energy to transportation, programs have proliferated in areas where previous decades saw minimal activity or, more commonly, no activity whatsoever. With so many more issues simultaneously a part of the public agenda, and with more dimensions of each issue mobilized into the public discussion, the scarcity of public attention becomes more obvious. As government has grown and agencies have multiplied, their activities have become spread over so many diverse areas of public policy, compared to the early post-war period, so that the dynamics of attention-shifting and agenda-setting are even more critically important now than in the past.

Chapter 7

Budgetary Path Dependency and Disruption, 1791-2010

We have so far developed the ramifications of an information-processing perspective on government policymaking. We have argued that governments take on more policy responsibilities because of problems they face, and that a more diverse structure for detecting and defining problems is a superior system for adjusting to changes in the policymaking environment. Moreover, our analysis of the post-war period in the US in the previous three chapters strongly suggests that in some periods government is more aggressive in seeking out problems, that this search focus is associated with more diverse information-processing capacities within legislative committees, and that a more aggressive stance regarding detecting problems leads to larger government. While this stance is generally associated with US-style liberalism, it survived Republican presidencies throughout the period. After 2001 a Republican president with a supportive Congress aggressively sought out problems in the areas of national security and health care, expanding government accordingly. After 2008, a crisis caused the Republican Bush administration and then the Democratic Obama administration to intervene in the financial and automotive sections as never before. The policies governments pursue have as much or more to do with the problems they face than the preferences of the policymaking elites—and that holds especially true for the agenda-expanding policies that we have analyzed in the last two chapters.

In this chapter, we take a step back and examine expenditure patterns by the federal government since 1791. Government growth over the long term can be traced to three factors:

broadening, thickening, and response to crises. After the crisis, government may withdraw its intervention (as can be the case in war mobilization), or it may add new programs or build up old ones to address what is viewed as an on-going problem (for example, the commitment to military spending during the Cold War). That is, the result of crises can be broadening government, but it need not.

One note about crises: We are used to thinking about them as something very different from the norm, and in many ways they are. They involve a different level of threat and they require a more extensive response. But crises may also be seen as very extreme problems (and in some cases, may have been less severe had government addressed the issues raised by the crisis earlier). It may be fine to treat crises as such unusual events that we need have not theory to understand them. But in the long-run, crises come and go, and many of them are generated from within the process of government rather than exogenously imposed from the outside with no warning.

When we consider the entire system of government over time, we see alternation between periods of consolidation and innovation. During certain periods, the power of the status quo seems particularly high. At other times, strong challenges are presented and radical departures from the accepted ways of doing things are adopted. We examine disruptions in the status quo by looking at over 200 years of US expenditure history in this chapter and in more detailed analyses of the post-1947 period in the following chapter.

The struggle between information and control underlies any expenditure path. During periods when established ways of doing things maintain their ascendency, control is a myth. Problems and unintended consequences of current policies continue to develop, often completely unbeknownst to those in power. Eventually, perhaps during a period of external shock, maybe

after an election, or sometimes for reasons internal to the policy process, attention focuses on new ways of doing things, on the failure of the established systems, and on the need to consider aspects of established problems that were given short shrift in the previous regime. During long periods, shared assumptions about the proper role of government and the "right" ways of looking at established policy problems dominate, and administrative agencies steadily implement policies based on these widely held assumptions. Inevitably, internal or external shocks come to perturb these established paradigms, upending the long-held assumptions and discrediting the protectors of the status quo. New information floods into the system as political actors compete to establish a new paradigm or a series of them. New agencies are created, old ones are dismantled, and budgets are alternately expanded dramatically or slashed ruthlessly. We can see these dynamics in looking at the overall size of the federal government over the past 200 years just as we can see it in greater detail as we do in the next chapter.

The Long-Term Context

The long-term context shows that major disruptions have affected the entire federal budget as it has grown by huge increments during certain periods of time and been reduced almost as sharply at other times. The impact of major wars is obvious on the size of government, but wars do not affect only on defense budgets. And wars are not the only causes of important shifts in the size of our government. They are seized upon by those who argue that the crisis demands that we rethink basic assumptions even about such things as tax rates and the overall size and function of government in society or in the economy. Indeed, associated with virtually every major war in US history has been a permanent and powerful ratcheting upward of the size of government as measured by the proportion of GDP devoted to the federal budget. We turn first to a review of the overall size of the US government since 1791, and then turn to discuss the volatility of the

budget. Volatility, it turns out, comes and goes; certain periods are highly stable; others have

tremendous volatility as the status quo loses its organizing power at some periods but dominates

in others. These comparisons help us set the context for our more detailed explorations of the

post-1947 period.

Population and Economic Growth over Time

Before examining the growth of government spending it is worth a quick review of two other

elements: population growth and the size of the economy, as these set the basic parameters

within which we can interpret and understand the growth of government.

In 1791 the population of the US was approximately 4 million; by 2008 it had grown to

over 309 million. Population growth was typically in the range of 2 to 3 percent until the turn of

the 20th century when it declined slowly and steadily, with extreme dips during the first and

second world w ars. After a dramatic upward spike after World War Two, it has been in the

range of 1 to 2 percent during recent decades. Changes are gradual, growth is relatively

constant, and over more than 200 years that population has grown by a factor of about 75.

Growth was faster in the 19th century than in subsequent periods.

More important than population is the size of the economy. Government can grow

absolutely (in inflation-adjusted dollars) and still represent a smaller fraction of the total

economy—if economic growth exceeds the growth in government. Recall from Chapter 5 that

we argued that government can be much more intrusive than might be assessed by its economic

cost, because federal laws and regulations can affect most are even all citizens at relatively

modest cost. Nevertheless evaluating government relative to its dollar cost is a good place to

start.

Gross Domestic Product for the US in 1840, the first year when these data are available, was approximately $38 billion of economic activity in 2010 dollars, and the population was approximately 17 million. GDP surpassed $100 billion in 1863, $500 billion in 1903, $1 trillion in 1927, and $10 trillion in 1995. In 2010, the end of our series, the number stood at $14.6 trillion, with the population at 309 million. (All in 2010 dollars.) We can also assess per-person economic output. In 1840 the typical American generated $2,200 in 2010 dollars; GDP per capita grew to $47,000 by 2010. The average American in 2010 was producing approximately 20 times more goods and services than in 1840.

US Government Spending in the Long Run

No single source is available that tracks federal expenditure through US history, but from several available sources we have constructed a series of federal outlays from 1791 to 2010.[34] The procedures we used and assumptions we made are detailed in Jones, Zalyani, and Erdi (2012), and the data series is available through the Policy Agendas Project.

Measured in constant 2010 dollars, spending in 1791 was $99.0 million. With a population of 4 million, that works out to about $25 per person. In 2010, spending was just under $3.7 trillion dollars, the population was just over 300 million, and per capita spending for the federal government had therefore expanded to about $12,000 per person. Over the course of

---

[34] The only long-term historical data on the US budget are "outlays," which are payments entered when the expenditure occurs. In some cases, expenditures may not be entered at the same time that allocations are made (for example for purchases that take many years, as in large military contracts or large infrastructure projects such as dams). As a consequence, they are not always a good measure of government decision making, because link between the decision and the actual expenditure varies from topic to topic. For this reason, we prefer to use "budget authority," a measure of spending closer to the decision-making process, and do so in the next chapter. Outlays, however, are the only reliable totals available for the period before the Second World War. In any case, outlays and authority figures over this long period of time would track relatively closely.

US history, the population has increased by a factor of 75; spending per person, by almost 500; and overall government spending, by more than 37,000.

Figure 7.1 plots total federal government expenditures (in hundreds of millions of 2010 dollars) from 1791 to 2010, and Figure 7.2 compares GDP (in billions of 2010 dollars) and total federal expenditures from 1855 to 2010 on a single graph. Because both have grown so much, it is too difficult to detect changes at different times, so we present the data in logarithms. Logarithms offer a second advantage. A unit change on a graph in linear format is associated with an absolute change, but a unit change on a logarithmic graph represents a percentage change. A variable, such as GDP or expenditures, growing linearly across the years implies that a constant dollar amount is added to the base. If the variable is measured in logarithms, then linear growth implies that a constant percentage is added to the base.

Figure 7.1: Logarithm of Total Federal Expenditures, 1791-2010
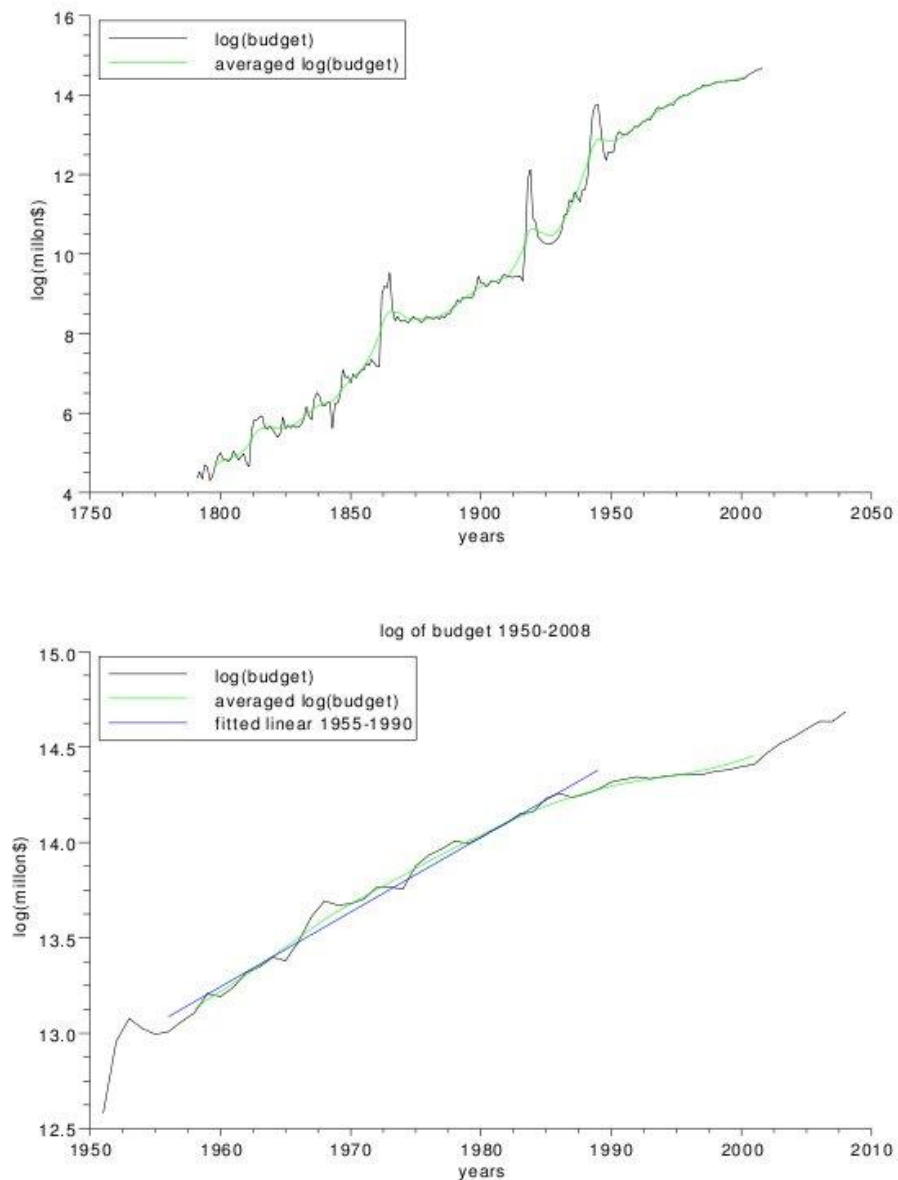
Source: Jones, Zalyani, and Erdi 2012

Figure 7.1 also depicts the period from 1950 to 2010. The close-up view of this period shows that after about 1988 there was first deceleration in expenditures, and then after 2000 an increase that in effect restored the earlier expenditure path. We will discuss this in more detail later.

Figure 7.2: Logarithm of US GDP and Total Federal Expenditures, 1840-2010
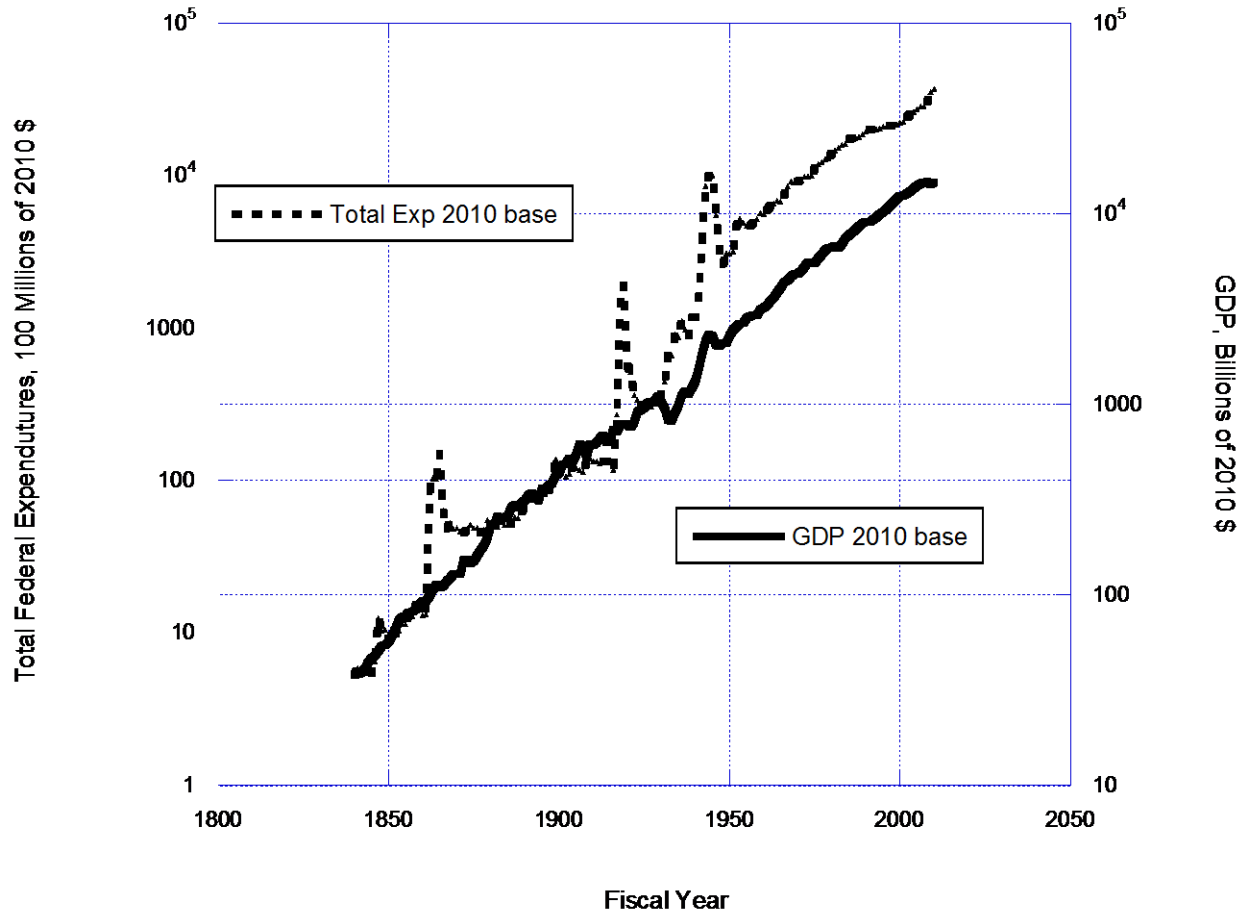
Sources: Total Federal Expenditures: see Jones, Zalyani, and Erdi 2012; GDP:

The graph also plots the two variables on different scales: expenditures are in $100 million inflation-adjusted dollars, while GDP is in billions. This allows for a direct comparison of the percentage growths in the two series.

The first thing one notes from Figure 7.2 is how much more variable the expenditure data is than the GDP data. Government moved in leaps at certain periods, but held steady or grew at a constant percentage rate for decades at a time during other periods. GDP, on the other hand, grew much more steadily, interrupted most severely by the Great Depression and the Second World War. One reason the series looks as stable as it does, however, is because the frequent

economic panics characteristic of the 19th Century recovered reasonably quickly, so that people involved in them did not feel that things were so stable. In addition, a percentage change in the entire economy is far more destabilizing to the fabric of the nation than a similar percentage change in government budgets. Nevertheless, the point remains: the political dynamics that lead to the budget path generate a far more unstable trace than do economic dynamics.

Figure 7.2 is noteworthy for another reason: the manner in which we adjusted the two series allows us to see when expenditures were growing faster than GDP and when they were growing at the same rate or more slowly. One sees clearly the spike associated with the Civil War, then a long period of growth considerably slower than GDP, until a second spike associated with the First World War. After a brief drop, inflation-adjusted expenditures rose to a peak during the Second World War, dropped to a rate consistent generally with growth in GDP. Expenditures, however, stayed permanently higher than before the Great Depression.

As a percentage of GDP, federal spending was no higher in 2008 as it was in 1952 (about 20 percent). So the rapid increase in the size of government, at least in the 20th century, did not come at the direct cost of personal income, but as part of the general rise in living standards associated with the rapidly expanding economy. Federal outlays in 1840 were approximately 1.6 percent of the Gross Domestic Product. The number spiked to almost 16 percent in 1865, then settled down to values as low as 1.9 percent in 1886, after a long period of relatively flat federal spending but rapidly rising GDP. In 1916 the size of the federal budget was no higher than it had been in 1886, 1.9 percent of GDP, but World War One brought about a rapid and sustained increase, further affected by World War Two, after which spending stabilized at a value around 20 percent, where it ends the series in 2008. Because of efforts to stop the growth of government and the rapid increase in the size of the economy, the figure shows a sharp decline

from a value of 25 percent in 1983 to just below 18 percent in 2000, before a return to 25 percent in 2010 as wars in Afghanistan and Iraq and the spending beginning in the GW Bush Administration increased the size of government.

If we look at the same data in expenditures per capita, we see virtually identical dynamics to those shown in Figure 7.2, suggesting that the intermittent process by which government has grown sometime slowly, sometimes by leaps and bounds is not a simple result of a growing population (which in any case could not explain that, as we saw in Figure 5.1 that population has evolved relatively slowly over time). Spending was on the order of $25 per person for the early years, moved temporarily to much higher levels during the war of 1812, was in the range of $30 to $50 until the Civil War when it spiked again, returning to a level of about $100 per person where it stayed for several decades. This period of stability was again interrupted by World War One, which inaugurated a period of steady growth in per capita spending, with spikes while the world wars were engaged, but with post-war spending remaining substantially higher after the wars than before. Spending in 1927 was just $300 per person, but it had increased by 1939 to $1,060. During World War Two spending reached $9,000 per capita, declined to $2,000 by 1948, and then increased relatively steadily to reach $12,000 in 2010.

There is no question that government is bigger, does more, and eats more sharply into our wallets today than it did two hundred years ago. But what was the nature of this transformation as we moved from a government that spent less than $25 per person to one that spends $12,000, one that represented less than 2 percent to about 20 percent of the economy? One thing we can say for certain that it did not occur by steady accretion. Rather, long periods of stability and respect for the status quo were occasionally disrupted by moments of large-scale change. During most periods, the overall size of the state is similar to what it was in the previous year.

Periodically during our long history, however, we have re-thought the very nature of what we expect from government. Huge shifts have come as, during certain periods, we establish many new programs and dramatically increase the scope of the state. Many of these were periods of war, and over its history the US has been involved in many large wars. Let us look at the impact of war on spending.

War and Spending

In the 235 years from 1776, when the War of Independence was already engaged, until 2010, the country has been at war for 50 years (21 percent of the time) and at peace 185 years. While each war was not equal in intensity, it is worth keeping in mind as we analyze the budget when we were at peace and when we were at war.

Figure 7.3 shows domestic and defense-related spending from 1791 to 2010. Federal spending spikes around 1812, 1860, 1918, and 1940; we need no special theory to explain these events. These massive conflicts had powerful impacts on the federal budget for the duration of the fighting, but their impacts were not only temporary. Wars appear to "ratchet up" governmental expenditures substantially relative to the baseline of expenditures before the wae (see Peacock and Wiseman 1967 and Jones and Breunig 2007). Is the "war ratchet" simply a matter of not being able to cut military expenditures back to pre-war levels once the war is over? Bartholomew Sparrow (1996) argues that the Second World War stimulated institution-building in both defense and domestic policy arenas as the war-based mobilization reverberated through government organizations and civil society. Theda Skocpol (1992, 1993) notes the impact of the Civil War on the early development of large social programs, especially pensions for war veterans and aid to widows and those injured in war. But the trends apparent in these data are more general than only aid to soldiers and widows. Defense spending may ratchet down when

the fighting stops, but the decline in defense spending is partially off-set by an increase in new domestic spending priorities. The huge amounts of money being reallocated from the private to the public economy during times of war may create opportunities for policy entrepreneurs that are not available during normal times. For example, policy makers might argue that too rapid a decrease in federal spending as millions of soldiers are decommissioned and sent into the civilian economy could have a depressive effect just when it is least needed. Government programs designed to help in the war effort may be refocused for peace-time use. In any case, we do not see the same level of decline in domestic spending after wars as we do in defense spending.

Figure 7.3: Logarithm of Defense and Domestic Expenditures
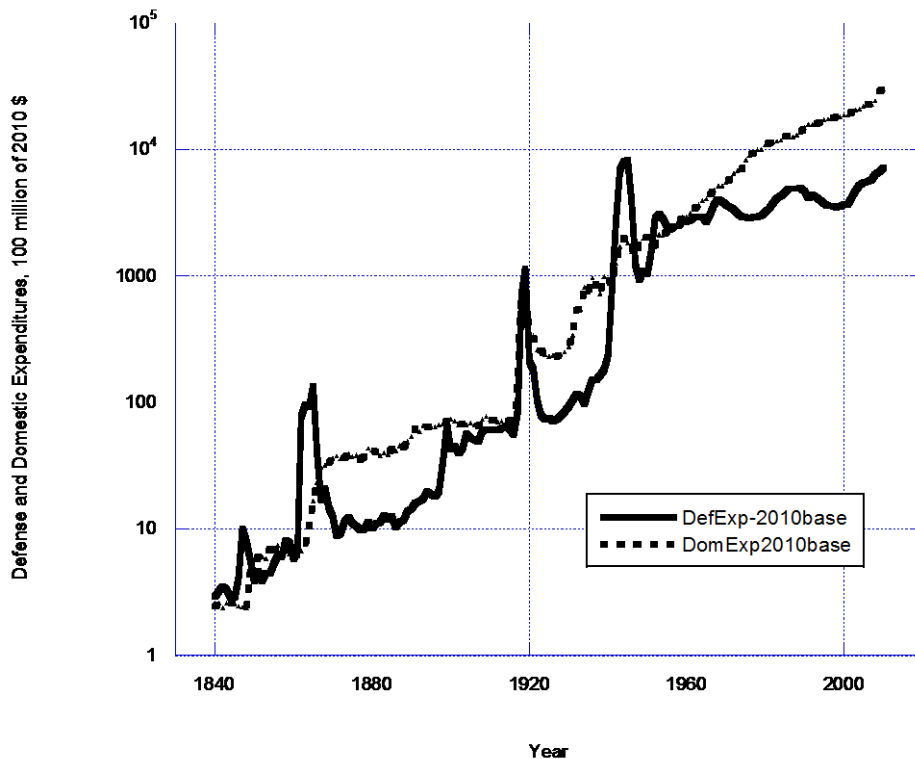
Figure 7.3 makes clear that military expenditures are substantially more volatile than domestic spending and more strongly affected by war, as one would expect. However, domestic spending is also affected by war and peace. Looking first at the military spending, the figure shows that post-war spending has generally returned to pre-war levels, with the notable

exception of World War Two, when the US emerged as a super-power. In contrast to the Civil War and even World War One, when spending on military purposes returned to pre-war levels almost immediately after the cessation of hostilities, military spending in the late-1940s remained extremely high by historical standards, even if it declined sharply from its peak during the war. But for all the major wars before the Second World War, military spending returned very close to pre-war levels almost immediately, sometimes in massive demobilizations that must have been tremendously disrupting.

We can see the massive difference in impact of World War Two compared to previous mobilizations by looking at some simple before-and-after comparisons. For example, the end of the Civil War was immediately followed by a 70 percent decline in military spending in 1866 followed by a further 60 percent decline in 1867; after World War One, we saw an 81 percent decline in 1920 followed by further declines of 16, 44, and 23 percent in the three subsequent years. To be sure, there were massive demobilizations of military after World War Two as well; spending declined in 1946 by 43 percent, then by 44 and again by 21 percent in the next two years. But if we look at real defense spending (measured in constant 2010 dollars) before and after these major conflicts we can see for example that real defense spending was $875 million in 1861 and $985 million in 1871, when spending decreases were complete, relatively close to the level before the war (e.g., only a 13 percent increase over 11 years). Similarly, real spending on defense was $7.6 billion in 1914 and $8.8 billion in 1924 (a 16 percent increase in nine years). The equivalent numbers for World War Two were $19.2 billion in 1938 and $108.4 billion in 1948 (an increase of 465 percent in 11 years). By 1952 this number had reached $333.5 billion, during the Korean War.

The two lines in Figure 7.3 show complicated relations between themselves over time. Sometimes (for example around 1812) domestic spending appears to decline as military expenditures increase, then when the war is over the trends reverse. This pattern would make good sense if one thought of the overall size of government as relatively fixed.   During war, we reallocate to defense, returning to domestic priorities when the fighting stops.   In the run-up to the Civil War it appears that domestic spending also decreased slightly. But it expanded dramatically during the war, leading to the establishment of a new level of government spending that stayed largely in place until the next huge expansion of domestic spending, during World War One. These two wars are the clearest counter examples to the reallocation model. During these huge mobilizations, we not only did what was necessary on the military front, but we dramatically expanded civilian spending at the same time. Government got much bigger. World War Two did not lead to a rapid increase in domestic spending, but it is remarkable for another reason: military spending never receded to anything close to the pre-war level. Each of these wars seems to have a different dynamic but all have large impacts on the overall size of government.   The fact that various wars have different impacts on the budget suggests the relations are not straightforward. Sometimes wars increase domestic spending, sometimes they do not. But they always create the opportunity for dramatic reallocations.

We can draw several lessons from this. First, defense spending, as expected, is obviously affected by war, and there is nothing incremental about the process. Increases of more than 200 percent in a single year are not uncommon. Second, this spending typically decreases as soon as the hostilities are over. Third, this is not inevitable, as the World War Two example demonstrates; if war is the driver, then the absence of war should allow spending to return to pre-war levels, but it did not in the most recent instance. Finally, we hasten to point out that the

massive increases and decreases associated with wars are simply explained by obvious historical facts and do not require any kind of theory of attention shifting or information processing to explain them. However, as we will show, exogenous shocks of the scale of major international conflict are far from the whole story. Defense spending may increase in time of peace, and domestic spending is also affected by war. While there are no surprises in defense spending, here is the surprise: Non-defense spending looks quite similar.

Figure 7.3 shows that domestic spending ratcheted up during the Civil War and remained at much higher levels for decades following, until the First World War led to another upward adjustment. Domestic spending went up, rather than down, when military spending increased with the conflict, and then it stayed high, even continuing to rise, in the years when military spending declined. Total domestic spending was $770 million in 1861 and $4.2 billion in 1871, almost a 450 percent increase. World War One saw a spike in domestic spending in 1918 and 1919, but remained much higher after the war than before: $7.5 billion in 1916 and $30.6 billion in 1922, more than a 300 percent increase. Similarly, both World War Two and the Korean War were also associated with permanent upward adjustments in non-military spending. From $85.4 billion in 1938, domestic spending increased to $236.2 billion in 1947. The simple explanation that war benefits military bureaucracies does not seem to be correct (and in Chapter 6 we will show a generally declining share of US military spending in the past 30 years or so); clearly wars have a major effect on government, but not simply by increasing military spending. Wars are used to justify, or make plain the value of, domestic spending programs of many types in the years following the war. Wars empower domestic constituencies both by intensifying demands and by expanding the capacity of government. Wars historically have created new domestic

obligations, such as pensions, medical care, and other benefits to soldiers and their widows, and new opportunities for government agencies to demonstrate their value to society (Skocpol 1992).

Alternating between Stability and Volatility

Our brief look at long term spending patterns of the entire US government suggests that spending oscillates between periods of substantial change and hyper-incrementalism. We can look at this question directly by looking at percent changes over time. For each year, rather than looking at the size of government, we look at the percentage by which the budget is larger or smaller than it was in the previous year. If we are right that the status quo is sometimes very powerful, then we should see periods where each year differs only slightly from the year before. If there are periods when huge adjustments are made, this should be apparent in a simple graphical presentation. Figure 7.4 shows annual percentage change for total outlays of the US government.

Figure 7.4. Annual Changes in the Federal Budget

Percent Change in Total Outlays

Six high values truncated at +100
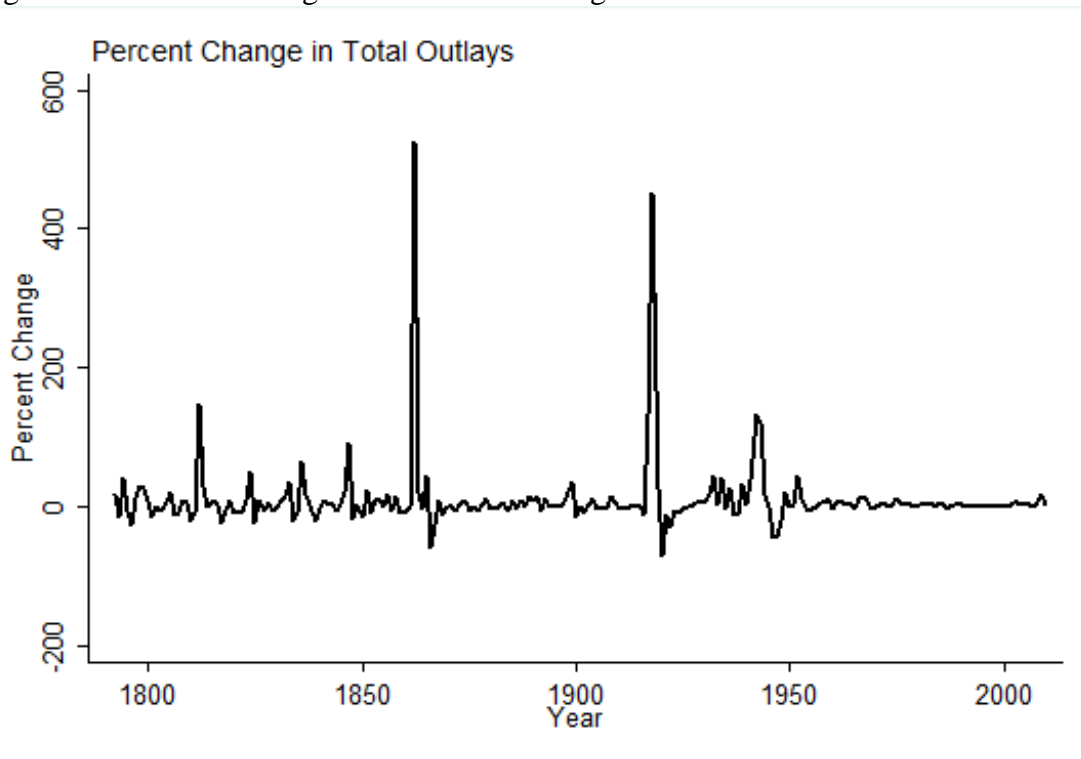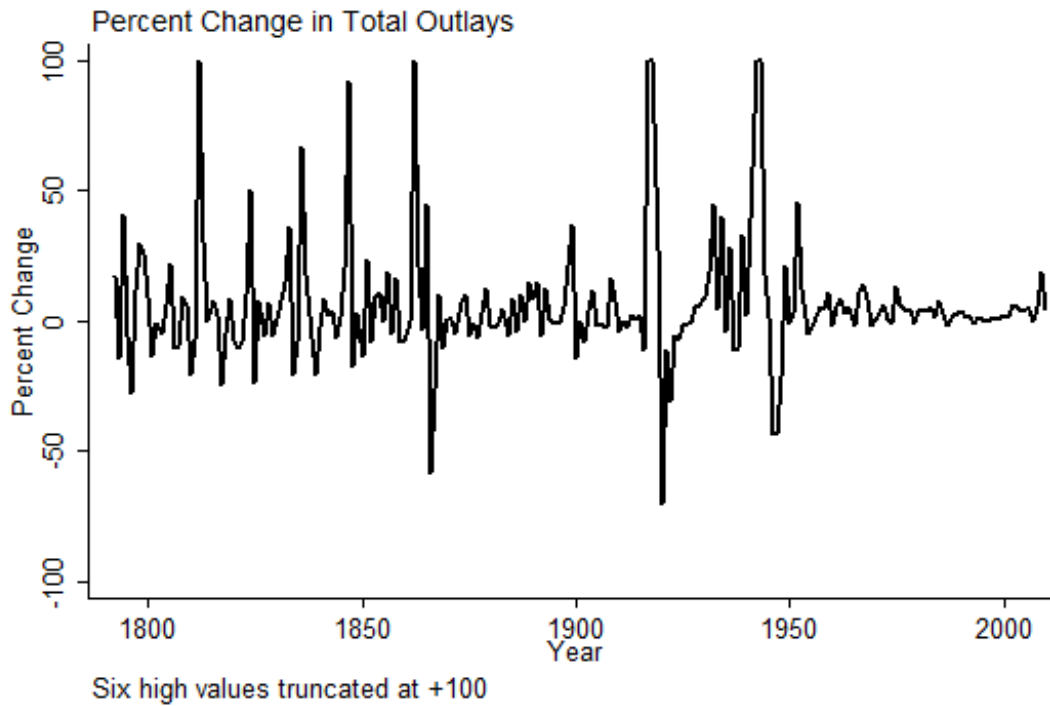
The figure makes evident the large fluctuations that have often affected the size of the federal budget over time. Changes of more than 50 percent in either direction are not particularly uncommon, and there are several years, each associated with wars, where the budget changed, in a single year, by more than 200 percent. The top panel in Figure 7.4 makes it appear that indeed we see just a few major shifts with the vast majority of cases showing only the slightest change from the previous year. This is misleading because the large changes are *so* large that it makes it difficult to see the size of the moderate ones: during the Civil War total outlays of the US government shifted, in one year, by more than 500 percent. The lower graph presents the same data but with any changes of over 100 percent (that is, a doubling of the size of government) truncated at that level (there were six such occurrences).

Not only do we see occasional huge increases but we also see four large negative spikes, when the size of government decreased by 40 percent or more. More broadly, the graph makes clear that some periods have high volatility whereas others have great stability and that the post-

1947 period is the most stable of all. In previous periods of history, it was relatively common for massive transformations to take place in the size of the entire government. The post-Civil War period, until World War One, was the only other long period of relative stability. Most important for our purposes is this: even at this extreme level of aggregation, what happens today depends largely on what happened yesterday. That is, if the previous few years have been relatively volatile, chances are that this year will be volatile as well; if the previous period was one of stability, this year is likely to be stable as well. Expectations are set in place about the nature of government, and these do not change easily. Note that while the most extreme shifts are related to wars, the alternation between periods of stability and periods of volatility is much more general than just the war / peace dichotomy.

Defense spending, as one would expect, is more volatile than domestic spending. Compared to domestic spending, there are relatively few periods of high inertia, though we can still see that some periods are more volatile than others. Each of the major surges of defense spending comes in war time, as expected: 1812, 1862, 1918, 1941 and 1942 saw increases of over 200 percent in a single year (the values for 1862 and 1918 were over 900 and over 700 percent, respectively). Large and dramatic decreases are also common in the defense budget, with seven cases of annual declines of more than 50 percent. Finally, there is evidence for inertia as well, as the relatively gradual shifts appear in clusters, as do the periods of extreme volatility. Note that all the periods of volatility are not clearly associated with war.

Domestic spending has often been affected by major surges and declines as well, however; and these changes are not typically associated with war. Spending increased by more than 50 percent in a single year on six different occasions from 1820 to 1870, then again during World War One and in the 1930s. Domestic spending was most stable during the post-Civil War

period; it grew steadily from annual decreases in the double digits during the 1920s until increases reached almost 50 percent in 1930s. World War Two and the immediate aftermath was a period of volatility, but centered about a relatively strong average growth in domestic spending. Only after 1960 do we see a return to relative calm, and again this is centered not about a value of zero, but with consistent positive annual changes.

In the long term, looking at these highly aggregated indicators of domestic and defense-related spending, we see that very large shifts even in the size of the entire federal government are not so uncommon, though the largest ones all occurred before World War Two. We further see that major disruptions rarely come following a period of calm. Rather, periods of high volatility and periods of relative calm tend if not to alternate regularly at least to come in clusters: the data series show inertia. We see that the period since World War Two is a relatively calm one compared to previous periods. And finally we see that major disruptions, including huge swings in patterns of spending, have been a constant feature of US government over the long haul.

Budgetary Path Dependency[35]

The patterns we described above can be explained through the use of three concepts: thickening, broadening, and crises. Can we characterize the budget series we describe above as path dependent? Path dependency captures budgetary politics in which a crisis, or critical moment, shifts the system into a new mode, but absent a crisis, the system should proceed along a path of development set in the past. An implication for budgetary politics is that response to crises and the subsequent thickening of government are consistent with path dependency, but the broadening of government we describe in Chapters 5 and 6 are not. Government should broaden

---

[35] This section is based on Jones, Zalyani, and Erdi (2012). That paper presents the full statistical results from the analysis; here we focus on the main ideas and findings rather than the details.

only in response to crises. In this section, we explore the role of budgetary path dependency and what it means for the broadening of government.

The notion of path dependency is encompassing to the point of vagueness, as Page (2006) has lucidly shown. He deftly clarifies the concept by distinguishing four distinct meanings of the term, one of which, *self-reinforcement*, is generally what is mean by budgetary path dependency. In self-reinforcement, choices put in place mechanisms which themselves operate to sustain the choice (Pierson 2004; Baumgartner and Jones 2009; Howlett and Rayner 2006). Institutions, including those established by enabling statutes for specific policies, budgetary routines and procedures, and informal norms all operate to reinforce budgetary dynamics (Wildavsky 1964; Myers 2011; Dufour 2008; Begg 2007). This observation is the key to measuring the long-term effects of budgetary path dependency.

The major path dependent model proposed for budget changes is incrementalism, in which a constant percentage of an agency or program's budget is recursively added to a base budget through time. If all agencies are behaving incrementally, then the full budget of a political system will obviously also be incremental. Budgetary path dependency implies that once the percentage increment is established, it is hard to change. Only major disruptions acting "critical junctures" are supposed to do so. If paths shift only at such crises, then they are consistent with path dependency (Pierson 2004). Disruptions can shift the level of growth (they can ratchet up the level of spending), but they can also shift the slope of the expenditure growth curve. New paths are forged by shifts in slopes; this gives a quantitative indicator of changes in budgetary path dependency.

Here we re-examine the long-run evolutionary path of the US national expenditures, from 1791 to 2010. We estimate the exponential growth model on our full time series, under the

assumption of full self-reinforcing path dependency, and then examine periods during which the predicted trend fails.

Exponential growth results when a constant proportion of a base number is repeatedly added to that base number. Some examples include compound interest and the growth of populations over time. If one invests $100 at an interest rate of 3% that is compounded annually, at the end of year 1 the account would be worth $100 +.03×$100 = $100+$3 = $103, which can be written as 100(1.03) = 100(1 + .03). In year 2, the account would be worth $103 +.03×$103 = $103 + $3.09 = $106.09. This is 100(1.03) + 103(1.03) = [100(1 + .03) + 103(1+.03)] = 100(1 + .03)^2. More generally, $B_n = B_0 (1 + r)^n$, where B_n is the investment's worth in n years, B_0 is the initial investment, r is the interest rate, and n is the number of years the account is invested. The effects of proportional growth are modest in the initial stages of the process, but magnify greatly as time proceeds.

Incremental budgets work like compound interest. This is easy to see if we re-examine the theory of budgetary incrementalism, originally developed Aaron Wildavsky's (1964) study of internal strategic dynamics among competing actors and extended to quantitative analysis by Davis, Dempster, and Wildavsky (1966, 1974; henceforth DDW). The incorporation of a constant percentage change within the model implies that, if traced out recursively through time, the expenditure path would be exponential.

Estimating the proper functional form indicates support for an exponential growth model of US expenditures, but major wars and the Great Depression destabilize smooth exponential growth. For total expenditures, we isolate three periods of exponential growth, periods between the major destabilizing events, and analyze the dynamics of these generally stable but nevertheless "noisy" periods. We may think of these periods as representing self-reinforcing

endogenous processes—summarized by exponential incrementalism. For both defense and domestic expenditures within the stable growth periods for total expenditures, serious deviations in the exponential slope occur. These periods seem to reflect on-going endogenous political dynamics rather than any response to critical exogenous events. We conclude that an exponential growth law, but a very messy one, characterizes the US expenditure system over time. The general process is path dependent in the self-reinforcing sense, but it is subject to important deviations that are not associated with critical moments.

Institutional Sources of Path Dependency: Budgetary Systems

Path dependency requires that endogenous processes drive budgetary decisions. Yet budget studies have been plagued by difficulties in separating the relative influences of internal from external dynamics, a not uncommon difficulty in complex human systems (Bertalanffy 1968, Érdi 2008, Érdi 2010).

While there are exceptions, much of the empirical literature on budgetary decision-making has been based in bounded rationality and behavioral organization theory. Budget decisions are complex, and environmental constraints too limited and conflicting to impose deterministic solutions. In such situations, the decision-making capacities of budget actors are often critical to the choices made. Because problems are multifaceted and the time available to devote to the task limited, decision heuristics often strongly affect the patterns of choices.

Budget decisions are not made by single decision-makers, but rather in a complex setting of multiple actors across different institutions and agencies (Padgett 1981). In the United States, budgeting requires complex cooperation between the executive and the legislative branches. Formal rules and procedures govern these interactions in complex patterns that do not apply to all programs equally. Mandatory programs—those whose rules of determining payments are set

by statute—require changes in law as well as budgets to change budgetary outcomes. Discretionary programs can be changed in a budget bill, but even then budget makers can face complex constraints. If agencies have signed multiyear contracts, those contracts must be factored into budget changes, which can be particularly problematic in the case of budget cuts. Agency requests for budget allocations are affected by signals from the bureaucratic hierarchy within which it is embedded; the Office of Management and Budget; the demands of congressional oversight and appropriations committees; and the actual allocations received in the previous year (Padgett 1981; Carpenter 1995). Moreover the procedures through which expenditure decisions are made have themselves changed over the 220 years of this study. Some of these institutional changes are landmarks in the development of modern budgetary methods, such as the Budget and Accounting Act of 1921, requiring a presidential budget and establishing the Bureau of the Budget, and the Congressional Impoundment and Budget Control Act of 1974, which established congressional budget procedures. As a consequence, our empirical methods must be able to detect changes in the expenditure path, and our approach is designed to do that.

Budgetary Incrementalism as Path Dependency

In the early 1960s, Aaron Wildavsky (1964) conducted a systematic study of budgeting within federal agencies, focusing on the strategies the participants used in the process. These strategies were for the most part fairly simple heuristics, and reduced to adjustments based on the existing budgetary base. These rules could be reduced to the following maxim: "Grant to an agency some fixed mean percentage of that agency's base, plus or minus some stochastic adjustment to take account of special circumstances" (Davis, Dempster, and Wildavsky 1966: 535).

In the DDW model, there are two types of actors, requesters and appropriators. An agency's current year budget request is some percentage of its last year's appropriation, plus

some adjustment factor, β. Appropriators grant some percentage of its request, plus or minus an adjustment factor γ.

$R_n = \beta B_{n-1} + \xi_n$, and $B_n = \gamma R_n + \zeta_n$

Where R_n is the request in year n, B_n is the agency's budgetary allocation in year n, and ξ_n and ζ_n are the random adjustment factors – serially independent, normally distributed.

As consequence, this year's appropriation is a percentage of last year's appropriation, plus or minus an adjustment factor:

$B_n = \gamma(\beta B_{n-1} + \xi_n) + \zeta_n$

$B_n = \delta B_{n-1} + \eta_n$; where $\delta = \gamma\beta$ and $\eta_n = (\gamma \xi_n + \zeta_n)$ [Equation 7.1]

The parameter δ is the fixed mean percentage augmenting last year's budget appropriation. The way the DDW equations are set up means that δ is equivalent to (1 + r) in our compound interest example above. In the budget equations, r would be equivalent to the percentage added or subtracted to last year's budget. So if r is positive, then δ will be more than 1 and the budget will grow over time; if r is negative, δ will be less than 1, and the budget will shrink over time.

We refer to Equation 7.1 as the *basic incrementalist equation*. The above equations model process incrementalism, which in turn implies outcome incrementalism. The converse is also true: if we do not observe outcome incrementalism, process incrementalism cannot be the full story. In the basic incrementalist model, there are two types of model parameters that influence outcomes: the percentage applied to requests or appropriations (γ, β, δ) and the stochastic adjustments to the basic linear decision model (η_t, ξ_t, ζ_t). Across programs, the percentage parameters can vary, but within a single program they change only at "shift points."

DDW tested the basic incrementalist model repeatedly on budget requests and congressional appropriations for 53 non-defense agencies for 1947-63, using a linear regression framework. They found excellent fits, but the coefficients for the equations were not constant. They were subject to "shift points," and these shifts seem to have been at times sharp and at others gradual. In a second paper Davis, Dempster, and Wildavsky (1974) attempted to integrate external influences into the linear model. They report such influences in some "vulnerable" agencies, but develop no more general approach to how those influences might work. These studies were repeated by many other scholars in different settings with similar results (see Padgett 1980: 354 for a summary).

The incrementalist model can be seen as a pure form of a path dependent budgetary system. The system adjusts internally, resulting in the addition of the "fixed mean percentage" of the previous year's base. DDW's shift point approach implies that budget growth will ratchet upward or downward at certain times, but the rate of growth would not change, since it was assumed to be constant. All contemporaneous change is governed only by the stochastic term.

Objections and New Directions

Scholars have developed both objections and modifications to the incrementalist model over the years. The bases of budgetary incrementalism have changed since DDW. In particular, much of the total budget is governed by statutory requirements rather than heuristic budgetary rules emerging from interactions among participants. But these may also operate consistent with budgetary path dependency; indeed, the self-reinforcing effects may be even stronger. For example, Social Security and Medicare key participation to age, which operates incrementally.

Several scholars critiqued the regression approach as leading to overestimates of incrementalism (Wanat 1974, Padgett 1980), and developed and tested an alternative stochastic

process approach (Padgett 1980, 1981; Jones, Baumgartner, and True 1996; True, Jones, and Baumgartner, 1999). Subsequently, numerous studies in various political settings have confirmed decisively that budget change distributions are not distributed as the incremental theory predicts (Jones, et al. 2009), at least at the program level.

Policy process models of budgeting view the political system holistically, conceiving of inputs (information) flowing into the system, and the system responding to these flows. But the response is not proportional to the information. Rather resistance, or friction, in the system blocks action until the political system responds by shifting quickly, resulting in a pattern of budgetary responses that are not smooth, but rather highly punctuated. Most of the time program budgets are highly incremental, changing only marginally, but occasionally they change very rapidly. Studies using stochastic process approaches offered extensive empirical support (True, Jones, and Baumgartner 1999; Jones, Sulkin and Larsen 2003; Jones and Baumgartner 2005; Jones et.al. 2009; (Breunig and Jones 2011). The implications are that incremental budget adjustments are embedded in a broader system of policymaking, which can involve punctuations (Howlett and Migone 2011).

The policy process models suggest that budget development may not be as smooth as the incremental, self-reinforcing path dependent model implies. These studies, however, focused on program (or alternatively budgetary sub-function) data. This (as well as the DDW regression-based shift point difficulty) leaves open the possibility that through a long time span a path dependent process dominates, but one that experiences substantial disruptions and program-level churning.

The Evolutionary Path of Budgets

Incrementalism implies that budgets grow exponentially, not linearly. However, the

incrementalists estimated the increment statistically by relating this year's budget to last year's

through a linear estimating equation, which had the effect of overlooking the long-run

exponential character of the model. Jones and Baumgartner (2005a) show that DDW-style

incrementalism implies year-to-year percentage changes in budgets rather than year-to-year

linear changes, which they termed this "incrementalism with upward drift," justifying using

percentage changes in programmatic subfunctions in their stochastic process studies. Previous

studies, including DDW, used an error structure that is independent of budget size in their

estimates.[36]

Suppose we want to know not simply next year's budget, but the budget n years after

some starting year (here that will be 1791, and denoted as B_0). We drop the random adjustment

factor η_n, because we are interested in tracing the expected path of incrementally-adjusted

budgets. If we expand the basic incrementalist equation, $B_n = \delta B_{n-1}$, recursively, we get:

$B_1 = \delta B_0$

. . .

---

[36] The incrementalist models build in a random error component conceived to be the sum of a series of

special one-time adjustments that behave according to the central limit theorem, and is assumed to be

additive—that is, it is just added to the linear equation. If the budget is growing by a constant percent,

such an error term does not grow in proportion to the budget. As a consequence, the incremental models

imply that the error will shrink and finally disappear with time—something that obviously can't happen

given the substantive interpretation. In the original linear model (Equation 1 above), $B_n = \delta B_{n-1} + \eta_n$

implies that $B_n/B_{n-1} = \delta + \eta_n/B_{n-1}$. Then $\eta_n/B_{n-1} \rightarrow 0$ as $B_{n-1} \rightarrow$ infinity. This is obviously not true.

$$B_n = \delta B_{n-1} = \delta(\delta)(\delta)\ldots(\delta)B_0$$

$$= \delta^n B_0$$

This is a geometric series, the discrete form of exponential change ($\delta <> 1$), and clearly path-dependent in the self-reinforcing sense. Pure, closed system incrementalist budgeting, properly understood, implies exponential budgetary growth.

Such system requires assumptions: the system is not destabilized by exogenous events (path dependent, closed-system incrementalism), and budget growth is not limited by the "carrying capacity." The meaning of carrying capacity in population dynamics is clear, but not so clear in government budgeting. Like a biological population, no budgetary system can grow exponentially without limits, unless the carrying capacity of the system, basically the vibrancy of the economic base of government, is growing similarly. In democracies, the tolerance of the public for taxes or other revenue-raising methods also factors into the budget system's carrying capacity.

Models of Broader Budget Dynamics

Existing budgetary models apply to changes in the levels of budgetary allocations to programs, yet the size of government changes as a consequence of the addition or subtraction of entire programs as well as through allocations to existing programs. As a consequence, we assume that the parameter estimate for the growth factor, δ, is a weighted average of δs for agencies operative in the nth year. As programs are added or subtracted to the mix of governmental responsibilities, the number of agencies over which the weighted average is taken changes. Other factors from changes in the propensity of the budgetary system to spend and demands, such as wars, from external changes in the environment, can cause shifts in the growth parameter over time. [37]

---

[37] The stochastic process studies eliminated pure incrementalism at the program level. Program level

Because we expect the series to experience major destabilizations from critical moments, we seek to isolate periods of stability within which self-reinforcing path dependency holds. As we have shown above, this is associated with exponential incrementalism. As a consequence, we define self-reinforcing budgetary stability operationally as periods within which the budget grows at a constant exponential rate (that is, the exponential slope is constant), and deviations from that rate return to the exponential path. We supplement these statistical criteria with an examination of the historical record to see if historians and students of American political development generally regard these stable periods as such.

Conditions of Self-Reinforcing Path Dependency

Path dependence (in the self-reinforcing sense) implies a closed-system form of exponential incrementalism in inflation-adjusted expenditures. Exponential growth in expenditures implies linear growth in the logarithm of expenditures over time.[38] So the estimating equation for the logarithm of the expected budget is

$$\ln\bar{B}_t = \ln B_0 + \lambda t = A_0 + \lambda t \qquad \text{[Equation 7.2]}$$

This log-linear growth pattern would result from the fully isolated, closed budgetary system, but the simple formulation is clearly unrealistic. External factors can disrupt the

---

changes are not incremental, but potentially overall budget levels are. Because overall expenditures are a weighted sum of program expenditures, the Central Limit Theorem can operate to smooth out the non-normal program data, so long as the program level adjustments are independent of one another.

[38] Taking the original incremetalist model (Equation 1) where $\delta > 1$ represents exponential growth and taking the logarithm and expressing the budget with the starting budget B_0: $B_n = B_0 * \delta^n + \Sigma_i \delta^i * \eta_i$. The expected value of B_n is $\bar{B}_n = B_0 * \delta^n \Rightarrow \ln\bar{B}_n = \ln B_0 + n * \ln(\delta)$. This describes exponential growth with an average slope $\ln \delta$.

internally-dominated, closed incremental system. These external factors have two separate

potential effects: they may ratchet expenditures up or down from the fundamental exponential

path, shifting the magnitude of A_o, or they may shift the velocity, or incremental growth

parameter, estimated by slope, λ, making it steeper or flatter.

Shifts in the intercept, A_o, are consistent with self-reinforcing path dependency so long as

the shifts are directly associated with critical moments if the periods between the shifts are

stable—statistically as well as substantively. Discrete shifts in the exponential velocity, λ, can

also occur; if they are associated with critical moments they also correspond to self-reinforcing

path dependency.

Exponential incrementalism, and hence path dependency, would not hold should the

logarithm of budgets curve upward (in which case budgets would be growing faster than

exponential), or downward (in which case budgets would be growing slower). Such a pattern

implies that the system is continuously adjusting off the exponential path. A self-reinforcing

path dependent budgetary process may be subject to destabilization in crises, but it should not be

subject to on-going more minor cumulative destabilizations implied by the flow of information.

However minor destabilizations in which there is a reasonably rapid return to the stable

exponential path are consistent with path dependency.

As a consequence, a model of budgetary self-reinforcing path dependency is supported if

a) exponential incrementalism holds throughout the series; or b) if exponential incrementalism

holds save for crisis disruptions ("critical junctures"). At these critical junctures, either A_0 or λ

or both may change. The model would not be sustained if parameter shifts occur in

circumstances not associated with crises (else the term path dependency has little meaning) or if

the data do not fit exponential incremenalist model. Finally, situations in which local

destabilizations occur, but the system returns to the previous exponential trend rapidly, provide evidence that the path-dependent process is resilient.

Another Look at the Historical Pattern

In Figure 7.1, we plotted the logarithm of real expenditures for the period 1791 through 2010. It is clear that the growth pattern is largely exponential, but major deviations occur. The deviations seem to be of two types. The first consists of spikes associated with major wars (the Civil War and the two World Wars)[39], and involve both sharp changes associated with mobilization and with de-mobilization at the end of the war. Note that in every case the level of government spending fails to return to pre-war levels. Rather it settles down at a level considerably above the previous level. But does the budget system return to the previous evolutionary growth path? We return to this issue shortly.

The second type of deviation from the strict exponential path involves changes in the slope of the exponential path. These changes in slopes seem to occur after the wars. After the Civil War, the slope flattens out; between the two World Wars, the slope sharply increases; after the Second World War, the slope decreases (and, indeed, exhibits a pronounced deceleration). A closer examination shows that this budgetary deceleration occurred in the period from around 1986 to 2001, with exponential growth resuming afterward. This was the period in which stringent budgetary "pay-go" rules were in effect.

Statistical Approaches

While it is clear that the general path of US expenditures has been exponential, there are a number of spikes, twists, and turns that characterize budget development. We examine the

---

[39] Peacock and Wiseman (1961) noted the presence of a 'war ratchet' in British budgets early in the development of budgetary studies. See also Jones and Breunig 2007.

extent to which deviations from the exponential trend act as destabilizations that tend to return to the fundamental exponential path, or whether those destabilizations result in a) permanent ratchets, b) permanent changes in the rate of growth (slope changes); or c) changes away from the exponential path.

The analysis of the trend is somewhat technical. As a consequence, we don't dwell on the statistical details here, but they may be found in Jones, Zalyani, and Erdi 2012. In analyzing the trend, we apply two distinct approaches. The first method is a smoothing technique applied to the budget series by taking the cumulative sum of the budget values, allowing us to focus on the main trends in the data. We may think of this as kind of bird's-eye view of the budget process. We isolate stable periods by an examination of the graphs, using least squares models to assess fit. The second method examines rates of change instead of budgetary levels, again seeking deviations from the hypothesized exponential path. We applied the two methods to the total expenditure series, as well as defense and domestic expenditures separately.

The first approach, the smoothing technique, indicated four different stable budgetary periods for the total budget path, with break points delineated by wars—the Civil War, the First World War, and the Second World War. The least-squares estimators indicated good fit for all of the periods. The four stable budgetary eras were 1820-1860; 1867-1915, and 1947-1990. The other periods in the series (1791-1819; 1919-1941; and 1991-2010) did not meet the criteria for stability.

Recall from our discussion above that disruptions to incremental budgetary path dependency can occur in three ways: shifts in the level of the exponential budget path, changes in the exponential exponents, or slopes—that is, a change in the rate of exponential growth—and

a general acceleration or deceleration from the exponential path. The Civil War had two effects: it resulted in a permanent upward shift in the level of expenditure, and it led to a period of slower growth in the budget (as assessed by a decline in the exponent, or rate of growth). One source of this upward shift is the fiscal burdens of military pensions and funds for war widows and orphans. The period from the Civil War to the First World War was a period of remarkably stable budget growth—exponential growth, but at relatively lower rate compared to what came before and what came afterward. The First World War resulted in, again, a permanent shift in level of expenditure, and a clear upward shift in slope, associated with the New Deal response to the Great Depression. For the Inter-War period, however, it was not possible to secure a stable estimate of the slope. The Second World War generated the expected upward shift in level, and a lower rate of growth (compared to the Inter-War period), but a rate greater than the 1865-1915 period.

Domestic and Defense

Because it is possible that defense and domestic expenditures follow different dynamics, we analyzed patterns of change for domestic and defense outlays separately. The method 1 analysis for the case of defense outlays isolated five different segments: 1820-1860; 1867-1897; 1900-1915; 1920-1939, and 1955-1975. These periods are similar to those isolated for the total budget, with two exceptions. The 1865-1915 interval for defense decomposed into two parts, before and after 1900; there is an accelerated growth after this point. The break may be associated with President Theodore Roosevelt's expansionist foreign policy (Holmes 2006). It is hard to associate this shift in slope with any "critical juncture" in the environment, yet the shift had a considerable effect on budgetary outlays. In addition, the period between the world wars was stable and could be estimated.

For the domestic outlays the descriptive path is not as clear. We estimated stable eras for four periods: 1820-1848; 1875-1897; and 1947-1990. There exist extended periods in which growth is not exponentially stable—that is not path dependent. One of these simply lacked observations to meet our criteria of stability; for example 1848-1860 was characterized by an increase in the slope—that is, expenditures were path dependent but not along the same path as 1820-47. Expenditures grew faster in the later period than the former. Far more interesting are two segments: between 1897 and 1920, and between 1990 and the present. In both cases, domestic spending growth decelerated for an extended period of time. These decelerations (or accelerations) indicate difficulties with the path dependency model since they imply an internal adjustment process that is not abrupt and is not associated with crises or "critical moments." They occur year-by-year rather than in an abrupt shift associated with critical moments.

Method 2: Rates of Change

Method 2 examines year-to-year rates of change instead of smoothed budgetary levels. That is, it analyses the data graphed in Figure 7.4. Using a systematic process, we fit various least-squares trend line models to the data in Figure 7.4. As the number of lines fit to the series increases, the error in the fit decreases, so we use standard model fit criteria that adjust for the number of parameter estimates (Bayesian Information and Akaike Information Criteria) to judge fit. A graph of the criteria indicated a large drop at six line segments, and again at eleven, with only incremental model improvements after that.

Whether six or eleven line segments are fitted, the general form of the series remains similar to that fitted using the smoothing approach of Method 1. The approach isolates three periods of stability interrupted by large spikes due to war mobilization and demobilization. These periods experienced steady growth in the budget, but the first period experienced quite high

levels of year-to-year variability. It also detects a line segment corresponding to the inter-war years and the Great Depression with a clear upward shift in slope from the pre-WWI period. During this period, the rate of change was growing steadily—basically a longer period of non-equilibrium than the war spikes.

We analyzed the defense and domestic budget series separately. The results generally confirm the findings from Method 1.[40] The results for the domestic budget are much clearer than in the analysis from Method 1. Five periods exist, three of which can be characterized as stable (that is, the exponential slope is neither significantly increasing or decreasing). There are two instable periods: after the Civil War and during the Great Depression, in which the slope is accelerating. These continual slope accelerations are problematic for a pure form self-reinforcing path dependency model of public expenditures.

The domestic budget story consistent with our analyses goes like this. From 1791 to the US-Mexican War, the domestic budget grew at a steady exponential rate. That war brought vast new territories to the nation, and was associated with a spike in the derivative—that is, a sharp upward change in the exponential rate of growth. Afterward, the slope increased each year—basically an annual acceleration or increase in the rate of growth, until around 1875. Then exponential stability was restored until World War I. Then a war spike pushed *domestic* spending higher; this was followed by a period of annual acceleration in the rate of growth that continued into the Great Depression. This suggests that Sparrow's (1996) insight about the development of the domestic state following WW II might be a more general phenomenon (see also Jones and Breunig 2007). The period of annual acceleration resulted in rapidly increased

---

[40] There are some differences in the periods isolated by the two methods. Most importantly, Method 1 defense plots isolates two segments for the 1867-1915 period, whereas Method 2 does not. This is because the two methods are sensitive to different aspects of budget change: the integral shows the average increase while the derivative of log budget is sensitive to the immediate change.

government domestic spending, but the changes in the slope stabilized (at the much higher level) in the early 1930s.   Method 2 isolates the full period of 1930-2010 as a stable one, characterized by a higher level of growth in domestic expenditures than at any other period in the series.

Comparing the Two Methods

The analysis of budgetary change complements the analysis of budgetary levels, but the two approaches yield some important differences. Method 2, based on annual budgetary changes, identifies the stable periods but is not sensitive to steady changes in the growth rate. For example Method 1 detects two periods with different growth rates in the middle section of the defense budget (1865 to WWI), reflecting a steady (stable) change in expenditures. The change in slope is relatively small and hence it is detected as a single stable period by the derivative of log budget method.

Similarly, while Method 2 lumps the period after WWII as a single era, Method 1 reveals the existence of the period of budget deceleration that occurs from 1988-2000. While this period of deceleration proved fleeting, its existence is important, since it indicates that internal dynamics can "bend the budget curve" through the application of budgeting procedures. These findings are problematic for a pure path dependent budgetary system, because it is hard to argue that the budgetary struggle of the 1980s and early 1990s was anything more than politics as usual.

For both methods, we find that wars destabilize both defense and domestic budgets, but with somewhat different effects. Wars basically ratchet up defense spending, and do not affect the rate of growth. But they tend to affect domestic spending by altering the rate of growth, with a much more muted ratchet effect. Defense budgets are affected by the mobilization needs associated with war, but demobilization also tends to occur and a new growth factor need not be

built into the system. For domestic expenditures, however, statutory changes tend to perpetuate themselves, resulting in changes in the domestic spending growth slope.

Conclusions

American government, even at the most highly aggregated level, has periodically vacillated between relative stability and rapid shifts in resources. When required by international events or domestic conflagrations, major changes have been made in very short periods in the size and structures of government itself.   Further, these mobilizations for war have had long-lasting impacts on the structure of government for generations following the war-time mobilizations. Paradoxically, these impacts have been greater with regard to civilian activities of government than on the military itself.

A brief look at the longer-term trends in government activities shows that even when looking at highly aggregated figures about domestic, defense, and overall spending in the federal government, certain patterns emerge. Periods of stability are interspersed with periods of change; outside shocks alone cannot explain these patterns; and government has grown by orders of magnitude.

Are these shifts consistent with a path dependent model of budgets, in which stable budgetary growth in broken only by "critical moments"? We have modeled self-reinforcing budgetary path dependency as a recursive incremental system whose solution is exponential growth. Exponential incrementalism is doubtless the main driver of this system—each year, in effect the budget base is multiplied by a built-in growth factor, the budget increment. If the system were fully closed, not open to direct external influences, that would be all there was to it. Negotiations among budget actors and the rules of allocation at the program level would aggregate into an overall spending total, which would follow an exponential path with a constant

exponent: $B = B_o \exp(\lambda t)$, where B is the budget in a given year, B_o is the starting-point, λ is the constant exponent, and t is the number of years since B_o.

Tests of this "closed system" incrementalism on a newly constructed data series of US expenditures since 1791 identify three major periods of budget stability in American history. Each is characterized by consistent year-to-year growth in total expenditures: 1790-1860; 1865-1915, and 1950-2010. But the system is open to influences from the outside, particularly the destabilizing influences of major wars and economic collapses. That such crises lead to shifts in the exponential path does not vitiate self-reinforcing path dependency, as these may act as the "critical junctures" that are part of the approach.

Some aspects of the analysis are problematic for the model. These are periods of changes in the velocity of exponential growth—basically the acceleration is not constant. For Method 1 these are indicated by changes in linearity, and for Method 2 by changes in constancy. An upward bending Method 1 curve implies that the growth rate is accelerating, while a downward-bending curve indicates deceleration. A clear upward-bending curve, particularly in evidence for the total budget analysis, occurs between the First and Second World Wars. For domestic expenditures, an upward bending of growth velocity occurs between the 1850 and 1865, and downward bending curves occur between 1900 and World War I and during the 1980s and 1990s. It is probable that the latter deceleration period was driven by changes in the allocation rules, as the Gramm-Rudman-Hollings and Pay-Go budget rules to limit deficits took hold. These were not renewed when G.W. Bush took the presidency, resulting in a restoration of the previous growth path. These periods are off the equilibrium path, and are inconsistent with exponential incrementalism and hence self-reinforcing path dependency. They are likely

associated with political forces that affect the growth path, pushing expenditures upward or downward from the built-in path dependent equilibrium for a number of years.

We also studied studied the behavior of residuals within the periods of stability and found further evidence of deviations from a pure path dependency model. Within periods of stability stationarity tests suggested a complex within-period adjustment pattern. Even below the surface, considerable churning occurs, as particular programs lose and gain favor with policymaking officials. The equilibrium periods are best characterized as "noisy equilibria" in which deviations from the exponential growth path tend to return to the existing path, but not always immediately. Even during the stable periods, important short-term dynamics can influence the return to the exponential equilibrium. This could involve "minor" wars and the challenges of integrating new territories into the nation, as was the case in the 1850s, or other localized but important forces.

The policy process approach to budgeting, with its reliance on resistance and friction in policymaking institutions, implies that the budgetary path is disjoint and episodic, and hence annual budgetary changes would be subject to higher kurtosis values, implying leptokurtosis, while skewness remains within the bounds of Normality. We found this to be true in important instances, particularly for domestic expenditures in the post-World War II period.

In the end, we find support for a path dependent budgetary process, but some very important contrary results as well. On the one hand, exponential incrementalism is the best overall model of expenditure changes in the US. Minor destabilizations generally return to the exponential growth path, implying considerable resiliency in the growth path. That major wars and the Great Depression shift the exponential curve and change its velocity is not troubling to budgetary path dependency. However we find two forms of inconsistencies with the model:

changes in the exponential slope over a period of years, and deviations within some of the stable periods that indicate oscillations in the exponential slope. The deviations from a pure path dependent budgetary model we have uncovered suggest that internal adjustments can affect budgetary path dependency in the absence of the large destabilizing forces of critical moments. Budgetary dynamics are considerably more complex than can be captured by exponential incrmentalism, and budgetary path dependency is an incomplete description of budgetary dynamics.

Chapter 8

Inertia and Breakthroughs

In the first eighteen months after taking office in January 2009, US President Barack Obama was

involved in the rescue (or bailout) of the US financial services industry; unprecedented

intervention in the automobile industry; major decisions about terrorism / detention / rendition /

Guantanamo Bay / torture all associated with the legacy of the Bush administration's policies on

the "war on terror;" important decisions about the conduct of two major wars in Iraq and

Afghanistan; an historic initiative on health-care reform; and he announced plans for important

shifts in global climate change policy and US immigration reform (though these were not

enacted). He also nominated and saw confirmed two justices to the US Supreme Court. Certain

of these major initiatives are clearly related to outside shocks, as the Bush and Obama

administration responded to the financial meltdown and potential bankruptcies of the major US

automobile firms starting in October 2008. Others, however, represent electoral shifts

(Guantanamo), continuity (managing the wars in Iraq and Afghanistan), or positive initiatives

after considerable delay by the previous administration (health-care reform, climate change

policy, and immigration reform). Are the causes of dramatic policy shifts best found in response

to external shocks, in the policy preferences of newly elected leaders, or in the normal

functioning of the institutions of US government? Previous chapters should make it clear:

though the simple answer is that big changes follow big threats, if we look at the full distribution

of policy changes, we find that external shocks are less important than endogenous processes: those internal to the normal processes of governing in a complex institutional environment.

Chapter 7 examined the long-term trace of federal expenditures. Here we turn our attention to a more detailed look at the period since 1947 and we will show some general patterns of stability and change. But whereas the analysis in Chapter 7 seemed to point to wars as the main driver of change, in the more recent period we find a wide range of situations in which large changes occur across many topics of spending. This leads us to reassess the impact of any single factor in determining the relative power of the status quo or the pressure to adopt dramatic innovations. These pressures seem to be constant, but the context in which these disputes take place is constantly changing.

Federal Spending by Topic since 1947

In Chapter 7 we looked at very general indicators of federal spending over more than 200 years. In this chapter we look at much more detailed categories of spending based on a dataset we created as part of the Policy Agendas Project, from official sources. Each year the Office of Management and Budget (OMB) prepares the President's budget request to Congress and also provides a recapitulation of spending in previous years. Occasionally, the OMB revises its definitions of budget categories, but overall the series has very high stability. Maintaining relatively stable spending categories is essential if we are to compare spending today with spending in previous years. Because the OMB, part of the executive branch, is mirrored by the Congressional Budget Office (CBO), each wants to ensure that it can understand any changes in spending. In many other countries that do not have separation of powers, Great Britain for example, a sitting government may not want to make it easy for potential critics to compare its spending patterns with those of its predecessors, so spending series are often unreliable (see

Soroka et al. 2006). Separation of powers has another benefit few have noticed: honest expenditure numbers.

Because we are interested in assessing the relative likelihood that a policy will be the same as in the previous year or will change substantially, we must be particularly sensitive to changes in how the government calculates and reports spending. The OMB data are relatively stable in their definitions, but each year in the footnotes to the budget a small number of changes are reported. We have adjusted these series so that we have a consistently defined federal budget from 1947 to 2008. These data are available at www.policyagendas.org as well as a detailed codebook explaining the adjustments we have made.[41] See the appendix to this chapter for advantages and cautions in using the dataset.

OMB reports "budget authority" (BA) figures rather than "outlays." Outlays are expenditures by the government, entered into the ledger books when the spending occurs. Budget authority is the decision by Congress and the President to "authorize" agencies to spend specific amounts of money for specific purposes. For certain very expensive or long-range projects, money authorized in one year may be "expended" or "laid out" over several years into the future, as when highways, dams, or other large infrastructure projects are undertaken. Budget authority is a better measure of the decision-making process, as it reflects the decisions made by government to engage in certain types of spending. Expenditures may reflect decisions made several years previously.

---

[41] We hasten to thank Prof. James L. True, our former student and before attending graduate school a budget analyst in the US military, for the painstaking but extremely valuable work in creating and then in maintaining this database. The OMB had previously published retrospectives on federal spending going as back as 1967, but Jim did the detailed work necessary to push the series back to 1947, and has updated it each year as well.

Can we compare the budget outlays from Chapter 7 to the budget authority figures that will be our focus here? Figure 8.1 provides some reassurance.

Figure 8.1. Budget Authority and Outlays, 1947 to 2008.
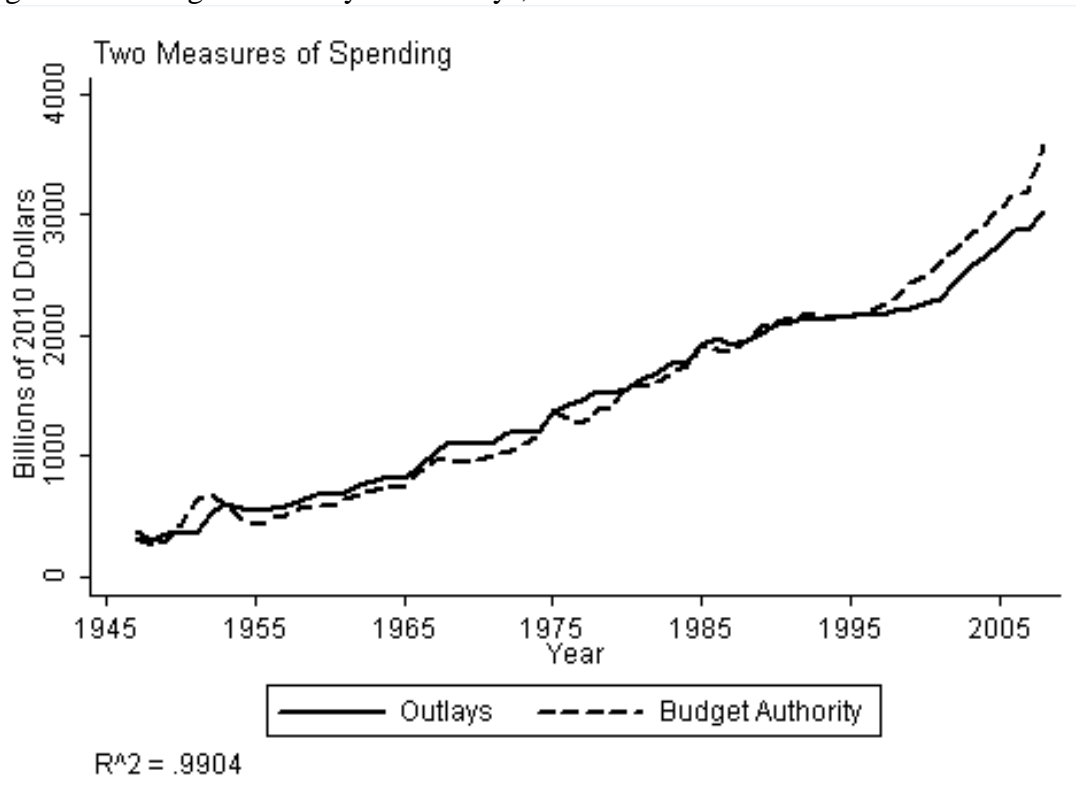
Figures 7.1 and 7.2 above provided data on inflation-adjusted outlays from 1790 to 2010. Figure 8.1 compares those figures to our budget authority figures from OMB, which are available only through 2008. Both figures are calculated in billions of 2008 dollars, and the figure shows that the correlation is over 0.99. Slight differences are apparent between outlays and authority as for example during the Korean War budget authority expands more quickly than outlays. Budget authority and expenditures are clearly not the same thing but they are highly correlated in this aggregate view.

Examples of Spending Patterns since 1947

Figure 8.2 shows federal spending from 1947 to 2008, measured in billions of inflation-adjusted 2008 dollars, and also shows, on the right-hand scale, the annual percent change in spending.

Figure 8.2 Total Budget Authority and Annual Percent Change in Spending, 1947 to 2008.
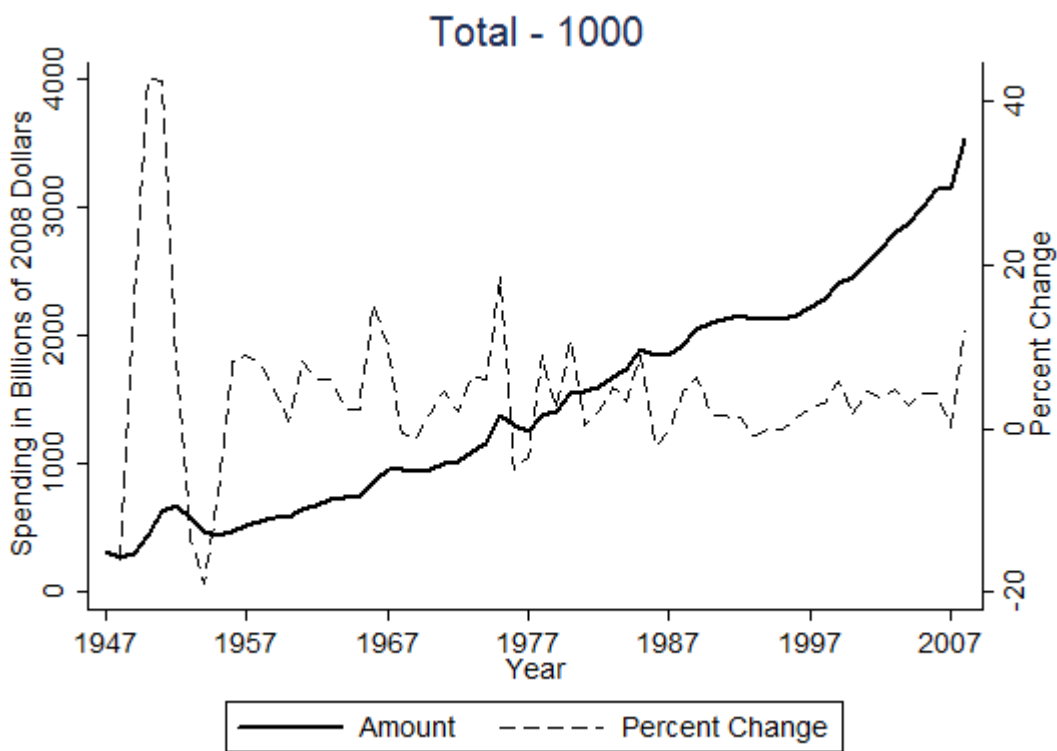
Note: The Figure shows OMB Function 1000, total spending, for 1947 to 2008. The solid line is total spending in billions of 2008 dollars and is measured on the left scale; the dashed line is the annual percent change, and is measured on the right scale. Note that total spending never declines by more than 20 percent nor increases by more than 40 percent during this period.

Spending rises rapidly from $265 billion in 1948 to $676 billion in 1952 before declining with the end of the Korean War. Spending reaches $1 trillion in 1971, $2 trillion in 1989, and finishes the series in 2008 at $3.525 trillion. The percentage change figures, shown by the dotted line and measured with the right-hand scale, make it clear that volatility in the budget has declined greatly over the post-war period, especially since the 1980s. However, 2008 showed a 12 percent increase in spending, during the George W. Bush administration.

With the higher level of detail that we can gather with 18 categories of OMB functions or 66 separate OMB subfunctions, we can look at the dynamics of spending for the post-1947

period in greater detail than we did in the previous chapter. Distinguishing only between defense and domestic spending may hide important individual dynamics peculiar to the politics of individual policy domains. Or, we may find that similar dynamics affect all levels of federal spending.

Figure 8.3 takes advantage of our more detailed OMB spending dataset and shows data in the same format as Figure 8.2 for two OMB functional categories of spending: Education and Agriculture.

Figure 8.3. Federal Spending on Education and Agriculture

Agriculture - 350
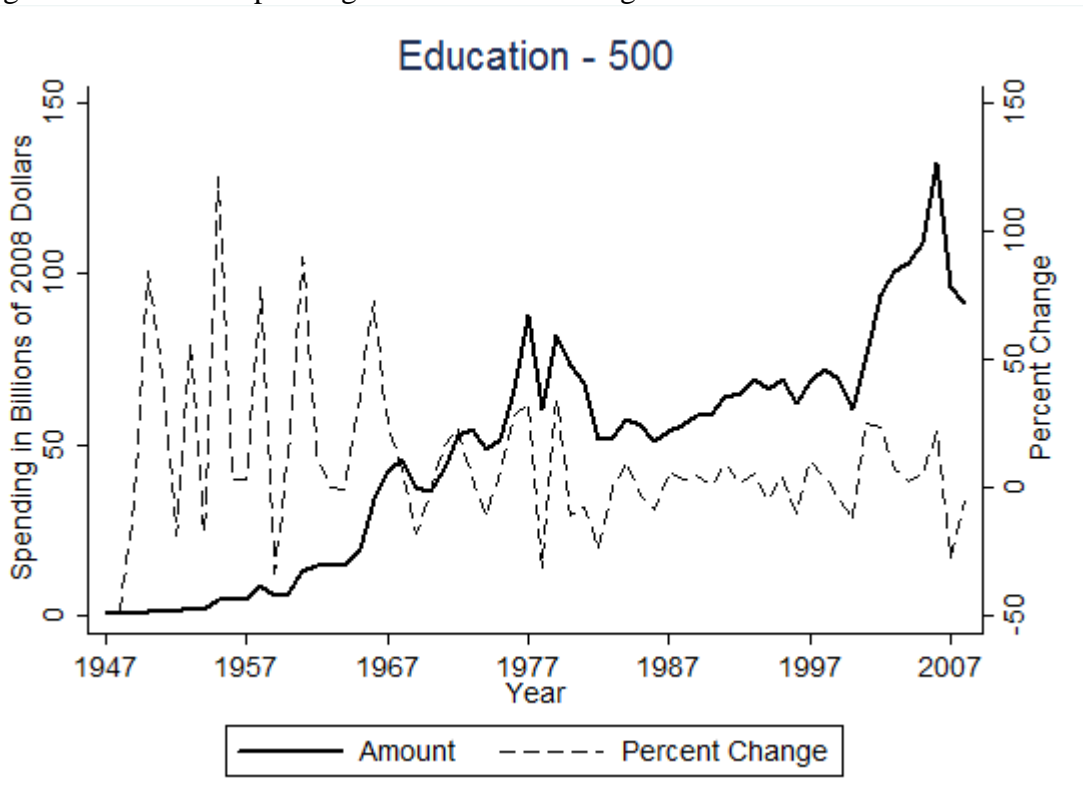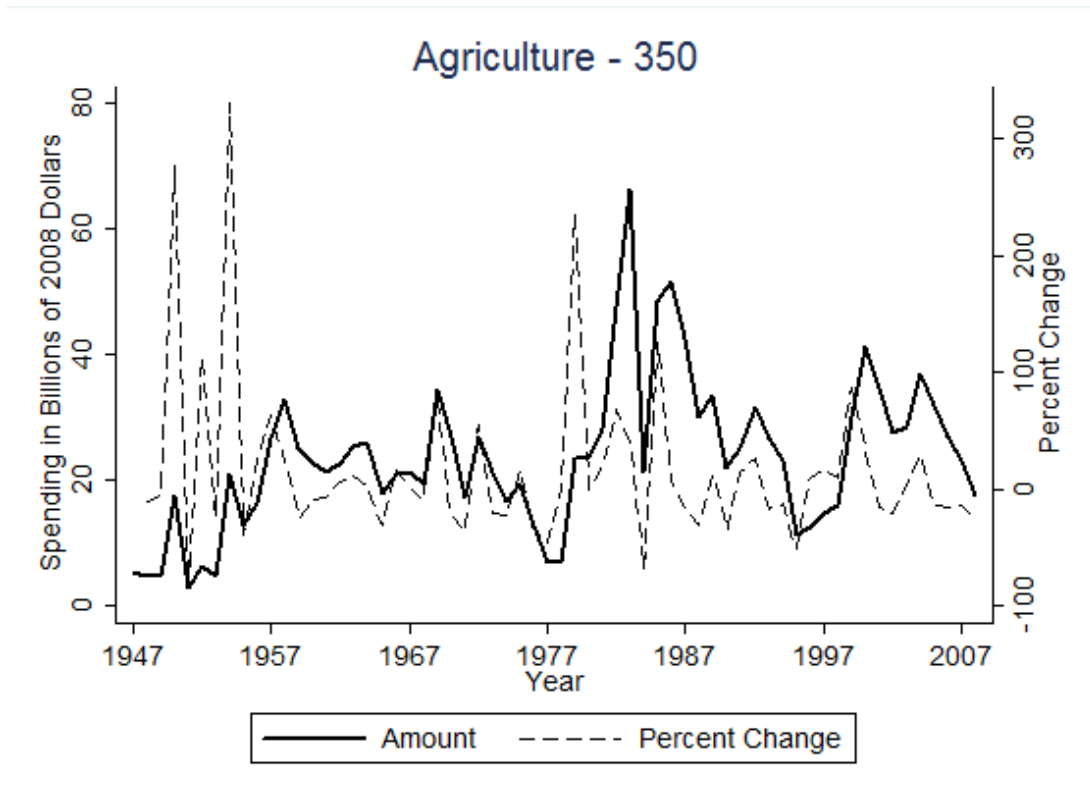
Federal involvement in education matters was minimal until the 1960s when spending increased substantially. A further substantial increase came in the early 21st century. Note that while changes in total spending (shown in Figure 8.2) ranged from -20 to +40 percent, the variation for education spending is much greater. Agriculture spending, shown in the bottom half of Figure 8.3, makes this volatility even more clear. Because much federal spending on agriculture has been in the form of market-based price supports (that is, an entitlement based on the world price of various commodities such as corn, wheat, or soybeans), spending in this area is highly volatile. Shifts of more than 200 percent are not altogether rare (they occur in 1950, 1954, and 1979), and declines of more than 50 percent occur with some frequency (1951, 1984, and 1995). Of course, as a "mandatory" spending program, it could be that these large shifts, based on an automatic formula to respond to declines in the world price of various commodities, are not reflective of "discretionary" spending programs.

241

We will not, however, present dozens of graphs similar to Figure 8.3 in these pages. Rather than look at on graph at a time, we turn now to an analysis of the distributions of annual changes. This allows us to compare, across datasets and levels of aggregation, to see if US budgeting maintains any common characteristics across all policy domains, across two centuries of spending, and across various levels of aggregation.

Patterns of Budget Change

Figure 8.4 presents three identically formatted graphs. Each one shows the number of times in which a budget changed by a certain percentage compared to that same budget category in the previous year. We look first at overall federal outlays from 1791 to 2010 (e.g., the same data that underlie the logs presented in Figure 7.1), then at the more detailed OMB function and subfunction data, both from 1947 to 2008.

If we focus first on the top graph in the figure, we see that there were 16 cases where federal spending increased by approximately 2 percent; this is the modal observation, the highest point on the curve. Most cases were close to this average value, with the vast bulk of the cases falling within the range of -10 and +20. The other defining characteristic is that many cases are far out in the tails of the distribution; in fact six cases are clustered at +100 percent on the graph because they continue so far out on the right hand side that their inclusion would make the graph difficult to read (the biggest change, from 1862, is + 525 percent). Compared to a Normal (or a bell-shaped) curve, these curves differ in particular ways. First, there are "too many" cases close to the central peak. Second there are too many extreme values. And third, related to the other two, there are too few cases in the relatively moderate areas, called the "shoulders" of the distribution. We have overlaid on each of these curves a Normal distribution based on the same mean and standard deviation as the data presented in the histogram.

Figure 8.4. Changes in Federal Spending at Three Levels of Aggregation
 Part A. Total Outlays, 1790 to 2010

Yearly percent change in Total Budget Outlays

N= 219 K= 68.13 LK=0.553
Note: Extremely high / low values clustered at -80 and +150
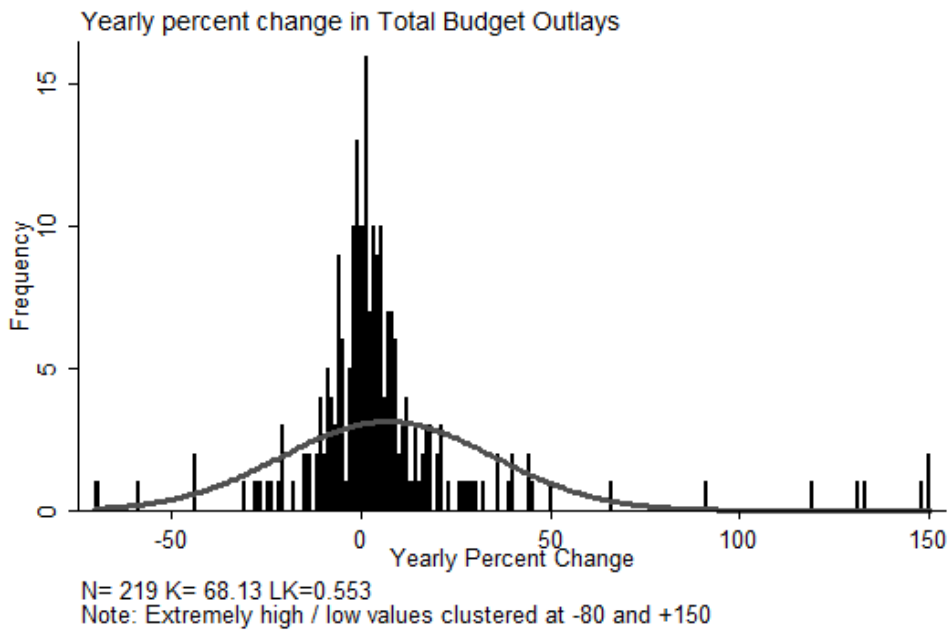
Part B. By OMB Function, 1947 to 2008

Yearly percent change in OMB Functional categories 1947-2008

N= 1074 K= 190.96 LK=0.580
Note: Extremely high / low values clustered at -80 and +150
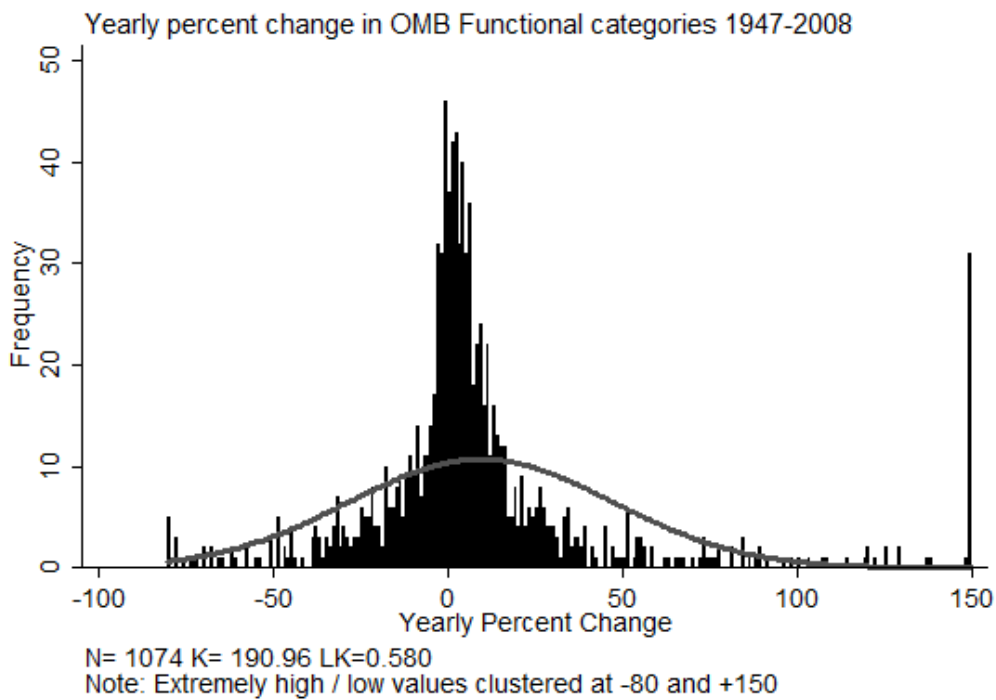
Part C. By OMB Subfunction, 1947 to 2008

Yearly percent change in OMB Subfunctional categories 1947-2008

N= 3726 K= 606.01 LK=0.605
Note: Extremely high / low values clustered at -80 and +150
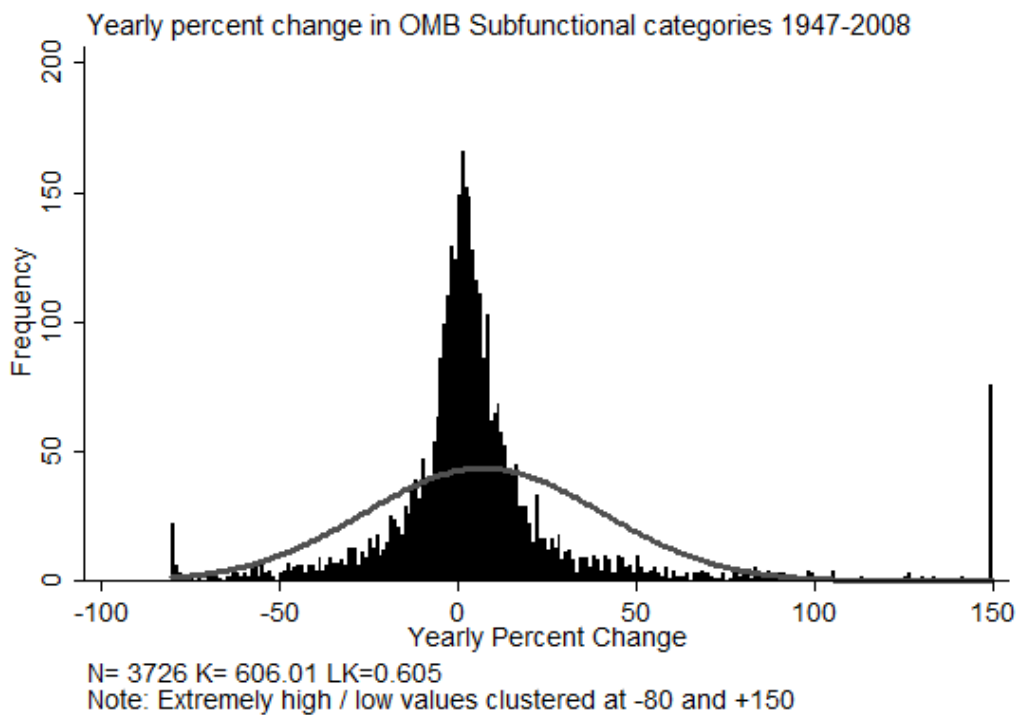
Note: Part B excludes: OMB financial categories 950 and 1000; observations where the lagged value is less than $100 million, and observations where the value is negative. Part C excludes: Categories 4 and 5 from Table 8.A2 (e.g., financial subfunctions and trust funds); observations where the lagged value is less than $100 million, and observations where the value is negative.

For total outlays, similar figures for defense and domestic spending separately show that defense spending has a greater number of extreme values than domestic, but both kurtosis values are extremely high. Defense only: N = 179 LK = .557; Domestic only: N = 179 LK = .415.

For OMB subfunctions, we can distinguish among discretionary, mandatory, and defense spending. Values are as follows: Domestic Discretionary: N = 2171 LK = .600; Domestic Mandatory : N = 762 LK = .519; Defense: N = 694 LK = .667.

While defense-related expenditures have higher kurtosis values than other types of spending, all categories share this characteristic to a substantial degree.

The three graphs in Figure 8.4 have important similarities: they all deviate markedly from

the Normal distribution. There are more very large and very small changes than an assumption

of a Normal distribution would lead one to expect. Because we are dealing with year-to-year

budget changes, these observations in the "tails" of the distribution signal budget punctuations—

large changes from the previous year's budget.

Each graph is based on a progressively larger number of observations. Whereas the first graph has just one observation for each of 219 years, the second is based on 18 and the third ones based on 66 categories of spending, each measured annually from 1947 to 2008. The total number of observations is reported at the bottom of each graph: 219; 1,074; and 3,076.[42] Also reported are two statistical summaries of the degree of peakedness in the graphs.[43] Kurtosis is the statistical measure of the peakedness of a distribution. A Normal distribution, by definition, has a fixed kurtosis value; this is what defines the "bell curve"—for any Normal distribution, the mean and the standard deviation fully describe the shape of the entire curve. If the curve is skewed one way or the other, or if it is too flat or too skinny, it is not a Normal curve, by definition. Statisticians refer to the mean, variance, and skew as the first three moments of a distribution. Kurtosis is the fourth moment, and is a summary of how high the central peak of the distribution is compared to the rest of the distribution. This is also related to how "fat" or "long" the tails of the distribution are. For a Normal distribution, we know that only 2.5 percent of the cases will be found more than two standard deviations to the right of the mean (e.g., beyond a point called 2 sigma), just 0.5 percent past 3 sigma, and vanishingly small numbers as one goes further out in the tails. A Normal distribution is "well behaved" in the sense that it has

---

[42] From 1947 to 2008 there are 61 percent change calculations, so with 18 categories there should be 1,098 observations for the second graph, and 61 x 66 or 4,026 for the third one. Some data series do not start in 1947 however, which explains why the Ns in the graphs are slightly lower than these hypothetical maxima. We also exclude from our analyses certain values, especially in the third graph, that might bias the results in our favor: percentages based on very low baseline numbers (e.g., any value less than $100 million), and any years in which an amount entered is a negative number (of which there was just one in the dataset).

[43] K is the standard measure of kurtosis; a Normal curve by definition has a K value of 3 and any numbers higher than three have "excess kurtosis" compared to the Normal. LK is a standardized measure (e.g., it varies only between 0 and 1) and it is less affected by single outliers so is considered a more accurate measure. Normal curves have an LK value of 0.123. It is clear from glancing at these three graphs that all have high kurtosis, and the numbers simply reflect that observation.

few extreme outliers. In "extreme value" distributions, on the other hand, wild outliers are much more common.[44] L-Kurtosis (LK) is an adjusted measure of kurtosis that is less sensitive to sampling variability in the tail of the distribution (Hosking 1990; Bruenig and Jones 2011).

A distribution like any of the three in Figure 8.4 is an "extreme value" distribution. Equivalently, we can say it has high kurtosis, a high central peak, or "fat tails." What all these things mean is that in comparison to a Normal curve the shape has more cases than one would expect in the central peak, fewer than would be in the moderate shoulders, and far too many in the extremes. Why would budgets be that way? And, perhaps more intriguingly, why would three series each at a different level of aggregation (relatively specific OMB "subfunctions," more general "functions," and then the entire budget one year at a time) show virtually identical patterns?

Recall from Chapter 7 that we can conceive of a budget series as consisting of a "path dependent" trajectory that we characterized as "exponential incrementalism" that is disrupted by "critical moments" such as large-scale wars that shift the budget trajectory. When we examined the aggregate budget outlay series between the critical moments (wars and the Depression), we found punctuated budget series in several cases—the most important being domestic spending

---

[44] It has become fashionable in business circles to discuss "six sigma" processes, which means to manufacture products with very few defects. In a Normal distribution, cases beyond six standard deviations to either side of the mean occur about once per 500 million. Manufacturing processes should be subject to a Normal distribution, so this is a good way of thinking of reducing unwanted variance; in the context of a manufacturing plant this might mean defective products. More recently attention has turned to another type of business danger: six sigma events, or events that are expected to be so rare that they need not be planned for. But if the world is complex rather than Normal, these supposedly rare events may be more common and therefore must be expected. Nassim Taleb (2010) calls these "Black Swan" events. A burgeoning literature in business and economics focuses on the dangers of "fat tailed" distributions and arguing that the economy harbours more of these than accepted wisdom has led us to expect. In any case, we should have no doubt that government budgets are fat tailed indeed, as this chapter will amply demonstrate.

since WWII. Moreover these critical disruptions can't account for the distributions in Panel 2 and 3, because they are based on a budget equilibrium period. Even during such an aggregate budget equilibrium there can be considerable "churning" at the function or subfunction level as new programs are created, built up, and neglected as congressional attention shifts from one problem to another.

As we will see below, the cases that form the extremes in one graph are not necessarily the same in the others. Rather, there is something about the underlying process of budgeting that creates the "stickiness" we observe, or an adhesion to the status quo at some times but not at others. Further, there is some process by which more extreme values are generated. These are not just the accumulation of idiosyncratic and unrelated factors; if they were the distributions would be Normal. Some process by which changes are "amplified" must be going on; otherwise the process could not produce an extreme value distribution. The question is whether they are caused by exogenous shocks or by some process internal to government. The fact that we see the same at three levels of aggregation suggests that perhaps a similar dynamic is at play so we should look for an explanation that can explain all three. In fact, we and others have found similar budget processes in a wide range of settings in the US, across states and other levels of government (even local school districts), and abroad (see Jordan 2003; Robinson 2004; Jones and Baumgartner 2005; Mortensen 2005; Breunig 2006; Breunig and Koski. 2006; Baumgartner et al. 2009; Jones et al. 2009). All this suggests that there is something about the process of budgeting, rather than the historical context, that generates an extreme value distribution. Otherwise when we looked at budgets in different places or from different times we would not expect to see such similarity.

The first and most obvious answer to the question of why these distributions are so extreme would be that governments respond to war. That is, for the first graph in Figure 8.4, we might find that those extremely high budget changes are associated with years of war; the huge declines, with the draw-down from war, and there is little more to be explained. We will look at this closely. The second explanation would be that there is a process that leads policymakers to be quite attuned to inertial forces at certain times but completely abandon their attachment to the status quo during other periods. Endogenous factors, the relations among policymakers themselves, matter more than exogenous factors or external shocks.

Figure 8.5 shows the historical data broken down for defense and domestic spending separately. This allows a first cut at the question of whether war is the cause of these extreme values.

Figure 8.5 Defense and Domestic Spending 1791 to 1970

Yearly percent change in Total Defense Budget

N= 179 K= 60.70 LK=0.564
Note: Extremely high / low values clustered at -80 and +150

Yearly percent change in Total Domestic Budget

N= 179 K= 49.60 LK=0.409
Note: Extremely high / low values clustered at -80 and +150
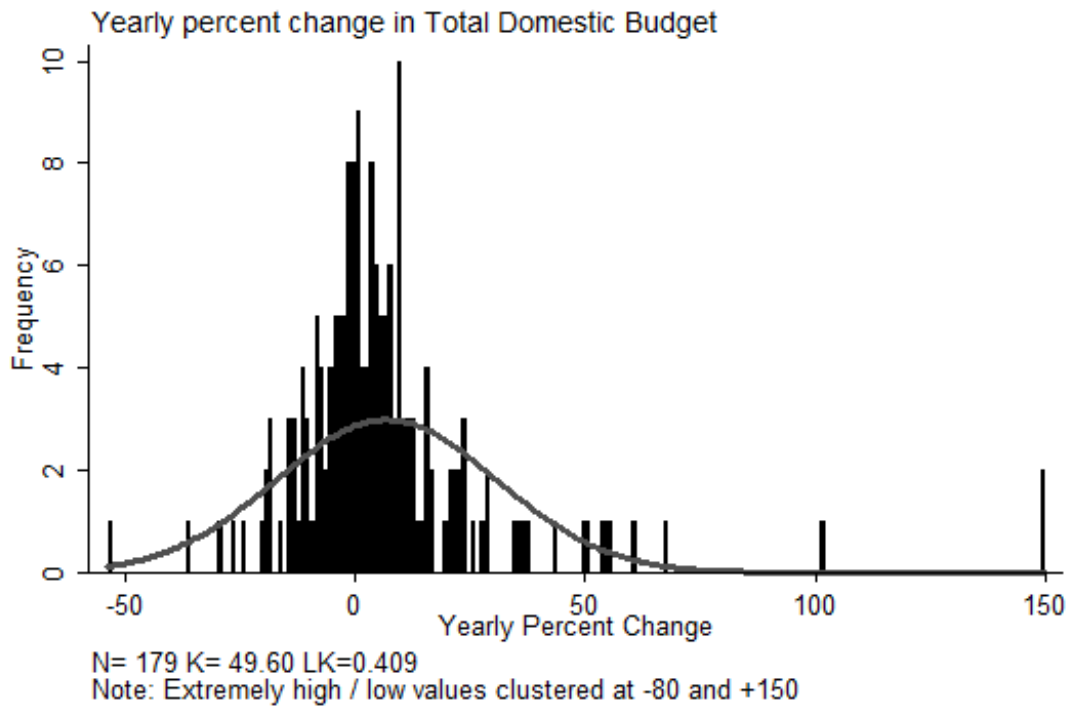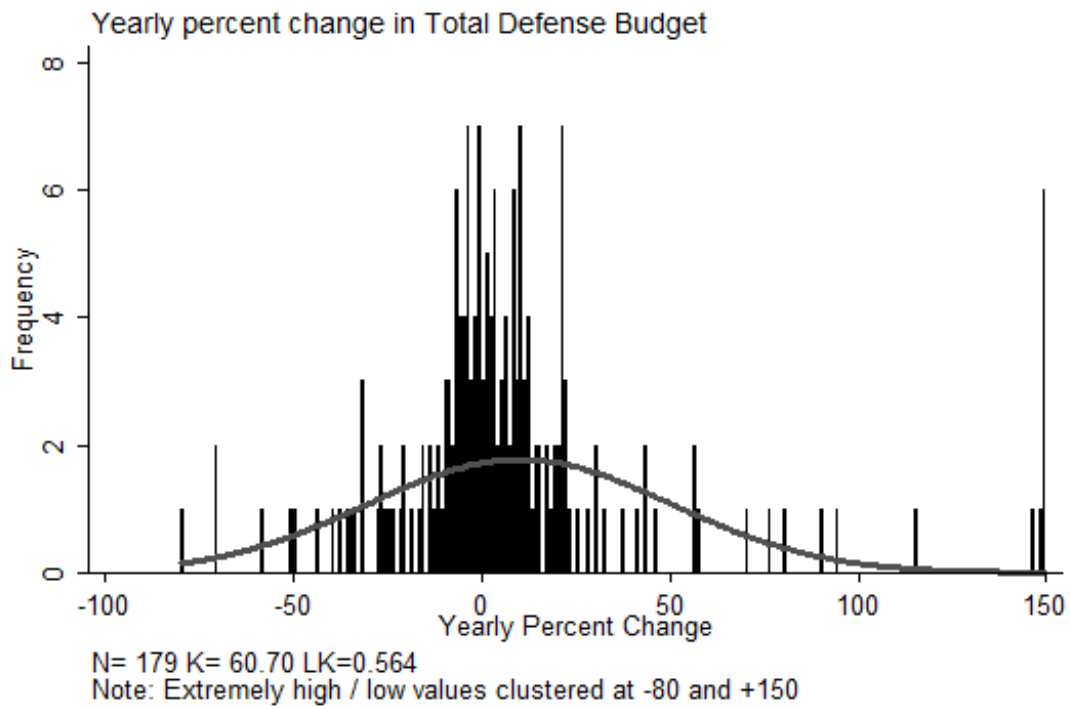
There is no question that war can lead to huge budget reallocations, as the top graph in

Figure 8.5 amply demonstrates. Whereas the average is clustered around small growth over

inflation, there are six cases greater than 150 percent, and several other extremely high values.

Extremely low values are present as well, with seven cases showing more than a 50 percent

decline in a single year. LK for the defense series is 0.557, reflecting this clear departure from

Normality (where LK would be 0.123). The bottom graph in the Figure shows domestic

spending. While this graph shows lower levels of kurtosis (LK = 0.415), the shape of the

distribution is very similar, slightly more peaked but with fewer cases in the far extremes. Both

distributions are shifted rightwards (that is, they show an average growth in government over the

period, not a decline), and both are skewed to the positive side, indicating that expansions of

spending are more punctuated than are cuts in expenditures. Clearly, defense expenditures are

Some wars do obviously generate huge budget shifts. But other wars do not. And

sometimes huge shifts come in the absence of war. Table 8.1 shows the 10 largest increases and

decreases in federal spending from 1791 to 2008.

Table 8.1. Ten largest increases and decreases in US Federal outlays, 1791-2008

Declines		Increases	
Year	Change	Year	Change
1920*	-70.26	1862*	524.98
1866*	-58.81	1918*	450.01
1843	-48.20	1812*	148.55
1947*	-43.58	1917*	133.37
1946*	-43.35	1942*	131.58
1922	-30.76	1943*	119.70
1796	-27.87	1847*	91.72
1867*	-26.34	1844	86.27
1817*	-24.56	1836	66.25
1825	-23.95	1824	50.13

* indicates a year during which the US was engaged in war, or declines in the two years
following the end of a war. Six of the declines and seven of the increases are related to war.

The US was at war in 1775-83 (War of Independence); 1812-15 (Great Britain); 1846-48 (Mexico); 1861-65 (Civil War); 1917-19 (World War I), 1942-45 (World War II); 1950-53 (Korea); 1965-73 (Vietnam); 1990-91 (Iraq) and from 2003 to present (Iraq and Afghanistan).

Looking at the increases first, seven of the 10 most extreme values, and all of the largest ones, are war-related. Six of the biggest decreases also come within two years of the end of a war. The US was born in war and has been at war for large parts of its history: in 1775-83 (War of Independence); 1812-15 (Great Britain); 1846-48 (Mexico); 1861-65 (Civil War); 1917-19 (World War I), 1942-45 (World War II); 1950-53 (Korea); 1965-73 (Vietnam); 1990-91 (Iraq) and from 2003 to present (Iraq and Afghanistan). Most of the extreme values listed in Table 8.1 are during times of major war, though it is worth noting that all wars are not associated with the kinds of huge shifts as were seen during the Civil War and especially World War One. The massive expansions of the size of the US federal government associated with these mobilizations had permanent impacts on the size of the state, but most wars have not affected the overall size of the federal budget.

Patterns of Deviations in Stable Budgetary Eras

If we return to our analysis of path dependency and disruptions presented in Chapter 7, we realize that Figure 8.5 mixes equilibrium periods with periods of destabilization. Path dependency and hence budgetary incrementalism, are consistent with shifts associated with "critical moments." Not all of the largest budget changes of Table 8.1 are associated with a critical moment. Some periods of budget development included destabilizations, but did not meet our rigorous criteria for judging equilibrium periods.

What about within the equilibrium periods? These periods were characterized by path dependence and exponential incrementalism. Expenditures during these periods deviated from the exponential path, but returned rapidly to the path. Focusing only on the three stable periods

consistently isolated by our two approaches, we examined the residuals from the fitted least squares line for annual changes in the logarithm of the budgets, with the results presented in Figure 8.6. The periods show different distributions clearly with different standard deviations, skewness and kurtosis, strengthening our previous findings of different budgeting eras throughout the years. The residuals are the random adjustments to the general trends; to verify the hypothesis of exponential incrementalism the residuals must be noise—that is, Normally distributed.

During the first two periods, defense spending is more punctuated (that is, with higher kurtosis), while domestic spending approaches normality. In the last period, after World War II, the relative roles are reversed, with domestic spending more punctuated and defense spending more normal. The destabilizations in domestic policy in the post-war period are more abrupt than in the previous periods, and are more abrupt than defense spending. This could be a consequence of the addition of new domestic programs and subsequent cutting of them at a level unprecedented in earlier periods. The finding dovetails with stochastic studies of changes in budget allocations across programs, all of which focus on the post-war period.

Much of the broadening of government occurred in the Post WW II period. We suggest that the more punctuated pattern evident in the domestic data is in large part a consequence of the addition of new programs, and the neglect of older ones. As government broadened, and congress enacted new statutes implementing new programs, expenditures increased. As the reaction to the expansion set in, congress reduced the growth of these and older programs, resulting in the punctuated pattern evident in Figure 8.6, panel C, for the last budgetary period.

Figure 8.6: Residuals from Model Fits of Stable Periods
Panel A: Total budget
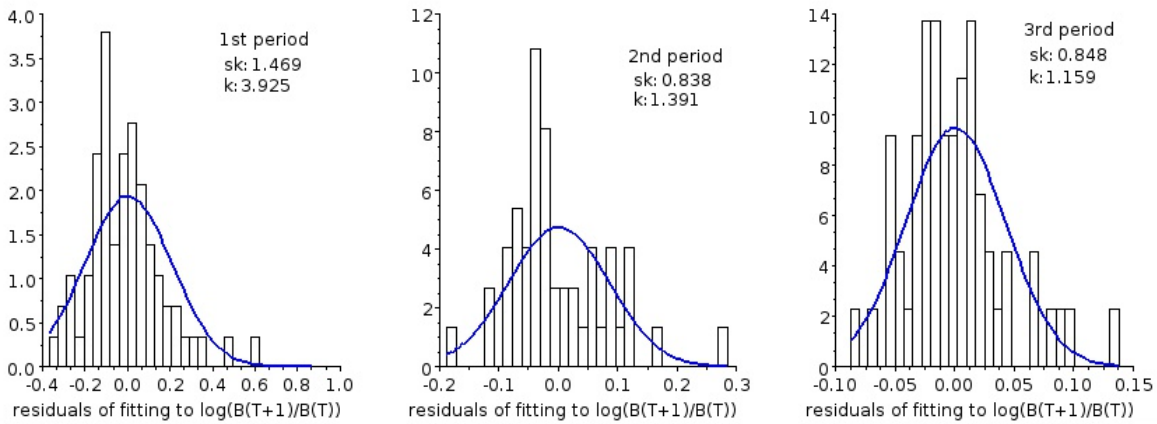
Panel B: Defense
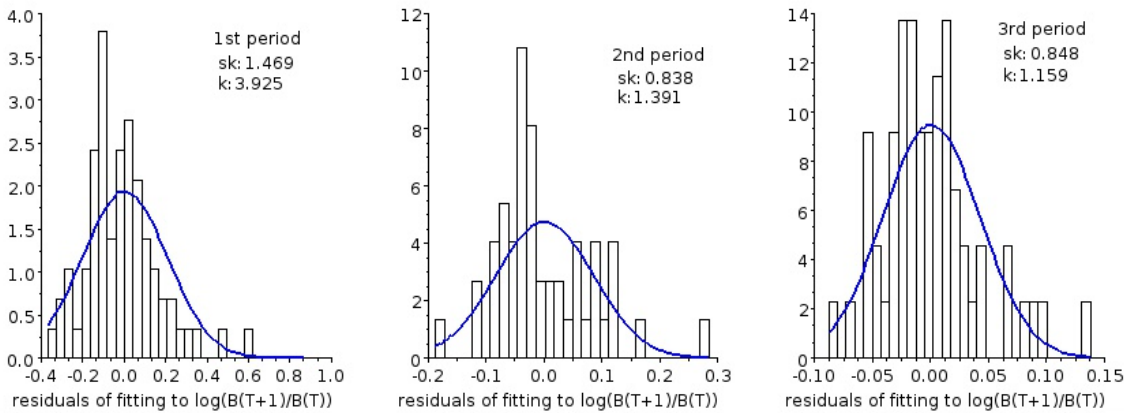
Panel C: Domestic
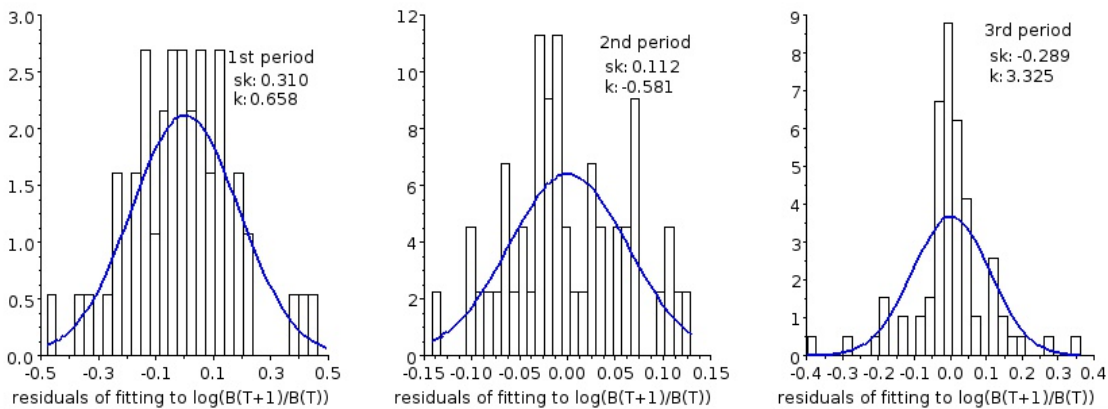
Source: Jones, Zalyani, and Erdi 2012

Subfunction Level Budgeting Since WW II

The policy process approach to budgeting (Jones and Baumgartner 2005), with its reliance on resistance and friction in policymaking institutions, implies that the budgetary path is disjoint and episodic, and hence annual budgetary changes would be subject to higher kurtosis values, implying leptokurtosis, while skewness remains within the bounds of Normality. In our analysis of path dependency we found this to be true in important instances, particularly for domestic expenditures in the post World War II period. But budgeting does not occur at the level of the total expenditures of the country, nor at the overly broad categories of "domestic" and "defense." These are aggregations of programs, where the real budgetary action is. Our budget data, drawn from OMB, is at the function and subfunction levels, which still are aggregations of programs (although the subfunction level is getting much closer to the operative decision-making level.

The stochastic process approach to studying budgets (Padgett 1980; Baumgartner and Jones 2005a 2005b) shows that pure incrementalism requires that year-to-year changes in program-level budgeting be distributed Normally (for linear incrementalism). For exponential exponentialism, year-to-year percentage changes should be Normally distributed. This is not the case (Padgett 1980; Jones and Baumgartner 2005a, 2005b). For subfunction-level data since the Second World War, there are too many extreme values in budget change distributions to be characterized as incremental.

Tables 8.2 and 8.3 show similar data for the biggest increases and decreases, by OMB function and subfunction, respectively.

Table 8.2: Highest Percentage Increases and Decreases, 1947-2008 OMB Functions

Year	OMB Topic	Description	Amount (Millions)	Percent Change
2008	370	Commerce	218,234	2,024.14
1956	450	Community Development	2,456	1,454.43
1950	270	Energy	4,490	1,025.31
1961	450	Community Development	18,470	774.11
1950	450	Community Development	1,267	682.10
1950	370	Commerce	34,797	589.05
2008	270	Energy	4,222	538.73
1976	270	Energy	47,210	489.76
2004	270	Energy	3,571	465.93
2005	450	Community Development	91,890	351.39
1954	350	Agriculture	20,860	331.44
1974	400	Transportation	69,064	297.77
1963	450	Community Development	6,069	296.41
1967	571	Medicare	19,293	294.46
1965	450	Community Development	5,820	288.26
1980	270	Energy	92,959	278.42
1950	350	Agriculture	17,548	276.08
1967	370	Commerce	44,737	246.15
1979	350	Agriculture	23,465	236.32
2002	270	Energy	469	232.62
1955	450	Community Development	158	-93.53
1962	450	Community Development	1,531	-91.71
1951	350	Agriculture	2,980	-83.02
1998	270	Energy	375	-82.74
1972	370	Commerce	12,738	-80.03
1993	370	Commerce	14,948	-77.85
1951	370	Commerce	7,711	-77.84
2006	270	Energy	317	-77.29
1964	450	Community Development	1,499	-75.30
1981	270	Energy	24,621	-73.51
1969	370	Commerce	10,401	-72.07
1968	270	Energy	2,235	-71.18
1995	370	Commerce	11,206	-69.80
1959	450	Community Development	715	-69.21
1984	350	Agriculture	21,423	-67.69
1959	370	Commerce	9,185	-67.54
1961	270	Energy	2,181	-65.33
2006	450	Community Development	32,782	-64.32
1976	300	Natural Resources	17,867	-61.95
1977	270	Energy	18,267	-61.31

Note: The table excludes financial functions, lagged amounts less than $100 million, and amounts less than zero.

Table 8.3: Highest Percentage Increases and Decreases, 1947-2008 OMB Subfunctions

Year	OMB Topic	Description	Amount (Millions)	Percent Change
1999	0517	DOD- Other	5,582	4,551.67
1965	4510	Community Development	4,831	3,532.33
1974	4010	Ground Transportation	56,638	2,433.01
1962	0517	DOD- Other	3,312	1,814.45
1968	5050	Other labor services	3,895	1,571.67
1973	8060	General purpose fiscal assistance	34,888	1,562.13
1967	7020	Veterans education and training	3,257	1,316.09
1966	0517	DOD- Other	8,076	1,309.42
1955	5040	Training and Employment	2,133	1,241.51
1950	1510	Intl dev. and hum. assistance	1,956	814.02
1961	4510	Community Development	16,744	696.95
1957	4530	Disaster Relief and insurance	3,208	682.44
2005	4530	Disaster Relief and insurance	82,798	651.00
1975	6040	Housing Assistance	148,220	570.71
1978	2740	Emergency energy preparedness	8,613	568.71
1973	4530	Disaster Relief and insurance	2,338	566.10
1950	6040	Housing Assistance	5,547	526.07
1951	0540	Defense-related activities	21,112	525.91
1989	4530	Disaster relief and insurance	2,046	514.41
1963	4520	Area and regional development	5,687	484.48
1991	4530	Disaster Relief and insurance	1	-99.96
1998	0517	DOD- Other	120	-98.47
1962	4510	Community Development	296	-98.23
1951	6040	Housing Assistance	114	-97.95
1955	4510	Community Development	92	-96.18
1986	2740	Emergency energy preparedness	194	-94.64
1958	4530	Disaster Relief and insurance	198	-93.83
1976	3040	Pollution control and abatement	2,129	-92.40
1973	4010	Ground Transportation	2,236	-91.34
2006	4530	Disaster Relief and insurance	7,416	-91.04
1977	1520	Intl. Security Assistance	1,957	-90.36
1948	5040	Training and Employment	84	-89.95
1964	0517	DOD- Other	622	-89.14
1951	3510	Farm Income Stabilization	1,928	-88.25
1968	1520	Intl. Security Assistance	1,560	-86.68
1948	0540	Defense related activities	38	-86.23
1964	4520	Area and Regional Development	977	-82.82
1957	0540	Defense-related activities	760	-80.82
1967	4530	Disaster Relief and insurance	129	-89.88
1952	0540	Defense-related activities	4,322	-79.53

Note: The table excludes financial functions, trust fund subfunctions, lagged amounts less than $100 million, and amounts less than zero.

When we look at the largest changes in budgetary allocations across the entire post-war period, it is hard to suggest that these are related to any single cause. Some spending categories recur over multiple times (e.g., community development – HUD block grants to cities; disaster

relief; agriculture; energy) that appear to be very volatile. Others are related to the initial

expansions of programs (e.g., Medicare in 1967) though we should note we did not include any

cases where the baseline value (e.g., the spending in the previous year) was less than $100

million. This ensured that we did not find high percentage changes only because we started with

an extremely low baseline value.[45]

Overall, it is hard to find a historical trend in the data in Table 8.2 or 8.3 that would

suggest particular periods are especially likely to produce large budget adjustments in individual

policy areas. While some categories recur, there are few clear patterns of obvious historical

junctures (e.g., the creation of major new programs) that seem to explain the cases we find in the

tails of our distributions.

Time Trends in Budget Changes

Another way to look at the issue is to examine the trends of large programmatic budget changes

over the period. Table 8.4 organizes the frequencies of large budget changes by presidency. We

defined a large annual increase as greater than +20 percent and a large decrease as more than -15

percent (after the effects of inflation have been removed). We have divided the Eisenhower

administration into two parts to reflect the increasing scope of government after the mid-1950s.

---

[45] Medicare entered the budget in 1966 with initial spending figures of $4.9, $19.3, $22.8, and $30.4 billion for 1966 through 1969, and growth rates for 1967 through 1969 of 294, 18, and 33 percent.

Table 8.4: Percentage Changes in Budget Authority by Presidencies*

Administration (Fiscal Years)	N	Large Increase [> 20%]	Large Decrease [< -15%]	Incremental [-15% < 20%]
Truman (FY 1948-53)	281	24%	24%	52%
Eisenhower 1 (FY 1954-55)	103	21%	22%	56%
Eisenhower 2 (FY 1956-61)	316	29%	12%	59%
Kennedy (FY 1962-63)	106	18%	13%	69%
Johnson (FY 1964-69)	324	19%	15%	67%
Nixon (FY 1970-75)	337	26%	15%	59%
Ford (FY 1976-77)	116	17%	13%	70%
Carter (FY 1978-81)	248	10%	12%	79%
Reagan (FY 1982-89)	496	11%	15%	74%
Bush (FY 1990-93)	248	12%	9%	79%
Clinton (FY 1994-2000)	434	9%	11%	80%
Overall	3009	18%	15%	67%

*Note that the series begins with percentage changes from FY 1947 to FY 1948 and that outgoing presidents were credited with the fiscal year underway when the new president was sworn in. N's represent the total year-to-year subfunction budget changes in a presidency.

The secular tendency for government functions to grow less, as a percentage, in later years is more important than the particular individuals who hold the presidency. Incremental changes increased as a percentage of all changes throughout the period, although the Nixon administration is a clear exception. In the Truman administration, we classified only about half of all budget changes as incremental; but for GHW Bush and Carter, around 80% were. Our definition of incremental is admittedly generous, but this is a consequence of there being many larger budget changes at the subfunction level than many have realized. Federal budgetary processes are producing year-to-year budget changes within much narrower ranges today than they did in the early post-war period. In retrospect, the Truman and Eisenhower budgets were rife with major reallocations of spending, huge new initiatives, and major retrenchments from previous spending patterns: far from being a period of calm, in fact there were major budget reallocations

In general, over time program budgeting has become less variable and more stable regardless of presidential administration. Note, however, the differences between instances of increases and decreases. In the Truman and Eisenhower I years, increases and decreases in budgets offset. During Eisenhower II and Kennedy, Johnson, Nixon, and Ford administrations, large increases exceeded large decrease. For Carter and afterward decreases were more prominent. This is consistent with our analysis of new issue expansion in Chapter 4. We found, examining the broadening of government through the search and lawmaking processes, that the expansion began in the mid-1950s and peaked in 1978, during the Carter administration. The expansion of budgets presented in Table 8.4 mirrors that pattern.

Look again at Figure 8.6. Note that for domestic spending, the kurtosis for the residuals for the path dependent model indicates normality, but for the last period the kurtosis indicates considerable instability within the budget path. Year-to-year domestic expenditures shift pretty severely in some years. This is almost certainly due to considerable budgetary churning at the subfunction level. As programs were added during the period, and many were, the positive tail of the residuals would increase. However, this would lead to a skewed distribution, which is not in evidence. This indicates that many of the large changes were offset by cuts, either in the new program or in other programs. This is doubtless a consequence of the budget battles that occupied center stage during the 1980s and 1990s.

What is going on here? Variability in program changes is declining, but kurtosis is high. The kurtosis for budget changes subfunctions remain approximately constant over the post-war period. That is, all other things being equal, each budget year is at risk for a large budget change and this risk does not decline over time.

Figure 8.7 graphs the kurtosis along with a measure of variability, the Inter-Quartile Range. This is the difference between the values at the first and third quartiles of the distribution. We use it rather than the more commonly used standard deviation because it is somewhat more stable and less sensitive to one or two extreme values. Similarly, the L-kurtosis is less sensitive to such values. The data show a steady and cumulatively impressive reduction in the variability of government spending as well as economic growth. Kurtosis changes considerably year-to-year, but unlike the inter-quartile range, there is no downward trend; on average, it has not changed.

What does that mean? As the experimental period of the early 1950s subsided, programs stabilized, better management developed, that management was able to incorporate more information, and better monitor the environment. This led to considerable stability overall, in absolute terms (the interquartile range, like the standard deviation, is measured on the same scale as the original variable). But the nature of the change process, monitored by the kurtosis (which is a relative measure), remains consistent. Changes, when they occur, are either very stable or highly punctuated. This is consistent with the model of accumulated error and sudden periods of alarmed catch-up that we have noted to be at the core of a punctuated equilibrium model of budgeting. In spite of a secular trend toward lower volatility in budgeting, which could be taken as a sign of incrementalism, we see no trend toward lower kurtosis. Budgets remain equally characterized today as they were when they were much more volatile by their characteristic shape: a high central peak representing the great tendency to re-create the status quo, as well as fat tails showing the dramatic re-allocations that consistently affect a significant portion of the budget. This signature of punctuated equilibrium remains present no matter how the variance in spending is reduced, as it has been quite dramatically over the post-war period in America.

Figure 8.7. Declining Variance in Budget Changes, but a Constant Level of Kurtosis
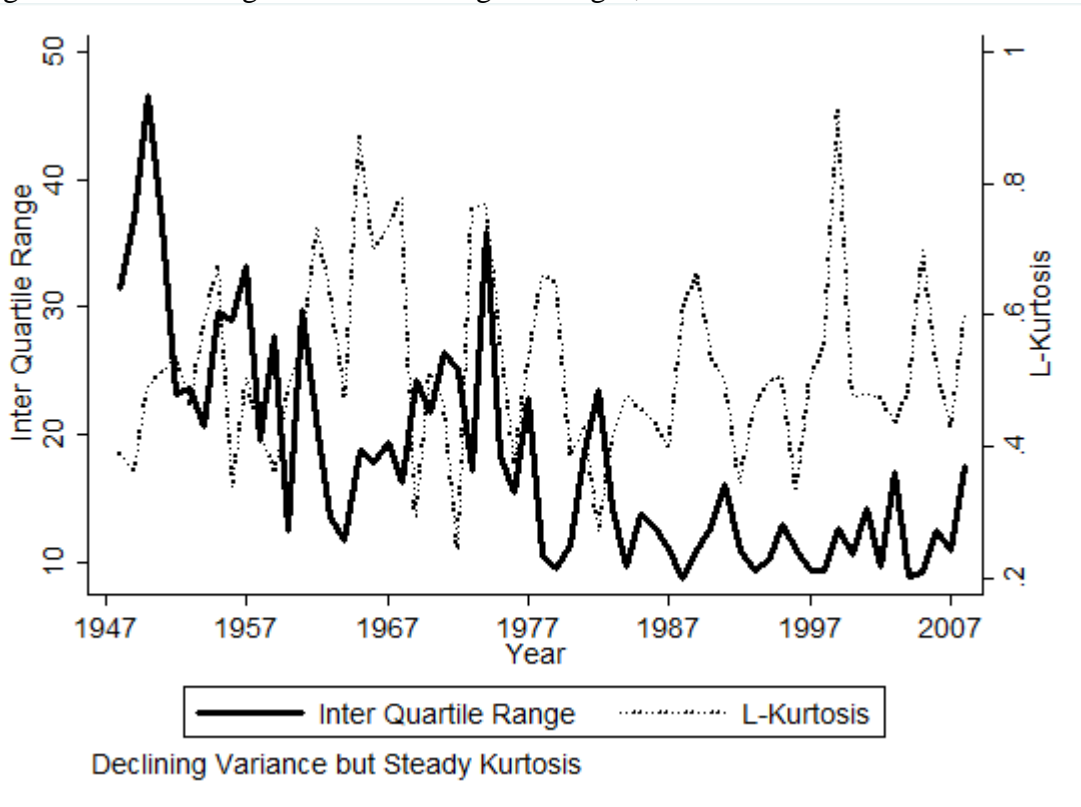
Note: The dark solid line presents a measure of variance, the inter-quartile range (e.g., the difference between the 25th and the 75th percentile), and the dotted line presents L-Kurtosis, a measure of the peakedness of a distribution. Both are calculated on the annual figures of percent change by OMB subfunctions, after deleting financial and trust-fund subfunctions as well as cases where the base value is less than $100 million or where the value is negative.

Endogenous and Exogenous Causes of Large-Scale Policy Change

How can we explain the fact that no matter at what level of aggregation we consider the federal budget, we observe an extreme-value distribution of annual changes? An extreme value distribution implies two things: powerful inertial forces (hence the strong central peak in the distribution) and uncontrolled or unlimited changes when that status quo orientation is for some reason overthrown.

It is tempting to think that major policy changes can be associated with the crisis that must have caused them. Policymakers respond to new challenges, and one need look no further than the financial meltdown of 2007–2008 to see the importance of this explanation.

Governments in virtually all the western countries (sometimes reluctantly) responded massively

to stabilize their economies. In the US, the ideologically distinct administrations of Presidents

Bush and Obama responded in similar ways to the crisis, and did so with breathtaking speed and

scope. The US federal government came into ownership of 60 percent of General Motors,

bringing new and literal meaning to the phrase that "what is good for GM is good for the

country." All this was in spite of the widely shared hostility by all major political figures to have

any ownership stake in such an enterprise. Further, the $700 billion intervention into the

financial markets came at a time of massive government debt worsened by the extraordinary

expenses of two major wars and a previous administrative policy of limited taxing that was

already generating large deficits each year. Clearly, the scope of the crisis was so great that

extraordinary measures were called for, and they were quick to materialize.

There is no reason to think that policy changes must be due entirely to exogenous or

endogenous causes; both can matter in the real world. But it is interesting to know whether a

larger or smaller proportion of the major policy shifts that we do observe can be linked to the

presence of a crisis. In this chapter we have looked at extreme changes in budgetary decision

making at three levels of aggregation, and we asked whether in general we can associate major

international or domestic crises with these. This is subtly different from an approach that would

study each identifiable crisis and ask what policy changes emerged from them. As John Kingdon

(1995) has amply described, the presence of a crisis can open a "window of opportunity" during

which policy entrepreneurs may attempt to push any number of new initiatives. The US

response to the Soviet launch of Sputnik in 1957 included, for example, massive new programs

to encourage science and technology education, and these were so broadly construed that they

were the basis of across-the-board student loan and financial aid programs to encourage college

attendance decades later. To the extent that the crises are many and their responses are unpredictable, these can be treated as endogenous in that they are a constant and predictable part of the system (that is, there will regularly be some crisis of some magnitude), and policy entrepreneurs can attempt to use them to justify policy changes that they already support. To the extent that the crises are few and their effects directly attributable (e.g., a war causes defense spending to increase; a hurricane causes emergency relief spending to increase), then these patterns should be obvious.

Appendix to Chapter 8

Table 8.A1 shows 20 distinct categories of spending (called "Functions" in OMB argot), each corresponding to a purpose or goal such as securing the national defense, providing income security to those in need, or retirements through Social Security. Note that for most spending categories, OMB focuses on the "function" or the purpose of the spending, not the agency which spends it. That means that if two executive agencies have spending programs that are related to energy conservation or energy research, they will nonetheless be reported in the same budget category. The "functional" rather than "administrative," "agency," or "program"-based characteristic of this dataset is important for us since we are interested in what the spending is for, not which agency spends it. There are two spending categories where this does not apply: Social Security and Medicare. These extremely large programs are, by OMB definition, their own functional categories. Many budget analyses are based on program or agency budgets, and those have their interest. But a focus on the function, or purpose, of the spending is more appropriate for us here.

Table 8.A1. OMB Budget Functions.

Topic	Description
050	National Defense
150	International Affairs
250	General Science, Space, Technology
270	Energy
300	Natural Resources & Environment
350	Agriculture
370	Commerce and Housing Credit
400	Transportation
450	Community & Regional Development
500	Education
550	Health
571	Medicare
600	Income Security
651	Social Security
700	Veterans Affairs
750	Administration of Justice
800	General Government
900	Net Interest
950	Offsetting Receipts
1000	Total

Note: our analysis excludes topics 950 and 1000

Two other details are important to understand OMB figures. One is that the last two categories (Offsetting Receipts, and Total) differ from the others in that they are purely financial categories. Total is simply the sum of the other categories, so we do not analyze it separately. Offsetting Receipts consists of negative figures reflecting net income to the government from such things as the sale of assets (e.g., a building or property), rents, and other features that bring in money. As these reflect the combination of many different sources of income, and they are not spending in any case, we do not use these figures in the analyses below.[46]

In addition to 20 major functions of spending, OMB also provides break-downs at a greater level of specificity, called "subfunctions." These are listed in Table 8.A2. The numbers

---

[46] We should also note that certain categories of spending report "net" spending, after offsetting receipts. For example when one pays an entrance fee to a national park, that partially offsets federal spending in subfunction 303, recreational resources. The amount entered in the federal budget is not the total amount spent, with a separate amount for receipts, but rather the difference between expenditures and receipts. Thus, the federal budget in some ways underestimates the total amount of activity because it only reflects the "net" rather than the "gross" activity.

for each subfunction correspond to the numbers of the major functions in Table 8.A1. We also

add another column distinguishing among five categories of spending: 1) Domestic Mandatory;

2) Domestic Discretionary; 3) Defense; 4) Financial; and 5) Trust Funds. The first three

categories are useful in various analyses to ascertain whether what we observe differs across

mandatory, discretionary, and defense-related spending, so we provide the full break-down here.

Categories 4 and 5 are essentially financial categories that do not correspond to straightforward

spending goals. For example, many government programs have "trust funds" where certain

dedicated tax revenues (such as airport use taxes) are allocated. Spending from these trust funds

is reported only in net terms (that is, total expenditures minus receipts); often, as a trust-fund

accumulates money, these are negative values. Because these financial subfunctions do not

correspond to clearly defined spending goals as the other categories do, we exclude categories 4

and 5 from all analyses. Table 8.A2 lists 96 different spending categories, of which 30 are

financial categories. This leaves 66 topic-related subfunctions for the bulk of our analyses

below. We should also note that some spending categories did not exist in 1947. Medicare, for

example, began in the 1966 fiscal year. Once established, no financial spending categories

disappeared during the period of our study.

Table 8.A2. OMB Budget Subfunctions.

Topic	Category	Description
511	3	DOD - Military Personnel
512	3	DOD - Operation and Maintenance
513	3	DOD - Procurement
514	3	DOD - Research, Development, Testing and Evaluation
515	3	DOD - Military Construction
516	3	DOD - Family Housing
517	3	DOD - Other
500	5	Trust Fund
530	3	Atomic energy defense activities
540	3	Defense-related activities
1510	3	International development and humanitarian assistance
1520	3	International security assistance
1530	3	Conduct of foreign affairs
1540	3	Foreign information and exchange activities
1550	4	International financial programs
1560	5	Trust Fund
2510	2	General science and basic research
2520	2	Space flight, research, and supporting activities
2500	5	Trust Fund
2710	2	Energy supply
2720	2	Energy conservation
2730	2	Emergency energy preparedness
2760	2	Energy information, policy, and regulation
2700	5	Trust Fund
3010	2	Water resources
3020	2	Conservation and land management
3030	2	Recreational resources
3040	2	Pollution control and abatement
3060	2	Other natural resources
3000	5	Trust Fund
3510	1	Farm income stabilization
3520	2	Agricultural research and services
3530	5	Trust Fund
3710	4	Mortgage credit
3720	2	Postal Service
3730	4	Deposit insurance
3760	2	Other advancement of commerce
3700	5	Trust Fund
4010	2	Ground transportation
4020	2	Air transportation
4030	2	Water transportation
4070	2	Other transportation
4000	5	Trust Fund
4510	2	Community development
4520	2	Area and regional development
4530	2	Disaster relief and insurance
4500	5	Trust Fund
5010	2	Elementary, secondary, and vocational education
5020	1	Higher education
5030	2	Research and general education aids
5040	2	Training and employment
5050	2	Other labor services
5060	2	Social services

5000	5	Trust Fund
5510	1	Health care services
5520	2	Health research and training
5540	2	Consumer and occupational health and safety
5500	5	Trust Fund
5710	1	Medicare
6010	1	General retirement and disability insurance (excluding Social Security)
6020	1	Federal employee retirement and disability
6030	1	Unemployment compensation
6040	2	Housing assistance
6050	1	Food and nutrition assistance
6090	1	Other income security
6000	5	Trust Fund
6500	1	Social Security
7010	1	Income security for veterans
7020	1	Veterans education, training and rehabilitation
7030	2	Hospital and medical care for veterans
7040	4	Veterans housing
7050	2	Other veterans benefits and services
7000	5	Trust Fund
7510	2	Federal law enforcement activities
7520	2	Federal litigative and judicial activities
7530	2	Federal correctional activities
7540	2	Criminal justice assistance
7500	5	Trust Fund
8010	2	Legislative functions
8020	2	Executive direction and management
8030	2	Central fiscal operations
8040	2	General property and records management
8050	2	Central personnel management
8060	2	General purpose fiscal assistance
8080	2	Other general government
8090	4	Deductions for offsetting receipts
9010	1	Interest on the public debt
9020	4	Interest received by on-budget trust funds
9030	4	Interest received by off-budget trust funds
9080	4	Other interest
9090	4	Other investment income
9510	4	Employer share, employee retirement (on budget)
9520	4	Employer share, employee retirement (off budget)
9530	4	Rents and royalties on the Outer Continental Shelf
9540	4	Sale of Major Assets
9590	4	Other Undistributed Offsetting Receipts

Note: Subfunctions sum to the corresponding OMB functions. Medicare (5710) and Social Security (6500) are not further subdivided so are both functions and subfunctions.

Categories are: 1) Domestic Mandatory; 2) Domestic Discretionary; 3) Defense; 4) Financial; and 5) Trust Funds. We exclude categories 4 and 5 from all analyses, leaving 66 subfunctions per year. A few subfunctions are missing for the first few years as the spending category was created after 1947.

OMB budget procedures allow for negative values in certain budget categories. The analysis presented here excludes all cases where any of the following obtains: a) the budget category is

marked as "financial" or "trust fund" (categories 4 and 5 above); b) the value of the previous year's budget is less than $100 million; or c) the value of the current budget amount is negative. Re-analyses of the data without these restrictions shows much higher kurtosis values but these are due to small numbers of extreme outliers, including one with a 700,000 percent increase based on a small initial value. This was topic 4530, Disaster Relief, which moved from a value of $1 million in 1991 to $7,407 million in 1992. Excluding such values provides a more conservative and accurate test of the extreme value hypothesis.

Chapter 9

Rounding Up the Usual Political Suspects

Broadly speaking, political scientists divide themselves into two camps regarding the role of popular government. Some emphasize primarily democratic control and accountability through partisan mandate and some, including us, focus more on the role of government in addressing problems. For decades, many of the former group have touted responsible political parties as a major key to the democratic process. Parties lay out clear platforms distinguishing their policy preferences from opponents, voters choose on the basis of these competing "offers" and, once elected, the winning party enacts its policies and implements them though a hierarchical bureaucracy. Some see this model as the only true meaning of democracy itself, for if elections do not lead to new policies, or if voters do not pick parties on the basis of issue preferences, then there is no linkage between citizens and policy response. In any case, most models of electoral democracy imply some kind of successful policy leadership based on electoral legitimation and control of the bureaucracy.

In our view, this concept must be empirically tested against the possibility that leaders respond, as best they can, to shifting social problems. At least, we must consider that the linkages between party competition based on ideology and the public policy outputs of government may be indirect or more complicated than a simple electoral mandate model would imply. After all, party platforms cannot lay out each and every policy decision a governing leader will be called upon to make. In a separation of powers system, compromise between leaders exercising shared control may lead to different outcomes than in either of their party

platforms. And, most importantly, the world changes as a four-year presidential term goes on, and no platform could encompass all the contingencies with which governments routinely deal. In sum, there are many reasons to expect a slippage from electoral platforms to governing agendas, even if those elected are attempting to implement their proposals.

Whether partisan control matters more than the shifting severity of different social problems, or if they interact in complex ways, is a new and exciting empirical question. By ignoring the question of long-term developments of public policies and by focusing on election-effects, political scientists may well have overplayed the leadership hypothesis and underplayed the problem-solving nature of what leaders do. Much of the time, they respond to challenges and opportunities that are thrust upon them and which may or may not correspond to their own partisan preferences about what issues to attend to.

Of course, they approach the new problem differently from how a partisan rival might, but leaders in power must respond, like it or not, to those issues that require urgent attention. And this is a swirling mix, constantly changing, not an easily predictable or stable set of policy concerns. Consider President Obama's situation on his arrival in office. While he certainly campaigned on the health-care reform issue, and did indeed deliver on that promise, he also inherited two wars which he then had to manage, and had to respond to the financial crisis, the bankruptcy of some of the largest US corporations and banks, and so on. Elections mattered, but so did the facts on the ground.

While the preferences of participants are more influential in choices among policy solutions than the selection of policy problems, solutions are influenced by the flow of information as well. Government grows in response to some combination of the preferences of political leaders (which themselves might be some complex mix of party positions, citizen

desires, and interest influence) *and* information.   Preferences alone do not determine policy outcomes (which affect the size and vigor of government). Information is critical. In the Autumn of 2008, President GW Bush's Secretary of the Treasury Henry Paulson went to Congress at the height of the 2008 financial crisis to request authority to buy troubled assets of financial institutions. Paulson's TARP bill, colloquially referred to as the "Wall Street bailout bill," brought to Congress by a conservative Republican Administration, was one of the largest and most important legislative interventions in the economy in modern American history. Yet legislators uniformly claimed that it was not their desire to take this action. John Boehner, House Republican Leader, said after the defeat of the first bill, which he supported, "I've got to tell you, my colleagues are angry about the situation they find themselves in. Nobody wants to have to support this bill." Just prior to the Senate vote, Missouri Sen. Claire McCaskill of Missouri said she would "hold my nose" and vote for the Senate's version of the Wall Street bailout bill. "The whole thing stinks." That is, legislators claimed they were *not* voting their preferences; they were voting based on the information generated by the Treasury Department and other sources. (Jones and Shafran 2009).

The essence of governance is fashioning policy responses to problems, which are ever changing and dynamic. Holding fast to an alleged electoral mandate can lead to governing disaster. Nevertheless we expect that the partisan positions and general philosophies of the major political parties influence the conduct of government, but they generally do so in complex interaction with the dynamic and diverse flow of information from the policymaking environment. The political system is adaptive (but not necessarily efficiently so), but its fundamentally adaptive nature pushes politicians toward addressing problems rather than solely imposing preferences.

In this chapter, we round up the standard political suspects often accused as responsible for changes in public policy. We'll see that most of them are innocent of the accusation, but that they are clearly co-conspirators. And once in a while, when elections move strongly enough in one direction, they are indeed guilty as charged.

The Composition of Government and the Expansion of the Policy Agenda

The Democratic Party in common lore is the party of government expansion; in its typical platform and in the rhetoric of many if not most of its political leaders one can find many references to employing government to intervene in social and economic affairs. On the other hand, Republican platforms and rhetoric is replete with references to the problem of big government and calls for limiting its scope. Following from this, we can easily hypothesize that governments unified under Democratic control—that is, the presidency, the House of Representatives, and the Senate—will move more aggressively to expand the scope of government than will either divided governments or unified Republican governments. We will examine two facets of policymaking agenda expansion: the search process, as assessed by changes in the substantive scope of hearings, and the lawmaking process, as assessed by changes in the substantive scope of laws.

We start by examining the scope of lawmaking, hypothesizing that the passing of statutes will be much more aggressive in unified Democratic governments. We are not so interested in the number of statutes passed, because these can represent both the thickening process, in which laws are passed in areas that are traditionally within the purview of government, and the broadening process, which reflects agenda expansion. Rather, we focus on expansions in the substantive focus of lawmaking to capture changes in the breadth of government. Our measure is the number of Policy Agendas subtopics that experienced one or more hearing (for expansions

in the search process) or law (for expansions in lawmaking).   In Chapter 7 we used this measure

with considerable success to examine increases in government scope, but we did so within a

historical context. For simplicity's sake, we use three categories of government control: Unified

Democrat, Unified Republican, and Divided. We count as Divided any Congress in which the

Presidency, House, or Senate are held by different parties.   Figure 9.1 depicts the number of

subtopics in which government passes at least one law for a two-year congress. It shows the

number of subtopics within which laws were passed for each congress, divided by Democratic

unified government (at 2), divided government (1) and Republican unified government (0).

Figure 9.1: The Number of Subtopics in Which Laws Were Passed, 80th - 110th Congresses
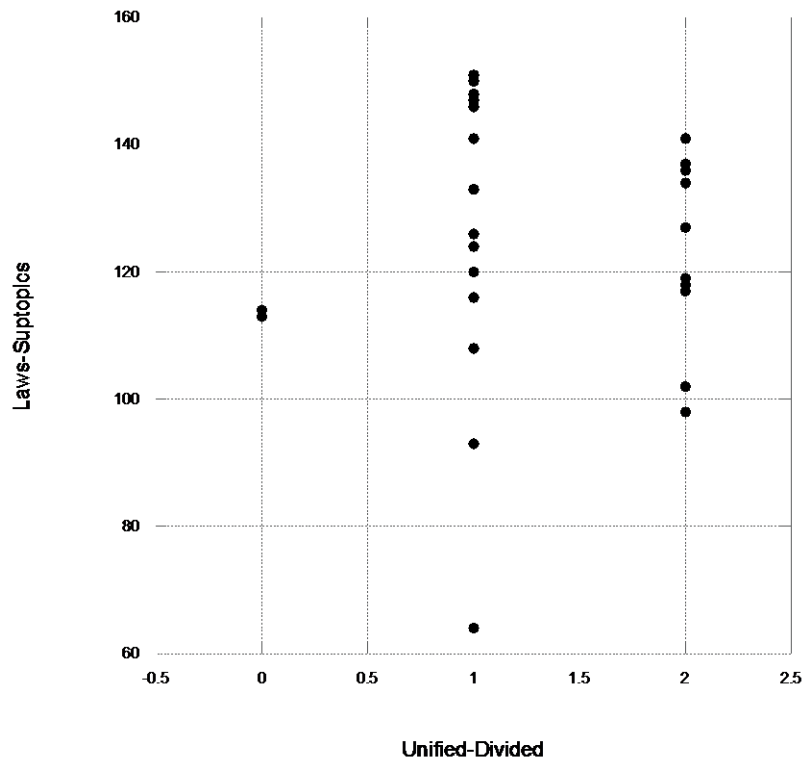
Source: Calculated by the authors from Policy Agendas datasets

The average number of subtopics in which laws were passed was 125 for Democratic

unified government, 113.5 for the two years of unified Republican government, and 127.5 for

divided government. While the two coterminous congresses of Republican rule (108th and 1009th,

serving between 2003 and 2007) enacted statutes in fewer subtopics than Democratic or divided

governments did, there is a clear tendency for divided governments to expand the lawmaking

agenda into more policy categories than do unified Democratic governments. The variability in

the aggressiveness of parties-in-government to expand the scope suggests that there is more to

the story than party differences—and indeed there is.   History mattered, and quite a bit.

Lawmaking reached its largest scope in Carter's first congress, when laws were passed in 151

subtopics, but the Reagan years also experienced great lawmaking activity—150 subtopics were

the subject of lawmaking in the 100th Congress, Reagan's last, as well as in GHW Bush's first

Congress.

These are the years that the arc of lawmaking described in Chapter 5 reached its apogee

and began to decline. The nature of the arc means that the years at apogee (roughly the 90th

through the 101st Congresses) are more similar to each other in expanding the scope of

government regardless of the partisan nature of the government in control of the process.

Similarly, Congresses before and during the expansion are similar in the aggressiveness with

which they expanded the scope of government. All this was summarized in Figure 5.7.

Perhaps only some elections send powerful enough signals to shift the policymaking path

away from its trajectory. Peterson, Grossback, Stimson and Gangl (2003) make the argument

and present supporting analyses that a certain kind of election, which they call *mandate*

elections, does make a difference in the policymaking activities of government. To these

authors, mandate elections are in the perceptions—do congressmen perceive the election to have

provided a "message about the changed policy preferences of the electorate" since the Second

World War (Peterson, Grossback, Stimson, and Gangl 2003, 411), and consist of 1964, 1980, and 1994.

The evidence offered by these authors to support their thesis involves roll-call votes. But surely mandate elections should involve expansions and contractions of the policymaking agenda. One of the elections, under the standard electoral hypothesis, should drive the agenda toward broadening government; the other two toward limiting the reach of government. Two of these elections took place in presidential years, and provided unified government (1964 and 1980) and one (1994) moved the control of government from unified control to divided control. As a consequence, we look only at changes in agenda breadth.

Figure 9.2 displays the Congress-to-Congress change in the number of Policy Agendas Subtopics in which at least one law was passed during the Congress. If that number is positive, then congress added subtopics to the lawmaking agenda; if it is negative, congress enacted laws in fewer areas. Toward the left of the graph are the two conservative mandate Congresses (strong votes for Republicans) and to the far right the liberal mandate Congress (strong votes for Democrats). In the center are all other Congresses. In this case, the electoral hypothesis is supported. While there were both more aggressive Congresses than the 89th (1965-67 Johnson) Congress, and there were more conservative Congresses than either 97th (1981-1983) or the 104th (1995-97) Congresses, in all cases the mandate elections are associated with lawmaking changes in directions consistent with the hypothesis. The Republican mandate Congresses are more aggressive in cutting back the lawmaking agenda than all save two: the 92nd (1971-1973) and the 109th (2005-2007). Somewhat more troubling is the finding for the 89th Congress (1965-67), which was exceeded by four congresses in agenda expansion.

Figure 9.2: Mandate Elections and the Change in the Number of Policy Subtopics in Which Laws Were Passed
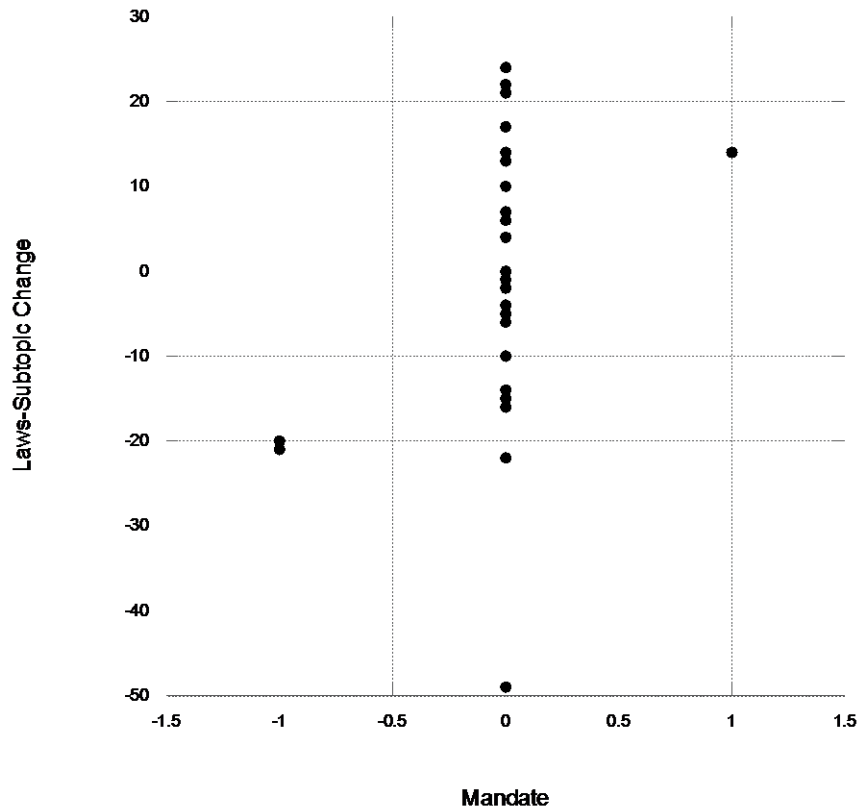
Source: Calculated by the authors from Policy Agendas datasets

It is likely that where the mandate Congresses fell along what we called the arc of new issue expansion in Chapter 5 has a lot to do with the findings above. As a consequence, in Figure 9.3 we present the quadratic estimate for the rise and decline of the breadth of the lawmaking agenda, which we presented in Figure 5.7. The arrows indicate the mandate elections. It is clear that the 89th Congress falls a little above the average temporal path, but the 97th and 104th Congresses fall well below the arc. It seems likely that the 89th Congress followed a period of expansion of the lawmaking agenda and hence contributed toward further expansion only minimally. Its success was in passing major legislation, not in overall broadening of government. On the other hand, the 97th and 104th Congresses did act to contract the lawmaking agenda, and very severely.

Figure 9.3: Mandate Elections and the Arc of Issue Expansion: the Number of Subtopics in which One or More Law Was Passed in a Given Congress
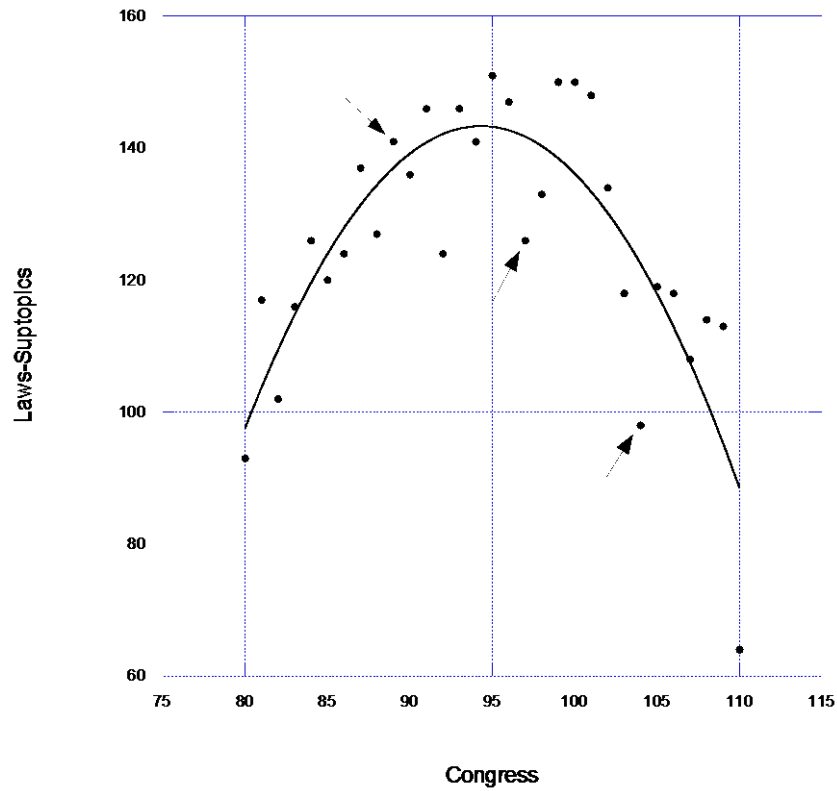
Source: Calculated by the authors from Policy Agendas datasets

A more rigorous analysis confirmed the graphical presentation in Figures 9.2 and 9.3.

Table 9.1 presents the results of a regression analysis in which the number of subtopics within

which laws were passed is the dependent variable. Predictors include a quadratic trend for new

issue expansion, fit by the Congress and CongressSquared variables, unified Democratic rule

(assessed by a dummy variable), and Mandate Elections (with -1 indicating a conservative

mandate, and 1 indicating a liberal one). The trend is significant, both in its linear and quadratic

components, as is Mandate Congresses. But unified Democratic Government is not significant.
[47]

---

[47] A second analysis with unified versus divided government entered instead of unified
Democratic government (measured as -1 as unified Republican, 0 as divided, and +1 as unified
Democratic) yielded no difference in outcomes.

Table 9.1: Regression Analysis of Law Subtopics and Mandate Elections

Variable	Coefficient	Std. Error	t
Constant	-1893	234.32	-8.08
Congress	43.13	4.90	8.68
Congress Squared	-0.228	0.026	-8.73
Unified Democratic	-2.85	4.15	-0.69
Mandate	15.64	6.12	2.56
$R^2 = .761$	$F = 20.73$		

Even when we adjust for this context, the pattern we observe supports the hypothesis that agenda expansion is directly affected by the partisan control of government, but only in special situations—mandate elections. Once a pattern is in place, it takes a great deal of political energy to shift away from it, but it can be done. Moreover, the deviations themselves help to set the future path.

Is Search Partisan?

We've made the case in this book that aggressive search on the part of government is key in solving problems, but it can also lead to government growth. One may object to the increasing size of government on philosophical grounds, but one may also object on the grounds of practical public policy. Government may over-react to real problems, providing more government than an efficient solution to the problem requires. One way to minimize such mistakes is to slow down the search problem; if government does not search for problems, it cannot propose government solutions to them. The cost is obvious: minimizing search will allow real problems to fester and perhaps grow to crises. In an ideal world, search and solutions would be addressed in independent and objective processes, but policy dynamics in real political systems is more likely to lead to a pattern of policy overreaction interspaced with longer periods of underreaction (Jones and Baumgartner 2005). In any case, a politics of search limitation is not only possible, in the

past Republicans talked openly about the problem of aggressive Democrats finding a government solution for every problem they found.

The number of Policy Agendas subtopics that are pursued in a given year or Congress is a good indicator of the expansion of the policy agenda during that year or Congress. If we study the number of subtopics addressed compared to the party holding the reins of government, we can find out if there is any patterning to the search process. We hypothesize that unified Democratic governments will be more aggressive in searching problems and hence expanding the policy agenda than either divided governments or unified Republican governments.

Figure 9.4 displays the results.   There we plot the three values of government control versus the number of subtopics addressed in the corresponding Congress similar to the approach used in Figure 9.1. While we would expect unified Republican government to pursue fewer policy topics, that is not the case, nor is it clear that Democratic governments pursue more. Nor is it the case that unified governments of either stripe are more aggressive in the search process than divided governments.

Figure 9.4: Subtopics Addressed in Hearings and Party Control of Government
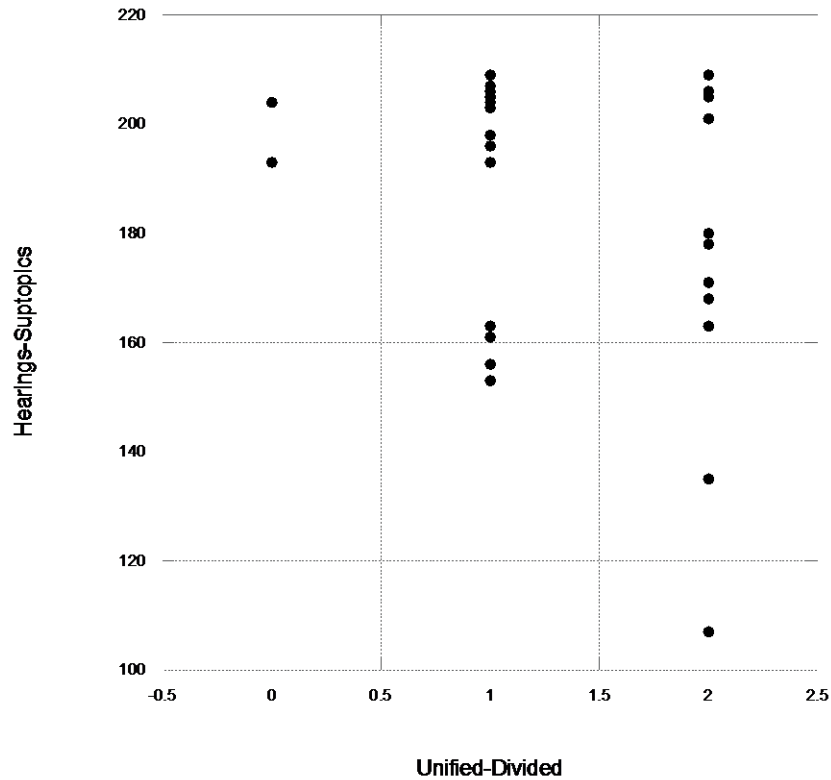
Source: Calculated by the authors from Policy Agendas datasets

We already know that the process of agenda expansion has a strong historical component to it (Chapter 4). Maybe the process is time-dependent in the sense that when control shifts from a Democratic dominated government to a Divided or Republican one slowing down the process of search takes time (and similarly for a change from Republican or Divided to Democratic control).   Figure 9.5 adjusts for this possibility by calculating changes toward or away from more Democratic (and hence hypothetically more aggressive) government in adjacent Congresses. Left is to the more conservative side (Republican); right toward the more Democratic side; the middle point is no change.

Figure 9.5: Change in Subtopics Addressed in Hearings and Change in Party Control of Government
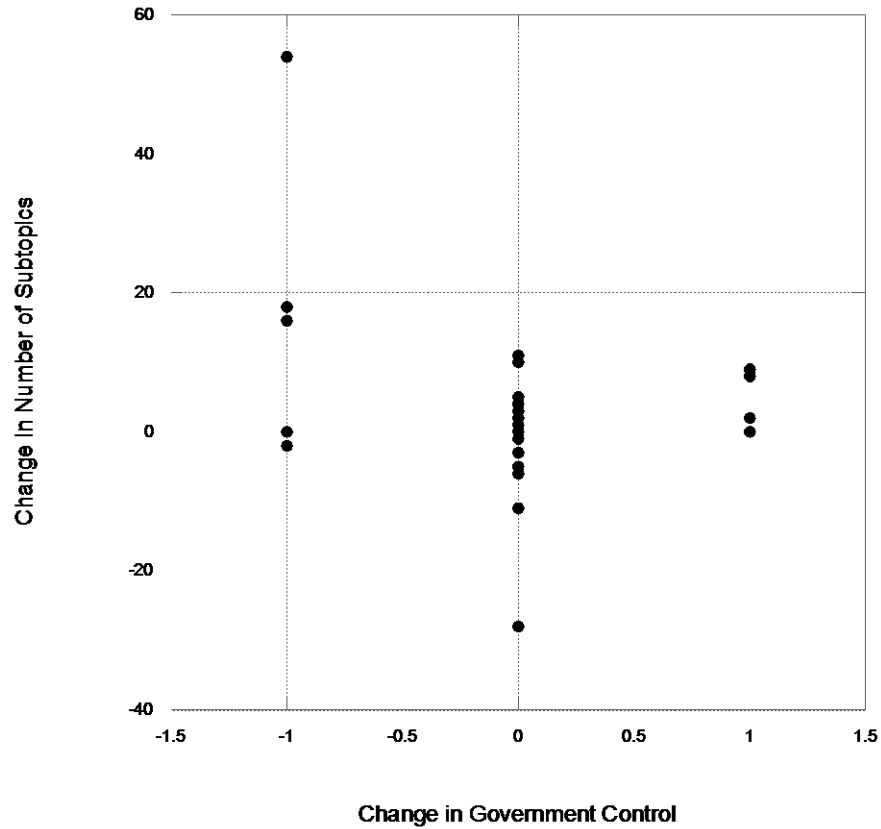
Note first that the center of the graph (no change) clusters approximately around zero, as we expect. Otherwise, however, Figure 9.5 contains no element of support for the notion that moving to a hypothetically more aggressive government yields a larger expansion of the policymaking agenda. Indeed, governments becoming more Republican (either moving from unified Democratic control to divided government, or from divided government to unified Republican government) are actually more likely to expand the agenda than those becoming more Democratic.

Do mandate elections affect the aggressiveness of search in the hearings process? The short answer is no. Figure 9.6 presents the number of subtopics with at least one hearing within it across time, with the three Congresses following mandate elections denoted by arrows. The

deviations around the curve depicting the arc of new issue expansion are much tighter than was

the case for lawmaking, and within this tighter band the mandate Congresses do not distinguish

themselves. Mandate elections do not seem to affect the congressional search process.

Figure 9.6: Mandate Elections and the Arc of Issue Expansion: the Number of Subtopics in
which One or More Hearing Occurred in a Given Congress
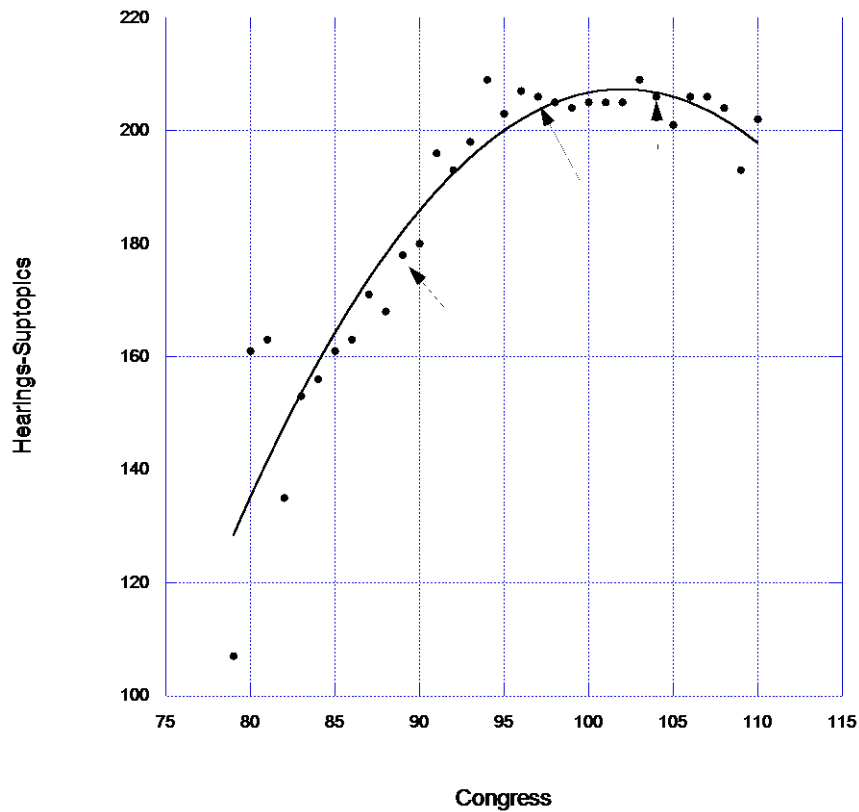
Source: Calculated by the authors from Policy Agendas datasets

Search in a Divided Congress

The most common form of divided government since the Second World War is for the

presidency to be held by one party and both houses of congress to be held by the other. But in

some cases, the House and the Senate were themselves divided in regard to party control. This

allows us to take advantage of this natural experiment to examine whether the two houses of

congress display different search behaviors when held by different parties at the same time. The

most extended period when the party holding the two houses of congress was different was the

period 1981-1987 (97th through 99th Congresses), when Republicans controlled the Senate and

Democrats controlled the House. We expect that the Senate will hold hearings on fewer

subtopics during this period than the House.

Figure 9.7: Subtopics Addressed in Hearings, House and Senate Separately
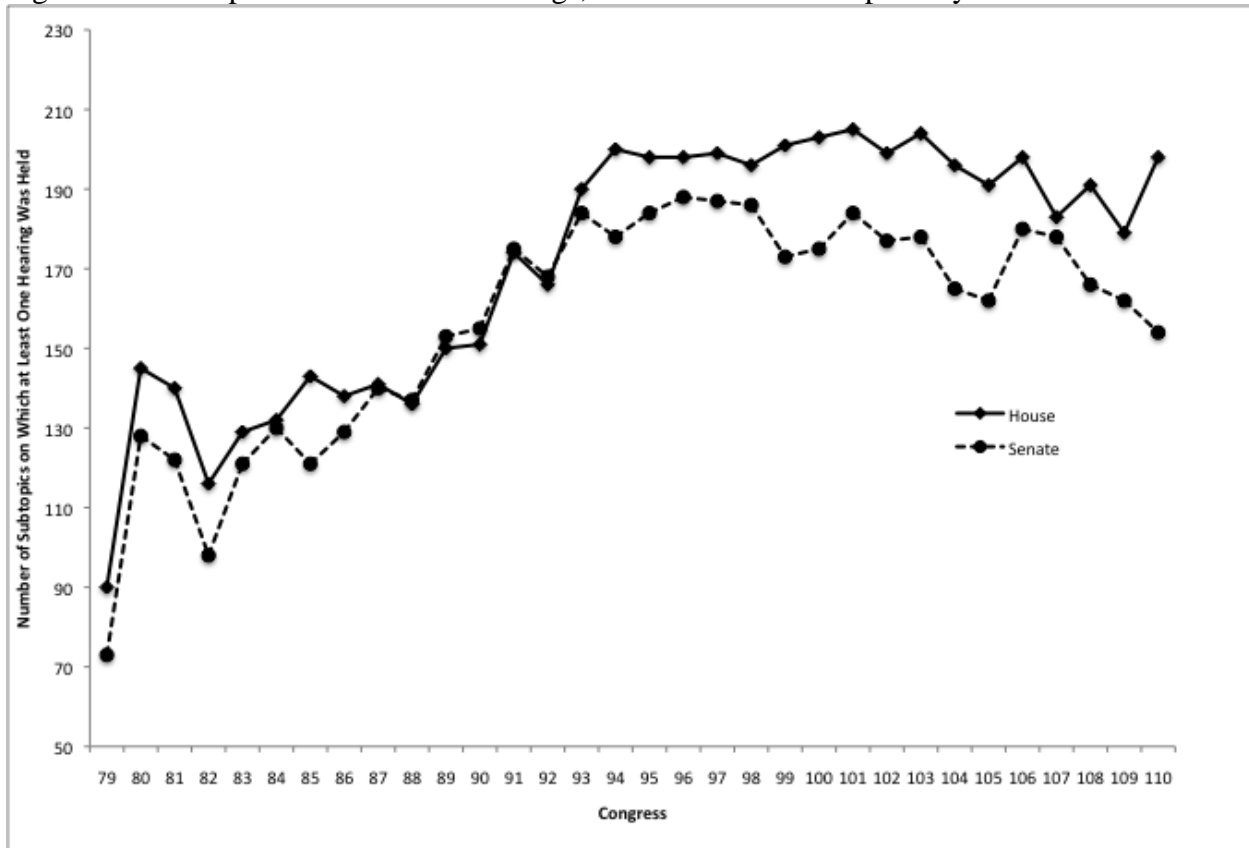
Figure 9.7 presents the evidence. We graph our old reliable variable assessing issue

expansion, the number of Policy Agendas Subtopics on which at least one hearing was

conducted, separately for House and Senate. It is true that the Senate held hearings on fewer

subtopics during the period of divided congressional control. But it is unlikely that the divided

congress was the cause of this deviation.   The Senate and House began to diverge regarding the

expansiveness of the search process in the 93rd Congress, and this deviation remained in place for

the rest of the period of our study. Considerable rules changes in congressional committees occurred in the 1970s; perhaps the most important in regard to the deviation beginning in the 93rd Congress is the Subcommittee Bill of Rights, which expanded the power of subcommittee chairs to hold hearings. It likely that the deviation is a consequence of rules changes that differed somewhat between the two bodies that occurred in the early 1970s. This is supported by the fact that the House began to hold more hearings than the Senate beginning in the 94th Congress, and continued to hold more hearings throughout the period of study. This difference had become quite large by the 96th Congress, with the House holding 600 more hearings than the Senate.

In general, we find no evidence that the partisan control of government has any effect on agenda expansion or in the number of laws passed. This does not mean that arguments about either growth of government or agenda expansion are not continually made by political parties; it is that partisan control alone does not seem to influence the outcomes we study.

We examine in the next section changes in expenditure patterns that may be associated with presidential elections. This time we look at any directional change in spending.

Are Spending Changes A Consequence of Electoral Changes?

New presidents invariably bring fresh ideas and proposals for changing the way things are currently being done. The size of government and its intrusiveness is a standard topic in presidential campaigns. As a consequence, it would seem logical that when a new president takes the reins of the US budget, especially one replacing a president of the other party, a major priority would be to reallocate money from the old priorities of the rival party to the new ones. We already know that overall are substantially path dependent, but this path dependency masks considerable programmatic churning. If presidents bring new priorities to the table, this would imply that extreme budget changes at the program or subfunction level should be higher in the

285

first year of a presidential administration as compared to years where the president is revising his own previous budget. With a continuing president rather than a new one, adjustments might be expected to be more marginal, as the president might continue to reallocate perhaps more slowly over several years, to those concerns he identifies as his priorities. This does not mean that all new presidents can shift budget priorities. Rather we test a weaker form of the electoral hypothesis: *if* major budget changes are made, they occur as a consequence of electoral shifts at the presidential level.

Before we move to the test, let us consider a second possibility: the information hypothesis. If the political system acts as an adaptive system, then the main problem for any government leader is the ever-changing nature of the surrounding environment and the complexity of the choices confronting them. There is no reason to expect that problems cluster at the beginning of a president's term; rather they are more likely to occur randomly throughout a presidential term. To the extent that budgets reflect attempts to address dynamic and changing problems, then we should expect no systematic differences in large budget changes over the course of a presidential term. Certainly the newly arriving president would *like* to reallocate to his priorities and to demonstrate the differences in his approach from that of his predecessor, especially if it was a partisan rival. On the other hand, he must manage the entire federal budget, not just one or two pet priorities. And if there is a farm crisis caused by drought, a foreign policy challenge, foreboding economic news, or a new idea sweeping through a policy community that leads to a new consensus, these events may well be out of his control. Welfare reform is a policy associated with Democratic President Bill Clinton, but it is more correct to view the policy as driven by the policy entrepreneurship of conservative intellectuals supported by Republicans and steered away from more extreme forms by Clinton. Therefore, while we do not suggest that

elections play no role in the political system, we do hypothesize that they will play very little role

in the budgetary process when we consider the entire distribution, not just a few carefully

selected categories. Presidents, after all, can always point to a few cases where they did indeed

choose to make distinctions.[48] Whether they can do this systematically, across the board for the

entire federal budget, is another matter.

The test for whether presidents systematically impose greater reallocations across the

budget categories is simple enough: we look at the kurtosis for the first year when a new

president can affect the budget, and compare that with all other years. If the election hypothesis

is correct there should be a greater number of extreme changes, and therefore greater kurtosis, in

that first year. Table 9.1 presents this comparison.

Table 9.1. Do Newly Elected Presidents Reallocate Spending More than Continuing Presidents?

A. All new presidents:

Budgetary Year from Election	Number of Observations	L-Kurtosis
First Year	488	0.581
All Other Years	3,149	0.607
Total	3,637	0.605

B. Presidents taking over from a president of the other party:

Budgetary Year from Election	Number of Observations	L-Kurtosis
First Year	423	0.595
All Other Years	3,214	0.607
Total	3,637	0.605

Note: Part A. includes Eisenhower, Kennedy, Nixon, Carter, Reagan, Bush I, Clinton, Bush II.
Part B. includes only Eisenhower, Kennedy, Nixon, Carter, Reagan, Clinton, Bush II.

---

[48] Not only do individual presidents want to have something to point to as their major proactive accomplishments, but biographers will write books about these dramatic impacts, and political scientists will teach courses and write analyses of these examples to demonstrate that "elections matter" – and they do. However, the desire to find human agency in all matters should not blind us to the need to test agency versus contextual effects in a fair matter. We try to do this by looking comprehensively at all budget matters, not just a few.

Whether we look at all newly elected presidents or only those taking over from a predecessor of the other party, the distribution of annual changes in the budget is barely different in the first year of the new president's authority compared to other years. In fact, the first year appears to show slightly lower kurtosis, though we hesitate to interpret this difference, as it is not likely very meaningful. Figure 9.8 shows that there are no differences across *any* presidential years.

Figure 9.8. Percent Extreme Changes by Presidential Budget Year
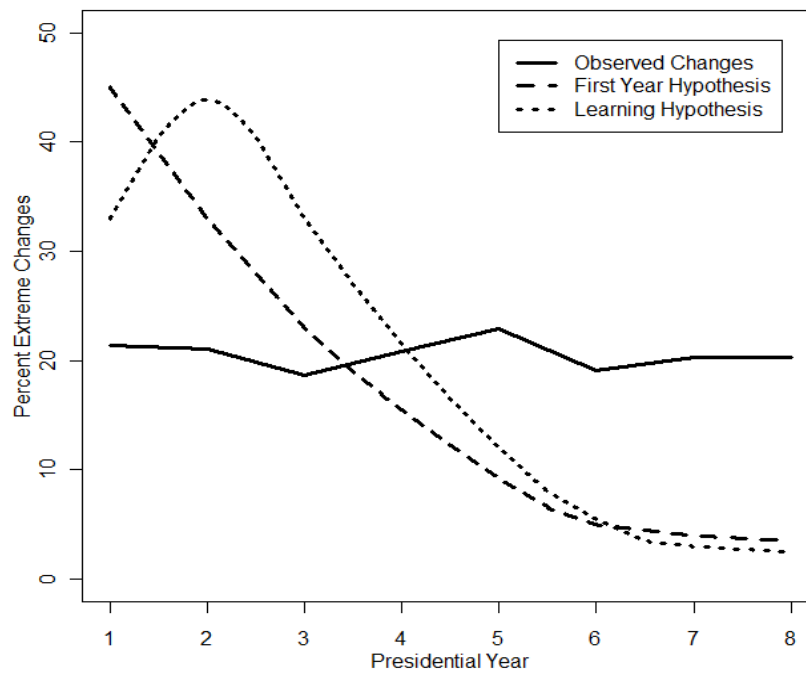
Figure 9.8 shows the number of "extreme changes" in each presidential year and compares the observed values to two reasonable rival hypotheses: a "first-year" hypothesis and a "learning" hypothesis. The first of these, represented by the dotted line in the graph, suggests that a new president would immediately mobilize to make significant reallocations, which gradually decline as a percentage as successive years of the same presidential administration go on. The second, shown in the dashed line in the graph, incorporates the idea that it may take a

year or two for the new administration to have its people in place and to affect the budget in the manner it hopes, so the peak reallocations would come in the second or third presidential year, not the first. In either case, reallocations would be expected to decline over the years of a presidential administration, as he is no longer correcting the errors of his partisan predecessor, but simply adjusting a budget for which he has increasing responsibility each year.

The data show, of course, that nothing of the sort occurs. Our definition of "extreme" changes for this illustration is the number of changes in the top and bottom ten percent of the distribution across the entire presidential administration. The data clearly show that the number stays near 20 percent in each year, with only slight random fluctuations around this number whether it is the first or the eighth year of a president's ability to affect the budget.

In sum, the data roundly reject the straightforward expectation that new presidents would reallocate more commonly than continuing presidents (accounting for possible learning effects so that the period of maximum reallocation might be the second or third presidential year, not necessarily the first one). Presidents respond to the shifting environment surrounding them, exerting their preferences of course, but also responding to changes in the flow of information that outweigh the ability of even the vast bureaucracy of the OMB and the federal budgetary process to predict, manage, and plan change.

Conclusions

When we round up the usual variables suspected by many of causing changes in the path of public policy, we find little to support an indictment, and where we do, a reduced sentence is probably in order. We find no evidence that unified government affects either the expansion of the lawmaking agenda directly or the propensity to search out new problems that may be occurring in the policymaking environment. We find no evidence that changes in the control of

the presidency affect budgetary shifts at the program level. We do find effects for mandate elections—those in which the party taking control of government after the election has received wide support and interprets this support in policy terms.

The likely reason for the lack of direct evidence to support typical political dynamics is the role of context. Politics always occurs relative to what is happening at the time it occurs—what problems are being addressed and what solutions are currently in vogue. It the framework developed in Chapter 6, it depends on where the political activity occurs on the arc of new issue expansion. Taking this context into consideration suggests that mandate elections are important in the lawmaking agenda, but not in the search process. It is likely that mandate governments winnow policy proposals but are not able to stop problems from accessing the governmental agenda. This supports the work of Jones and Baumgartner (2005) and Jones, Larsen-Price, and Wilkerson (2009), who show that the hearings stage of the policy process is less subject to resistance (and hence punctuations) than the lawmaking stage, and that public priorities are better represented in the hearings process than the lawmaking process.

Chapter 10

Complexity, Information, and the Broadening of Government

Broadly speaking, organizations engage in two types of search behavior. One of the search methods, which we term *entropic search*, involves signal detection: what problems (or potential solutions) might be relevant to the organization. The second, termed *expertise*, aims at understanding the problem or solution and its potential impacts. This type of search has a connection to the concept of the power of a statistical test; the greater the power of the test the more likely is to detect an effect from a variable.

In entropic search, diversity is valuable and the space searched is complex, uncertain, and multidimensional. In expertise-based search, the space searched as simple, unidimensional, but still uncertain (otherwise, if there were certainty, there would be no need for search). In entropic search, diversity is used to explore potential problems or solutions. In expert search, analytics (in the sense of breaking down a problem and simplifying it) are used to reduce the variance on the dimension being studied.

Each method of search has advantages and disadvantages. Entropic search, by exploring the problem or solution space, can yield too much information, overwhelming the system at the stage of prioritization. Power search may start with serious attribute suppression, so that policy is based on an incomplete understanding of the problem or the nature of how various solutions might work.

In the chapters above, we have explored the role of search processes in government. We have argued that government organizations are best at entropic search when they incorporate

diverse elements and share overlapping jurisdictions with competing organizations. Agencies in competition with other agencies and pushed by legislative committees are more likely to discover problems than those subject to unitary jurisdictions and hierarchical control. But this overlap can lead to prioritization problems in the central decision-making units of government. Moreover, the aggressive discovery of problems can lead to increased pressure to act. Acting can lead to the growth of new government programs and agencies, which can create a backlash after time. On the other hand, a failure to search carries with it equal or greater danger. Problems fester, and error accumulation may occur. This process of accumulating errors leads to a disjoint, punctuated policymaking process (Jones and Baumgartner 2005). We termed this dynamic the *paradox of search*.

We developed ways to assess the extent of entropic search, and, using the datasets of the Policy Agendas Project, showed how these methods could be employed to examine the search process in the US government over time. One might think that some sort of simple growth process would lead to increasing complexity in search and that this would create a self-reinforcing or path-dependent process that could continue indefinitely. That is, over time entropic search would increase as a consequence of an increasing number of agencies, programs, and responsibilities assumed by government. This, however, is not the case. Entropic search in congress increased from the mid-1950s until around 1978, and then depending on the measure, either dropped precipitously (as it did in the case of the lawmaking process) or leveled off (as it did in non-legislative hearings and roll-call votes). Further, our analysis of the federal budget since 1790, in Chapter 7, showed that periods of specific growth rates occurred regularly but were also interspersed with periods of consolidation or retrenchment. So there is clear evidence for alternation: The paradox of search creates a cyclical pattern of consolidation and expansion

of government. The periods in these cycles are very long, however, and have been largely

unnoticed until now.

Search and Agenda Expansion and Contraction

Beginning in the mid-1950s, the US federal government entered a period of aggressive and

systematic expansion into areas of American life previously left to civic life or to the states. The

Great New-Issue Expansion peaked in 1978, and contraction set in. Both this expansion and its

demise had much less to do with preferences and the liberalism of either the mass public or

policymaking elites than is generally supposed. Elections and party control mattered little in

either the agenda expansion or its contraction.

What did change is the nature of how government processed information. In the

expansionary stage, the process became more diverse and open to new groups and new ideas.

One might say that government lost control of the agenda-setting process. This did not mean

that government was incompetent; a major characteristic of this expansionary period was the

incorporation of systematic policy analytic methods and systems analysis brought to domestic

policy from experiences garnered in defense Cold War policymaking.

Once agenda control was re-established in the late 1970s, the nature of search and

information processing changed. After 1978, the lawmaking agenda became far more focused

than in the preceding period. Laws centered on economics and defense, while human services

and education lost ground (Jones and Whyman2011). Policy analytic capacity declined in the

executive branch (Jones and Williams 2008). In congress the number of hearings fell, but more

importantly the process as an open forum declined. With agenda control came atrophied search.

The GW Bush Years: More Government and Less Search?

Generally during the Post-War period there existed a tight connection between the extent and diversity of search and growth in government. However, during the GW Bush presidency, government grew robustly—the expenditure growth in the discretionary budget was comparable to the Great Society. Yet the overall curves for information diversity continued the general trend set in place after 1978: the diversity of legislative search leveled off and declined slightly. What happened, however, is concentrated search: in some areas hearings increased, as did the diversity of their topics. In Chapter 6, we presented information that showed the increased interest in search in the domestic intelligence area during the GW Bush years. But government grew domestically as well. Congress passed new major initiatives in health care and education.

Recall that entropy assesses the diversity of the search process. We have generally calculated entropy scores through time, averaging them across policy topics, but we can calculate these scores for a single topic as well. If we examine entropy scores for separate topics for the House of Representatives, we find a divergence in trends. For education and defense, trend scores are higher at the end rather than at the start of the Bush presidency. Health care, however, follows the general trend of lower entropy.

This probably indicates that the search process during Bush presidency reflected the more focused and controlled process of information-acquisition. Recognition of policy problems was concentrated in a few areas, and the agenda expanded in those areas. A more generally open approach to search, however, did not occur.

Detecting, Defining, and Addressing Problems

At the time of the founding of the Republic, the framers already understood issues of complexity and ambiguity in government. They knew that any single view of the national interest, especially one imposed by a small group of leaders, might be opposed by others, and that

differences of opinion and interest would cause inevitable divergences in political preferences. They set institution to work against institution, guaranteeing that in the struggle for control over the direction of public policy, argumentation and building coalitions would matter. As the state has grown to thousands of times its original scope, and has become involved in a multitude of issues that were not even imagined at the time, the connection between diversity and institutions has become even more important. Any system with multiple independent sources of power creates competition. This competition creates more information, as each independent actor within and around government seeks to use arguments and evidence to bring public attention to one or another social problem or possible solution. This potential competition among policy venues provided a central part of the story we developed in *Agendas and Instability in American Politics*.

As more and more information swamps a system, making sense of it becomes harder and harder. As we noted when discussing Figures 2.1 and 2.2 and reinforced with empirical evidence in chapter 4, the only administrative solution to the overwhelming amount of information is to ignore some part of it. But those bits of information that are ignored have a way of coming back if they are indeed important, creating crises that eventually have to be addressed. So we see periods when government seems to be on a stable equilibrium, but these can be interrupted at unequal intervals by the sudden discovery of crisis. Good government allows the full airing of public issues, but is nevertheless able to distinguish between problems that are both solvable and amenable to government action, on the one hand, and those that are best left alone, on the other. This is difficult indeed for humans passionate about politics, and cannot be guaranteed by any particular mechanism. While diversity ensures that issues are aired, the subsequent dynamics can easily lead to the continued growth of government. As a consequence, the supply of

information is a critical part of the model of disproportionate information-processing, as political systems swing between ignoring signals in some part of the environment and over-reacting to them (Jones 2001; Jones and Baumgartner 2005). This overreaction can lead to over-supplying government programs.

There is no reason that a political system must adjust to increases in information supply. Even as the economic system become vastly more complex, the agencies and legislative committees coping with that complexity evolved very little from the 1930s to the Great Recession of 2008. As information supply (measured as diverse viewpoints on policy matters) becomes more complex, it is possible that the political system ignores more and more of it. The more it ignores, the more likely that big changes will result as errors (the difference between adaptable behavior and the baseline of ignorance) accumulate. But if government is organized to fit the increasing complexity of information (by becoming more complex itself), then it will both be able to address problems more efficiently and will be likely to supply more government than may have been strictly speaking optimal.

Search and the Growth of Government

Most discussions of the growth government, either in the academic world or the world of practical politics, ignore a primary distinction. Government grows in two ways: thickening, by augmenting existing programs, and broadening, by taking on new responsibilities. We find that:

- Government grows mostly through the adding of new responsibilities rather than adding to existing ones, or in response to economic or international crises.

- This process is not a function of some of the "usual suspects." Interest groups grew after the Great New Issue Expansion—caused by it rather than causing it.

- The process is not a function of dedicated political parties providing options to the electorate. The period of broadening began during the Eisenhower years, and continued through the Nixon years, peaking and declining during the Carter years. The polarization of parties and the increasing approximation to responsible, disciplined parties occurred after the peak of the Great New Issue Expansion, at least as measured by the activities of the congressional parties.

- The process of broadening was in considerable part generated by an active and aggressive search for new problems rather than the imposition of the pre-determined preferences of political leaders. Preferences are indeed important, as they bias the search process and lead to pre-determined solutions. But this observation leads to a different understanding of how politics works than the traditional approach of politics as a struggle to impose differing political preferences and philosophies.

The Evolution of Issues

Any issue addressed by government incorporates seeds of its own complexity. That is, an issue may become more complex because of government action. Consider transportation. At one time, transportation policy concerned providing infrastructure to where people lived, worked, and shopped. But over time it became clear that providing infrastructure promoted living and shopping arrangements, and that these developments could be counterproductive from the perspectives of traffic congestion and energy use. Moreover the dispersed nature of American cities has become distasteful to many, as they seek the benefits of a more urban lifestyle. So transport policy becomes part of energy policy, urban development, and even education (should the bus go to the school or should the school be located on the bus line?) and may be used as a tool to move the locations of residences and businesses. This is less than comprehensive

planning, because it need not be comprehensive, but it is more than the traditional role for transportation policy. It requires not just expertise (in the sense of building better transit systems) but information (in the sense of designing systems that promote goals beyond moving people). Whereas designing a bus line is relatively simple, organizing urban space is complex.

Solution Complexity

 Not all governmental complexity stems invariably from issue complexity. It may stem from public attempts to address problems. When lawmakers demand that employers use E-Verify to ensure that they not hire illegal immigrants, they are not only adding a regulatory burden to businesses, they are adding a layer of complexity to government. But this time the complexity stems not from the nature of the issue; it comes from the availability of a convenient solution. But it implies entropic development in the relationship between problem and organization just as much as the issue-driven process does. The E-Verify solution conflates immigration policy with business regulation. How should responsibility for administering the program be assigned to agencies? How should congressional jurisdiction be assigned? It puts business owners on the front lines of enforcing immigration policy, and it requires that the massive database in the E-Verify system work quickly, robustly, and with few errors, lest an effort to create controls on illegal immigration turn into a misguided policy that stifles private-sector hiring.

Censoring Attributes

Any attempt at control, hierarchy, and accountability invariably requires the suppression of attributes of complex problems. The answer of immigration control advocates when the issue of excess business regulation is raised tends to center on the response that this is "trivial" effort on the part of employers—the attribute of business regulation is suppressed. Of course one might just estimate the total benefit of asking employees to enforce immigration laws thorough E-

Verify versus the cost of the added regulation. But these are incommensurate attributes and therefore difficult to balance.

The tendency for people to suppress attributes in a complex problem accounts for the difficulty in implementing a net-benefits criterion for decision-making (which rational decisions would require). Suppression comes from the inability of people to address multiple aspects of a complex problem because of severe limits on short-term memory (Jones 2001) and the tendency of people pursuing goals to be overconfident (Kahneman 2012).   But in simplifying a complex problem to make decisions easier, the decision-maker has added to complexity. Again we see the attempt to control an issue leads to declines in the use of available information.

In the US, solution complexity reaches its highest form in the tax code. One might wish for a simple tax code focusing on raising revenue, with positive government action limited to direct subsidies.   For politicians, right and left, using the tax code to achieve social or economic goals is apparently irresistible. Rather than direct payments to working poor, the US uses the Earned Income Tax Credit. Rather pay homebuilders a subsidy, the US grants an income tax deduction for mortgage interest. Rather than provide health care directly, the US offers businesses that offer health care to employees a tax deduction. No consideration of the US welfare state is complete without a consideration of such tax expenditures (Mettler 2011, Faricy 2011).

Again this causes potential confusion in agency responsibility and legislative oversight. While congress generally assigns oversight responsibility to tax committees for such positive policies, this is an arbitrary distinction that nevertheless generates spillovers for welfare, health, and housing committees (witness the struggles to deal with the employer-provided health system in the 2010 Patient Protection and Affordable Care Act).

Explicit Censoring: Denying the Facts

Even when information is available and convincing, political leaders not infrequently deny their relevance. In this era, on major issues, we think it is fair to say that the right is in denial about the factual basis of many issues of today than is the left—climate change and the notion that tax cuts will "pay for themselves" (Jones and Williams 2008) are two of the most important of these. If that is the case, why?

One obvious reason is that powerful economic interests make money from the existing system, and pay well to keep it that way. But it is unlikely that the system is that crass. More likely are psychological and ideological sources. Denial is part of what psychologists call *the confirmation bias*: the human tendency to search for information that supports a preferred point of view. But are conservatives more prone to the confirmation bias than liberals? Perhaps not. A second potential cause for the difference is that we are looking at a time period in which conservatives are disproportionately in denial, but in another era (perhaps the 1970s) liberals could have been more subject to denial. And liberals tend to underestimate foreign threats and regulatory costs to business, for example. So the mix of issues currently most controversial could account for this alleged difference.

Our findings in this book provide another potentially important source for denial. We've shown that well-articulated mechanisms for information-processing are disproportionately responsible for generating more government programs and agencies. At one time, Republicans used to complain that if you search for a problem, you tend to find an answer in a new government program. Certainly the evidence supports this view. If politicians can constrain the range of situations investigated by government, they can limit the subsequent governmental activity in the arena. Explicitly censoring facts can limit the ascension to the agenda of problems whose solutions will lead to more government.

Unfortunately, under such a regime real problems can fester and grow, providing fodder for a larger policy reaction in the future. The solution surely is a heightened ability to refuse to act *after* explicit consideration of the issue when action is not warranted. That is difficult in a world where not acting can have consequences worse than acting. Moreover most analysts maddeningly continue to rate the "productivity" of congress and the "success" of the president on how many laws (or "big" laws) they get passed. Passing laws that address problems surely should not be counted as productive or successful.

Rational Organization Design and Search

Within the field of public administration, scholars have long understood the problems of ambiguity and complexity that make "rational" design of large bureaucratic institutions subject to periodic failure. But even there, the temptation of a cybernetic or comprehensively rational approach recurs. Authors from Simon, Lindblom, Wildavsky, Landau, and Sabatier, as well as ourselves, have complained about these tendencies, but scholars of public administration have often responded to these critiques by asserting that better management or more rational organization can "cure" the complexity. Unfortunately these "cures" run into both the inherent trade-off between control and information and the limits of human cognition, even when abetted with organizational arrangements and management tools that can alleviate some of the difficulty.

The struggle between information and control is reflected in public administration as a debate between descriptive and analytic theories of choice under ambiguity and complexity on the one hand and normative and applied theories of rational, comprehensive, cost-benefit analysis (e.g., hierarchical control), on the other. No wonder the applied textbook models of how one "should" make administrative decisions rarely describe what really occurs in government. And, no wonder that descriptive models such as the garbage can, which takes ambiguity to its

logical (or some would say absurd) maximum, frustrate public managers who need to exert their authority over public budgets and attempt to the best of their ability to solve pressing problems. It is simply not helpful to them to suggest that human agency has its limits: their job is to overcome those limits, period.

The struggle between information and control is nothing new. It affects the policy process and the structure of government at all levels. It was reflected in the debates surrounding the design of the US government as the federalists and anti-federalists argued about the value of hierarchical control versus distributing powers across many institutions of government. The antipathy to central control is not merely a reaction against the colonial master, but also a reflection on the perfection of man and of human institutions. If "men were angels," Madison wrote in Federalist 51, it would not be necessary to make ambition check ambition, to force competing institutions to share power over the same issues, to stagger the elections of different officers, to make some elected directly and others indirectly, to have the House, Senate and the Presidency all represent constituencies of different sizes, to have Supreme Court justices appointed for life whereas other officials are tied to electoral considerations, or, indeed, to be concerned about the "mischiefs of faction." But the framers were indeed concerned with these issues and their preoccupation is the same as ours: the struggle between the ability to choose the "right" path to solve government problems and the need to design a self-adaptive system that can muddle its way to a result in spite of being designed and led by (fallible) human beings. While they were clearly concerned about ensuring that no single "faction" could ever take control of the government, possibly compromising the rights of minorities, they were also careful to design a system that would be self-corrective, not all-seeing. As long as ambiguity and value conflicts remain in politics, the choices of the framers to design institutions in competition with each other

will remain the right ones. And as long as humans are not comprehensively rational, able

completely to understand the complex world around them, the framers perspective was correct.

But the struggle between diffuse and centralized control did not end when the

constitution was ratified. Throughout our history, leaders at all levels of government have

struggled to "make their mark" by implementing a certain policy program to the exclusion of

others. When these succeed we see the resolution of important social problems. Indeed, certain

issues that were once important policy problems have been resolved: we no longer have national

debates about polio, tuberculosis, improving the stage coaches, protecting people living on the

frontier, building a national railroad system, landing a man on the moon, or winning the Cold

War. The rate of highway deaths per miles driven has decreased rapidly in recent decades, the

result of safer cars, better roads, and more stringent enforcement of the law. Cancer deaths have

decreased as medical research has advanced. AIDS remains a terrible disease but HIV-positive

people live now for decades whereas when the disease first appeared life expectancy was much

lower. The fact that many social problems remain should not blind us to the fact that many have

been solved or dramatically improved. The problems that governments are called upon to solve

are limitless, however, so it may always appear that government is failing. In fact, it fails only

some of the time.

There is no question about the imperfections of government. But it is worth considering

its ability to address problems, and we should recognize that many programs have had some

success. Since the introduction of Social Security, for example, poverty among the elderly has

decreased dramatically. Poverty is now statistically more likely to affect the young than the old.

We can see this as a failure of the government to protect children, and of course addressing

current problems is where political attention will always fall. But as analysts it is worth

remembering that Social Security really has solved much of the problem it was designed to address, which was excessive poverty among the elderly.

On the other hand, a single minded focus on one problem usually means that others are left to fester, as the example of poverty reminds us. And the accumulation of power in a set of institutions implementing a set policy can rob others of their role in the process and limit public discussion by eliminating voices from the discussion. In sum, even successful policies often come at a cost. And their success may only be temporary as unattended aspects of the underlying problem may later rise in importance.

The Implications of Complexity

The period since 1947 has been relatively calm, at least compared to the previous century and a half. No single conflagration occurred during the period of our study even close to the Civil War, World War I, or World War II in scope. The Great Recession of 2008 was comparable to past panics and economic crises, but that came late in the period we studied.

In spite of the relative stability of the post-war period in general, some spectacular changes in the overall contours of American government have occurred. Two things stand out: the general growth in the size of government and the increase in the diversity of the institutional agenda—the number of different issues to which government attends. During the post-war period, government moved from a relatively narrow agenda, focusing on just a few issues, to a much larger and more complex institutional structure with simultaneous attention to scores of issues that were previously not on the government agenda at all. This is clear-cut and unmistakable.

Compared to 1951, when David Truman wrote his magisterial work *The Governmental Process*, we must pay far more attention to the internal dynamics of government in order to

understand its functioning and reactions to changing social conditions. In particular, we need to pay careful attention to what we call agenda-dynamics. That is the process by which issues sporadically become the object of attention in the broad political system. As government has grown, it has become more diverse, with hundreds of distinct issues being debated, thousands of policies variously being implemented, revised, and developed. Most issues, most of the time, are discussed, implemented, and revised within communities of specialists, acting with more or less autonomy from related communities working in different spheres and from the broader political system in general.

As the number of these specialized policy communities has multiplied, so have their overlaps, and it has become increasingly difficult to define independent policy jurisdictions and clear lines of authority. Many issues fall across the jurisdictions of many local, state, and federal executive agencies, requiring coordination and allowing competition and diverse views to proliferate, even within government. Influential commentators have repeatedly pointed out the increased constraints implied by the various conflicting and interacting demands on government, and we might add, emanating from within government itself. Richard Neustadt (1976, 23–24), in his classic study of the powers of the president, noted several of these factors: the growth of government following the Great Society, as major new programs such as social security in the 1930s, housing in the 1940s, highways in the 1950s, and others steadily accumulated over the decades. As the presidential purview grew broader, necessarily the job became more complex. Neustadt went on to note the end of the long period of economic growth from the 1940s to the mid-1970s; greater resource constraints; more interdependence across areas of policy activity; and the end of international bi-polarity, all of which led generally to attenuated presidential freedom of action.

Neustadt and other commentators have focused on the constraints that they place on the freedom of action of the president and government more generally. However, the multiple and overlapping agencies, policy communities, and congressional committees generate more information, more conflicting information, and more overlapping jurisdictional coverage. These are not all bad things. They may lead to better decisions as they are based on a greater range of diverse inputs. In any case, they are fundamental characteristics of modern government, increasingly important to understand, but only recently recognized.

Neustadt noted that the greatest power of the US president was the "power to persuade." In a system of inter-relationships characterized by no clear powers of authority and some clear constraints based on separation of powers, no president could expect to dictate policy outcomes; the most effective presidents have been those who understood and mastered this "power to persuade." That does not mean that various presidents would not like to have greater powers or that they have not tried to gain them. But we can take Neustadt's conclusions for the president one step further and note that the president may be the single actor with the greatest power to persuade others, but he is not the only one limited to this mode of action. Further, as the size and diversity of government has grown since World War Two, larger and more diverse constituencies of the public, of interest groups, of specialized professionals in diverse policy communities, and a wider range of congressional leaders must be brought along. Each also has a certain power to persuade the others.

This is a much more difficult environment for leadership and decision-making, and political leaders have been quick to complain of it. But the larger diversity of opinion that today is incorporated into the policy process brings with it vast resources in terms of information. The informational richness of modern American government more than makes up for its

organizational complexity; in any case the two are contrasting elements of the same thing. In fact, the difficulties in leadership and top-down control that complexity generates are the mirror image of trends toward incorporating more information into the policy process. Complexity may cause difficulties in leadership, but it is a mistake to argue against incorporating information into the policy process.

The complexity inherent in modern government makes inevitable certain inefficiencies, under-reactions, over-reactions, and frictions in the translation of signals from the policymaking environment into government responses in the form of programs and agencies. This is not to say that government in the time of President Truman was perfectly efficient; far from it. But the dynamics by which hundreds of issues come to be winnowed down to the few that will be the object of intensive attention have more important consequences now. Leadership decisions purposefully to restrict the flow of information in government, or the legitimate participation by those with diverse views, may be tempting in the short run. It is certainly easier to make decisions if one considers fewer rather than more diverse elements of debate.

Governmental complexity affects its information-processing capacity. On the one hand, more complexity generates more information. There are more sources of information because there are more actors, agencies, and oversight committees that have motive to produce information (from diverse perspectives, not just the same information repeated). On the other hand, complexity leads to more distortion in the translation of information into policy outputs. How government leaders combine information from various sources is a major problem. One temptation they constantly have is simply to reduce the supply of information: to let it be known that they only want to hear information that justifies their current policies, for example. This has been much in the news since September 11, 2001 and various discussions about the GW Bush

administration's use of intelligence in the period leading up to the Iraq war. But the tension between multiple conflicting sources of diverse and often conflicting information and the need to make sense of it all is always present. In the long-run, we see evidence that from 1947 to about the early 1990s, trends were consistently toward greater diversity. There were more agencies, more hearings, greater jurisdictional overlap, more interest groups, more independent sources of information of many sorts. More recently, these trends have reversed. The trade-off between multiple independent sources of information and making sense of these discordant sounds is constant. Leaders often prefer less information, in fact. Government is healthier when there is more of it, even if this makes decisions more difficult to reach.

In spite of the temptation to limit information so that decisions are easier to reach, ignoring uncomfortable information, for example about unintended harmful consequences of proposed policies, does not make these consequences any less likely to occur. And if they do occur then some later government will face increased pressure to deal with them in a process of lurching from one imperfect policy solution to the next that we have described elsewhere. We believe that no government policies are ever likely to be perfect, at least not the large and complex ones we discuss in this book. The ability to consider multiple streams of information is fundamental to the policy process, however. More information means that problems are detected more quickly. More communication means that political leaders can decide if diverse consequences of a policy which may succeed on one dimension but create problems along another are in need of revision, fine-tuning. This process may be more or less efficient and government, never likely to be perfect, may make small adjustments or it may lurch from one drastic over-reaction to the next.

Diverse and overlapping jurisdictional arrangements lead to more information. More information systematically incorporated into the policy process makes decisions harder to reach, consensus harder to achieve, and over-reactions less likely to be severe. Such systems, however, lead to more laws and programs, probably because there is more pressure to solve the problems that are discovered.

It is possible to ignore the complications and organize the complexity out of politics and government by imposing tight lines of authority on jurisdictions. One can certainly suppress attributes in a multi-attribute problem through jurisdictional assignment, as happened in the Department of Homeland Security (May, Workman, and Jones 2008). The results are usually not what the creators expect, as they were not in the Department of Homeland Security. The attributes suppressed in the organizational structure led to deteriorated performance on the other dimensions, and calls to remedy that omission. If problems are complex, simple organizational designs will fail to address them properly.

The general openness of governmental search processes can vary across time. We found considerable indirect quantitative and qualitative evidence that the supply of information generated by the open, overlapping process that was constructed after the mid-1950s was limited sometimes after 1978. This probably happened in both the legislative and executive branches. We studied the congressional committee system in detail, and it may be that congressional bureaucracies (the Congressional Budget Office, the General Accountability Office, and the Congressional Research Service) supplemented the decline in committee search. But there is little question that the committee system as an information-gathering and assessment system has atrophied (Coburn 2010).

The Complexity of Government and the Supply of Information

Whether we look at the long term or only the past 50 years, growth in government is remarkable. In the long-term, it is 30,000 times larger than it was 200 years ago. Measured by shorter term comparisons since World War Two, these trends have been less dramatic but still impressive. Our larger government is not just writing more checks and employing more workers; it is simultaneously engaged in a greater variety of diverse activities. As new programs are created, new initiatives launched, and new departments created, more supervision of these activities is needed. One reason for the growth in executive positions is simply the growth in new activities. A second reason is the increased overlap in jurisdictional authority and the problems of leadership associated with that. Presidential administrations want their own leaders in place. Congressional overseers want to make sure agency mandates are not diverted to presidential whims. Civil service norms value autonomy and professionalism. These tensions have always been present in American government; they are designed into the system explicitly. However, as the range of activities has increased over the years, these issues of overlap and oversight have become even more important.

In previous chapters we have paid considerable attention to the increased overlap and redundancy in the organizational structure of the US government. Redundancy appears to be inefficient, and if the US government faced well understood problems and knew exactly what the best technologies were for addressing them, then a hierarchical control system of clear authority would be best. But as long as value judgments differ about the most important problems facing society, technical ambiguities persist making it difficult to know in fact which problems are most serious (even if we agree in principle, about the need to address the most severe social problems facing us), and as long as problems remain complex ensuring that solutions may address only part of the problem and themselves create unintended secondary consequences, then we will be

better off with some degree of ambiguity and overlap in our organizational structure as well. This is how the framers designed it, and for good reason.

Compared to the organizational clarity inherent in a system with clear jurisdictional rules and bright boundaries around the activities and mandates of different institutions, overlapping, ambiguous, conflicting, and redundant systems provide more venues within which policy is debated, and, as a consequence, offer a richer supply of information relevant to policy choices. In any case, one of the most important consequences of the long-term growth of government, whether we look over 200 years, or just back at the more recent period, has been to complicate the structures of government. There are more government institutions today, they overlap in their mandates more than before, and they interfere with each other's activities. Many have decried these developments as they complicate the process of government. There is no question that they do complicate matters, especially for those who would prefer to have clearer authority to make authoritative decisions.

Search and the Health of Democracy

Government is a complex adaptive system, adjusting to demands from its environment, and from internal components as well. Adaptability varies across political systems, and some internal decision-making structures are more adaptable than others. The capacity to detect and interpret potential problems is surely an adaptive trait in governance.

One of the consequences of separated powers is the incentive for both branches involved in lawmaking and policy implementation to construct information-processing systems to ensure against being overly reliant on the other branch. If that is all there was to it, then incentives would all encourage better systems for detecting problems and designing solutions. Unfortunately in some cases a sense of urgency seizes the political system, and hasty

policymaking occurs. Some policy actors may want to limit the search process to thwart the information-policy connection.

In some cases, the ideological predispositions, economic self-interest, or other "blinders" to the flow of information can lead to denial even where the strength of the incoming signal about a problem is strong. The notion that tax reductions "pay for themselves" by increasing economic growth and hence need not be offset by spending cuts to make them revenue neutral is an argument that is simply not true, as many academic studies and governmental reports have repeatedly shown (Jones and Williams 2008; Congressional Research Service 2012). There is not much a strong information-processing system can do about these sorts of arguments, especially since they are so convenient for politicians. It should be clear, however, that seeking to shut down the capacity to detect problems is in no way a solution.

Our assessments of the search processes of the US government over time suggest that there has been an attenuation of this capacity during the last thirty or so years. Certainly the social and economic systems have not gotten less complex, yet the capacity of government to assess problems has, according to our measures and considerable qualitative evidence, leveled off and declined. The process underlying this seems to be a *politics of attribute suppression*: attempt to limit serious discussions of aspects of complex problems through a net of formal and informal means. These include limiting of the hearing capacity of congress, defunding of policy analytic staffs in executive agencies, and, indirectly, funding of elections to encourage both political parties to engage in such practices.

In the end, we come down on the side of vigorous information-processing systems that are capable of detecting problems and in prioritizing them for action. That approach may lead to

over-government, but the answer is not to shut down the process or try to limit the access of

others to the process. It is to make the case.

Appendices

Appendix A: Committees in Congress, 1947-2006

[On following page]

Table A.1 Hearings by Congress for the Main Committees of the House of Representatives, 1947-2006.
A. The 80th to the 94th Congress.

Committee	Congress 80th	81st	82nd	83rd	84th	85th	86th	87th	88th	89th	90th	91st	92nd	93rd	94th
Agriculture	74	69	50	59	93	84	62	54	55	57	61	45	40	78	65
Appropriations	75	96	99	76	92	94	95	91	89	94	93	116	135	155	171
Armed Services	337	257	101	139	136	131	89	81	73	89	71	71	73	88	67
Banking	41	26	16	18	31	16	24	25	37	42	37	43	33	56	86
Budget															29
DC	131	64	32	46	43	47	10	11	21	22	37	27	16	44	29
Education	58	21	16	22	19	35	36	66	48	72	53	89	94	91	123
Commerce	167	36	21	54	44	70	59	61	59	53	50	117	116	113	164
International Relations	12	27	4	17	14	76	37	35	44	57	35	66	88	117	141
Government Reform	62	32	56	72	95	124	40	54	50	60	67	96	90	91	103
Administration	13	6	9	3	15	40	5	3	5	5	0	3	4	5	4
Resources	378	374	312	337	332	319	31	32	38	44	43	52	57	81	94
Judiciary	82	132	151	185	254	280	31	42	34	31	25	48	52	103	88
Fisheries	75	52	33	47	74	59	36	29	27	34	34	62	37	49	48
Post Office	44	15	39	29	40	54	57	52	55	57	51	41	55	58	95
Transportation	51	25	30	45	21	18	25	23	29	38	35	52	42	37	63
Rules	139		1	1	5	5			4	13	5	7		3	2
Science							48	47	21	21	25	32	32	59	124
Small Business	9	10	11	2	20	21	17	8	18	19	14	20	21	29	34
Veterans' Affairs	53	22	24	36	36	18	31	13	9	20	19	15	13	14	24
Ways and Means	26	11	19	28	25	20	16	24	23	24	27	54	42	64	102
Un-American Activities	27	49	40	100	59	34	28	22	15	12	16	29	17	17	
Homeland Security															
All Others	3	12	14	10	2	2	1	3	4	0	2	23	16	10	98
Total	1857	1336	1078	1326	1450	1547	778	776	758	864	800	1108	1073	1362	1754

Table A.1 (cont). B. The 95th to the 109th Congress.

	Congress														
Committee	95th	96th	97th	98th	99th	100th	101st	102nd	103rd	104th	105th	106th	107th	108th	109th
Agriculture	90	85	103	101	60	115	94	100	99	49	64	68	26	39	40
Appropriations	186	217	214	181	183	169	155	150	170	171	170	167	159	162	162
Armed Services	97	86	83	72	75	126	86	82	56	53	53	67	48	46	153
Banking	107	85	109	120	111	99	192	155	178	51	78	75	87	117	125
Budget	48	37	40	36	23	24	41	67	26	29	10	19	34	26	20
DC	23	19	27	14	23	13	13	12	9						
Education	131	132	156	160	152	115	133	138	120	80	151	134	85	74	61
Commerce	196	244	205	195	183	242	220	166	171	119	137	168	143	134	147
International Relations	151	178	168	160	193	192	204	176	179	206	210	194	120	161	239
Government Reform	116	124	146	166	159	161	155	148	141	210	217	280	248	286	256
Administration	1	3	5	5	4	4	10	16	8	4	2		12	16	24
Resources	75	72	71	92	93	106	118	123	136	110	120	79	160	107	63
Judiciary	88	104	146	156	109	147	161	130	100	133	132	178	113	117	166
Fisheries	55	54	47	58	60	95	123	107	126						
Post Office	81	116	57	63	84	74	87	67	60						
Transportation	52	63	74	74	53	73	83	81	83	80	81	103	105	84	100
Rules	2	6	4	3	4	3	4	6	5	7	7	3	6	2	
Science	124	182	180	152	165	154	169	171	174	78	96	111	91	69	64
Small Business	67	70	63	58	49	76	86	93	110	91	67	73	67	83	64
Veterans' Affairs	43	58	82	61	62	62	58	54	59	28	47	51	56	51	64
Ways and Means	121	135	90	112	104	91	127	135	108	93	95	130	98	73	86
Un-American Activities															
Homeland Security														59	107
All Others	130	131	91	135	159	162	141	150	15	3	1	1	5	1	0
Total	1984	2201	2161	2174	2108	2303	2460	2327	2133	1595	1738	1901	1663	1707	1941

Note: The table shows numbers of hearings held in each standing committee. Blank cells indicate the committee did not exist in that period or that it held no hearings. Committees with few hearings or intermittent existence are combined in the "all others" category.

Table A.2. Hearings by Congress for the Main Committees of the Senate, 1947-2006.
A. 80th to the 94th Congress.

Committee	Congress														
	80th	81st	82nd	83rd	84th	85th	86th	87th	88th	89th	90th	91st	92nd	93rd	94th
Agriculture	31	43	10	41	40	42	25	27	14	27	30	24	38	53	67
Appropriations	56	42	35	40	43	47	47	45	50	51	63	76	91	101	125
Armed Services	70	111	104	136	131	64	55	101	50	45	39	40	50	66	65
Banking	95	73	52	83	86	53	57	70	64	71	80	104	81	92	120
Budget														2	16
Commerce	64	62	42	81	62	67	77	92	71	85	93	134	120	150	129
Energy	97	87	36	133	122	102	64	124	139	130	124	92	168	189	177
Environment	16	19	13	15	23	33	18	21	22	35	56	85	51	79	62
Finance	16	20	23	23	23	27	27	43	23	26	19	40	30	57	65
Foreign Relations	62	85	50	88	96	77	61	41	69	66	81	86	50	63	59
Homeland Security	34	25	20	143	46	16	24	43	48	77	62	65	39	82	72
Judiciary	44	96	62	207	180	124	113	132	78	115	120	177	128	139	142
Health	38	52	28	36	42	23	44	36	49	88	86	190	161	157	132
Rules	7	5	24	16	7	12	26	18	58	39	23	3	7	11	12
Small Business	22	8	46	22	20	21	29	19	16	14	39	20	16	16	62
Veterans Affairs													18	17	18
Aeronautical						3	16	10	8	9	25	19	15	17	17
Post Office	67	53	56	25	44	29	36	53	40	36	27	23	16	27	19
DC	47	62	91	82	55	79	108	101	75	73	73	59	41	20	17
All Others	31	13	12	1	6	108	80	40	31	17	22	125	81	110	73
Total	797	856	704	1172	1026	927	907	1016	905	1004	1062	1362	1201	1448	1449

Table A.2 (cont.)
B. 95th to the 109th Congress.

| Committee	95th	96th	97th	98th	99th	100th	101st	102nd	103rd	104th	105th	106th	107th	108th	109th
Agriculture	74	103	55	70	35	57	61	39	40	28	43	47	42	17	48
Appropriations	106	114	87	94	91	83	90	70	73	72	35	75	81	72	99
Armed Services	68	61	72	75	46	43	39	36	47	36	15	44	46	39	18
Banking	130	127	82	68	56	71	119	85	101	45	46	65	79	63	48
Budget	17	17	17	13	12	20	14	15	4	9	11	6	6	4	8
Commerce	159	150	151	118	95	125	165	127	119	82	109	132	159	37	66
Energy	154	170	134	111	97	136	135	113	110	106	105	151	86	92	108
Environment	94	72	78	69	67	94	95	75	66	39	46	63	59	41	30
Finance	106	110	139	156	122	107	111	109	84	78	58	64	73	61	76
Foreign Relations	76	72	100	71	43	37	53	84	44	55	59	95	64	117	80
Homeland Security	112	179	162	103	81	109	127	130	108	70	100	68	112	102	167
Judiciary	126	132	167	156	141	104	109	103	80	108	125	122	119	101	117
Health	162	133	123	137	97	98	113	129	104	72	50	87	99	55	61
Rules	8	5	4	3	2	5	2	1	2	3	1	4			
Small Business	63	68	41	43	25	30	31	37	26	30	7	31	17	12	8
Veterans Affairs	23	27	21	15	14	18	26	19	22	10	10	7	18	12	44
Aeronautical															
Post Office	3														
DC															
All Others	102	87	91	76	59	101	121	107	92	86	98	140	101	128	93
Total	1583	1627	1524	1378	1083	1238	1411	1279	1122	929	918	1201	1161	953	1071

Note: See Table A.1.

Appendix B: The Reliability of the Subtopic Measure

In this book we developed the concept of entropic search to capture the notion that diversity is desirable in search processes in which the problem-space is ill-defined, and we used Shannon's entropy coefficient to assess this type of search in congressional committees. For many of the areas we studied, we employed a more convenient measure, the number of Policy Agendas Project Subtopics

Figure B.1: The Number of Policy Agendas Subtopics on Which One or More Hearings Were Held and Average Topic Entropy
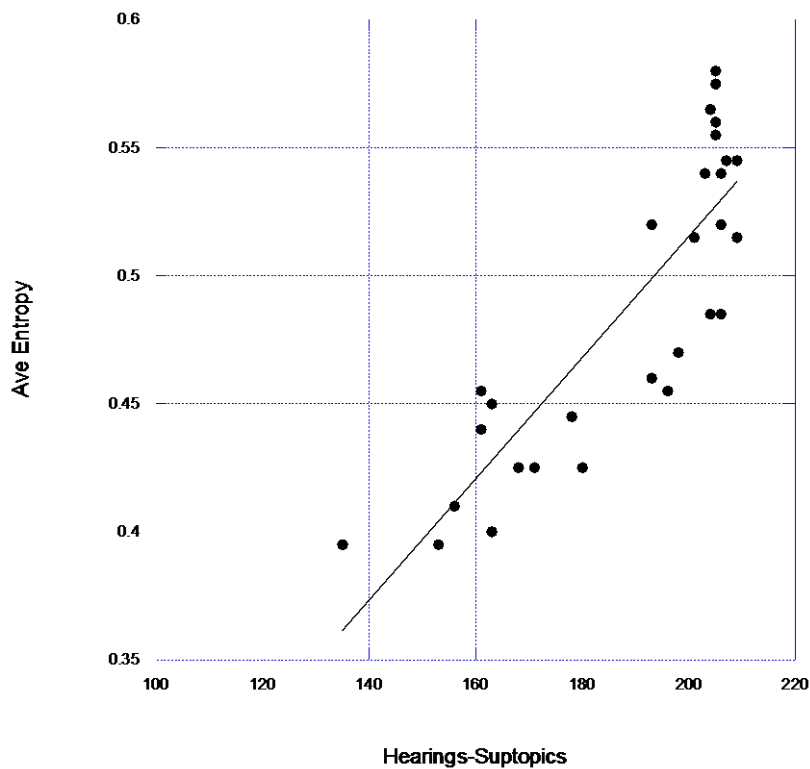
$$y = 0.04161 + 0.0023693x \quad R= 0.86109$$

Figure B.1 is a scatterplot that compares Average Topic Entropy to the Number of Subtopics on which one or more hearings were held. Average Topic Entropy calculates entropy across the major topic categories of the Policy Agendas Project, of which there are nineteen,

whereas the number of subtopics can peak at 226. Yet topic entropy is more variable at the

upper range.

References

9 / 11 Commission. 2004. *The 9 / 11 Commission Report.* Washington: Government Printing Office. Also available from: http://www.9-11commission.gov/report/911Report.pdf.

Adler, E. Scott and John Wilkerson.2012. *A Governing Theory of Legislative Organization.* Cambridge: Cambridge University Press.

Bak, Per. 1996. *How Nature Works: The Science of Self-Organized Criticality*. New York: Copernicus.

Barabasi, Albert-Laszlo. 2005. *Linked*. New York: Penguin.

Baumgartner, Frank R. 2013. Discrediting the Status Quo: Ideas, Levels of Policy Change, and Punctuated Equilibrium. *Governance*, forthcoming.

Baumgartner, Frank R. and Bryan D. Jones. 2009 (1993). *Agendas and Instability in American Politics*. 2d. ed. Chicago: University of Chicago Press.

Baumgartner, Frank R., Bryan D. Jones, and Michael C. MacLeod. 2000. The Evolution of Legislative Jurisdictions. *Journal of Politics* 62: 321–49.

Bawn, Kathleen, Martin Cohen, David Karol, Seth Masket, Hans Noel, and John Zaller. 2012. A Theory of Political Parties: Groups, Policy Demands, and Nominations in American Politics. *Perspectives on Politics* 10: 571-597.

Begg, Iain. 2007. The 2008/2009 EU Budget Review. EU-Consent EU-Budget Working Paper #3.

Ben-Shakar, Gershon, Maya Bar-Hillel, Yoram Bilu, and Gaby Shefler. 1998. Seek and Ye Shall

Find: Test Results are What You Hypothesize They Are. *Journal of Behavioral*

Decision-Making 11: 235-2459.

Berry, Christopher R. 2009. *Imperfect Union*. Cambridge: Cambridge University Press.

Bish, Robert L. 1970. *The Public Economy of Metropolitan Areas*. Chicago: Markham.

Boydstun, Amber E., Shaun Bevan, and H. F. Thomas III. 2012. Measuring Attention Diversity.

Working paper.

Breunig, Christian, and Chris Koski. 2006. Punctuated Equilibria and Budgets in the American

States. *Policy Studies Journal* 34 (3): 363–79.

Breunig, Christian. 2006. The More Things Change, the More Things Stay the Same: A

Comparative Analysis of Budget Punctuations. *Journal of European Public Policy* 13 (7):

1069–85.

Breunig, christian and Bryan D. Jones. 2011. Stochastic Process Methods with an Application to

Budgetary Data. 2011. *Political Analysis*.

Breunig, Christian, and Chris Koski. 2006. Punctuated Equilibria and Budgets in the American

States. *Policy Studies Journal* 34 (3): 363–79.

Breunig, Christian. 2006. The More Things Change, the More Things Stay the Same: A

Comparative Analysis of Budget Punctuations. *Journal of European Public Policy* 13 (7):

Caro, Robert. 2012.

Carpenter, Daniel. 1996. Adaptive Signal Processing, Hierarchy, and Budgetary Control in

Federal Regulatory Agencies. A*merican Political Science Review* 90: 283-302.

Chan, Sewell. 2010. In Study, 2 Economists Say Intervention Helped Avert a 2nd Depression.

New York Times 27 July, page B8.

CIA FAQs: How Many People Work for the CIA and What Is Its Budget?

https://www.cia.gov/about-cia/faqs/index.html. Accessed 7/12/2012.

Cohen, Michael, James G. March, and Johan P. Olsen. 1972. A Garbage Can Theory of

Organizational Choice. *Administrative Science Quarterly* 17: 1–25.

Cohn, Bob. 2011. Scalia: Our System is Designed for Gridlock." *Atlantic Monthly*. October 6th.

http://www.theatlantic.com/national/archive/2011/10/scalia-our-political-system-is-

designed-for-gridlock/246257/. Accessed October 8, 2011.

Cobb, Roger and Mark Howard Ross. 1997. *Cultural Strategies of Agenda Denial*. Lawrence

Kansas: University Press of Kansas.

Coburn, Tom. 2011. Shooting the Messenger: Congress Targets the Taxpayers' Watchdog.

Investigative Reports. http://www.coburn.senate.gov/public/?p=OversightAction.

Accessed September 24, 2012.

Dahl, Robert. 1967. The City in the Future of Democracy. American Political Science Review

61: 953-70.

Davis, Otto A., M.A.H. Dempster, and Aaron Wildavsky. 1966. A Theory of the Budget

Process. *American Political Science Review* 60: 529-47.

Davis, Otto A., M.A.H. Dempster, and Aaron Wildavsky. 1974. Towards a Predictive Theory

of Government Expenditure: US Domestic Appropriations. *British Journal of Political

Science* 4: 419-52.

Deering, Christopher J., and Steven S. Smith. 1997. *Committees in Congress.* 3rd ed.

Washington: Congressional Quarterly.

Dodd, Lawrence, and Richard Schott. 1979. *Congress and the Administrative State*. New York:

John Wiley.

Downs, Anthony. 2008. How Rational Citizens Reduce Information Costs. http://keithoughts-kwc.blogspot.com/2008/10/how-rational-citizens-reduce.html. 8 October. Retrieved 13 May 2012.

Dufour, Caroline. 2008. The Format of the Expenditure Budget of the Government of Ontario: A Path Dependent Model. Vancouver, BC: Paper presented at the Annual Meeting of the Canadian Political Science Association.

Erdi, Peter. 2008. *Complexity Explained*. New York: Springer.

Erikson, Robert S., James A. Stimson, and Michael MacKuen. 2002. *The Macro Polity*. New York: Cambridge University Press.

Christopher Faricy. 2011. The Politics of Social Policy in America: The Causes and Effects of Indirect versus Direct Social Spending. *Journal of Politics* 73, 1: 74-83.

Fenno, Richard F., Jr. 1973. *Congressmen in Committees*. Boston: Little, Brown.

Gilligan, Thomas W. and Keith Krehbiel. 1987. Collective Decisionmaking and Standing Committees: An Informational Rationale for Restrictive Amendment Procedures. *Journal of Law Economics and Organization* 3 (2): 287–335.

Gilligan, Thomas W. and Keith Krehbiel. 1989. Asymmetric Information and Legislative Rules with a Heterogeneous Committee. *American Journal of Political Science* 33 (2): 459–490.

Gilligan, Thomas W. and Keith Krehbiel. 1990. Organization of Informative Committees by a Rational Legislature. *American Journal of Political Science* 34 (2): 531–564.

Greenspan, Alan. 2004. Remarks Made At America's Community Bankers Annual Convention, October 19th. Washington, DC: Board of Governors of the Federal Reserve System, Speeches of Federal Reserve Officials

(http://www.federalreserve.gov/newsevents/speech/2004speech.htm). Accessed 10/3/2012.

Grossman, Matthew. 2011. "American Domestic Policymaking Since 1945: The Aggregate View from Policy History." at the Midwest Political Science Association Annual Meeting. Chicago, IL. April 2011.

FY2010 Intelligence Budget. Global Security.Org. (http://www.globalsecurity.org/intell/library/budget/index.html)

Hacker, Jacob S. and Paul Pierson. 2010. *Winner-Take-All Politics*. New York: Simon and Schuster.

Hammond, Thomas. 1990. In Defense of Luther Gulick's "Notes on the Theory of Organization." *Public Administration* 68: 143-73.

Holcombe, Randall G. 2005. Government Growth in the 21st Century. *Public Choice* 124: 95-114.

Holmes, James. 2006. Theodore Roosevelt and World Order. Washington DC: Potomac Books.

Hosking, J. R. M. 1990. L-Moments: Analysis and Estimation of Distributions Using Linear Combinations of Order Statistics. *Journal of the Royal Statistical Society B* 52: 105-24.

Howlett, Michael and Andrea Migone. 2011. Charles Lindblom Is Alive and Well and Living in Punctuated Equilibrium Land. *Politics and Society* 30: 53-62.

Howlett, Michael and Jeremy Rayner. 2006. Understanding the Historical Turn in the Policy Sciences. *Policy Sciences* 39: 1-18.

Huntington, Samuel. 1981. *American Politics: The Promise of Disharmony*. Cambridge: Harvard University Press.

Jochim, Ashley E. and Bryan D. Jones. 2012. Issue Politics in a Polarized Congress. *Political Research Quarterly*

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

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

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

Jones, Bryan D., Frank R. Baumgartner, Christian Breunig, Christopher Wlezien, Stuart Soroka, Martial Foucault, Abel François, Christoffer Green-Pedersen, Peter John, Chris Koski, Peter B. Mortensen, Frédéric Varone, and Stefaan Walgrave. 2009. A General Empirical Law for Public Budgets: A Comparative Analysis. *American Journal of Political Science* 53, 4 (October): 855–73.

Jones, Bryan D., Frank R. Baumgartner, and Erin de la Mare. 2005. The Supply of Information and the Size of Government in the United States. Seattle: Center for American Politics and Public Policy, University of Washington.

Jones, Bryan D. and Christian Breunig. 2007. Noah and Joseph Effects in Government Budgets: Analyzing Long-Term Memory. *Policy Studies Journal* 35: 329-48.

Jones, Bryan D., Tracy Sulkin, and Heather Larsen. 2003. Punctuations in American Political Institutions. American Political Science Review 97: 151-69.

Jones, Bryan D. and Walter Williams. 2008. *The Politics of Bad Ideas*. New York: Pearson.

Jones, Bryan D. and Michelle Whyman. 2011. Lawmaking and Agenda-Setting in the United States, 1948-2007. Austin: Policy Agendas Project.

Jones, Bryan D., Lazlo Zalyani, and Peter Erdi. 2012. Path Dependency as Exponential Incrementalism: The Dynamics of the US National Budget, 1791-2010. Austin, Texas: Policy Agendas Project Occasional Paper.

Jordan, Meagan. 2003. Punctuations and Agendas. *Journal of Policy Analysis and Management* 22: 345-60.

Lodge, Milton, and Charles Taber. In Press. *The Rationalizing Voter*. Cambridge: Cambridge University Press.

Kahneman, Daniel. 2011. *Thinking, Fast and Slow*. New York: Farrar, Straus, and Giroux.

Krehbiel, Keith. 1991. *Information and Legislative Organization*. Ann Arbor: University of Michigan Press.

Kingdon, John W. 1995. *Agendas*, *Alternatives, and Public Policies*. 2d ed. New York: Harper Collins.

Landau, Martin. 1969. Redundancy, Rationality, and the Problem of Duplication and Overlap. *Public Administration Review* 29 (4, Jul-Aug): 346–358.

Landau, Martin. 1971. Linkage, Coding, and Intermediacy. *Journal of Comparative Administration* 2: 401–429.

Levy, Silvano. 2000. Andre Breton and the Belgian Connection. In Ramona Fotiade, *Andre Breton: The Power of Language*. Exeter, UK: Elm Bank Publications. 124-137.

Lewallen, Jonathan. 2012. Memorandum on Legislative Rule Changes. Austin: Policy Agendas Project.

Lewis, David E. 2003. Presidents and the Politics of Agency Design: Political Insulation in the
United States Government Bureaucracy, 1946-1997. Stanford, CA: Stanford University
Press.

Lewis-Beck, Michael and Tom Rice. 1985. Government Growth in the United States. *Journal
of Politics*

Light, Paul C. 1995. Thickening Government: Federal Hierarchy and the Diffusion of
Accountability. Washington: Brookings.

Light, Paul C. 1999. *The True Size of Government*. Washington: Brookings.

Lowi, Theodore. 1969. *The End of Liberalism*. New York: W.W. Norton.

Majority Media, Senate Committee on Homeland Security and Governmental Affairs. 2012.
Fusion Centers Add Value to the Federal Government Counterterrorism Efforts. Senate
Committee on Homeland Security and Governmental Affairs. October 3.
http://www.hsgac.senate.gov/media/fusion-centers-add-value-to-federal-government-
counterterrorism-efforts . Accessed 10/4/2012.

March, James G. and Johan P. Olsen. 1983. Organizing Political Life: What Reorganization
Tells Us About Government. *American Political Science Review* 77: 281-96.

Martin, Douglas. 2012. Roger Boisjoly, 73, Dies; Warned of Shuttle Danger. *New York Times* 3
February.

May, Peter J., Samuel Workman, and Bryan D. Jones. 2008. Organizing Attention: Responses
of the Bureaucracy to Agenda Disruption. *Journal of Public Administration Research
and Theory* 18: 517–541.

Media, Senate Permanent Subcommittee on Investigations. 2012. Investigative Report Criticizes
Counterterrorism Reporting, Waste in State and Local Intelligence Fusion Centers.

Senate Committee on Homeland Security and Governmental Affairs.

http://www.hsgac.senate.gov/subcommittees/investigations/media/investigative-report-criticizes-counterterrorism-reporting-waste-at-state-and-local-intelligence-fusion-centers. Accessed 10/4/2012.

Meier, Kenneth and John Bohte. n.d. Ode to Luther Gulick: The Span of Control and Organizational Performance.

Mortensen, Peter B. 2005. Policy Punctuations in Danish Local Budgeting. *Public Administration* 83 (4): 931-950.

Myers, Roy. 2011. Path Dependence in the Federal Budget Process. Seattle WA: Paper presented at the American Political Science Association Meetings, September 3.

Niskannen, William.

Nickerson, Raymond S. 1998. Confirmation Bias: A Ubiquitous Phenomenon in Many Guises. *Review of General Psychology* 2: 175-220.

Ostrom, Elinor. 1976. Size and Performance in the Federal System. Publius 6: 33-73.

Ostrom, Elinor. 1986. An Agenda for the Study of Institutions. *Public Choice* 48: 3-25.

Ostrom, Elinor. 2005. Understanding Institutional Diversity. Princeton: Princeton University Press.

Ostrom, Vincent, Charles M. Tibout, and Robert Warren. 1961. The Organization of Governments in Metropolitan Areas. *American Political Science Review* 55: 831-42

Page, Scott. 2006. Path Dependence. *Quarterly Journal of Political Science* 1: 87-115.

Page, Scott E. 2008. *The Difference*. Princeton: Princeton University Press.

Padgett, John F. 1980. Bounded Rationality in Budgetary Research. *American Political Science Review* 74: 354-72.

Padgett, John F. 1981. Hierarchy and Ecological Control in Federal Budgetary Decision Making. *American Journal of Sociology* 87: 75-128.

Peacock, Alan T., and Jack Wiseman. 1961[1994]. *The Growth of Public Expenditures in the United Kingdom*. 2nd Ed., reprinted. Aldershot, England: Gregg Revivals.

Peterson, David A., Lawrence A. Grossback, James A. Stimson, and Amy Gangl. 2003. Congressional Response to Mandate Elections. *American Journal of Political Science* 47: 411-26.

Priest, Dana and William M. Arkin. 2011. *Top Secret America*. New York: Little, Brown.

Redford, Emmette S. 1969. *Democracy in the Administrative State*. New York: Oxford University Press.

Robinson, Scott. 2004. Punctuated Equilibrium, Bureaucratization, and Budgetary Changes in Schools. Policy Studies Journal 32: 25-39.

Roubini, Nouriel and Stephen Mihm. 2010. *Crisis Economics: A Crash Course in the Future of Finance*. New York: Penguin.

Schelling, Thomas C. 1971. Dynamic Models of Segregation. *Journal of Mathematical Sociology* 1: 143–86.

Schlesinger, Arthur. 1986. *The Cycles of American History*. Boston: Houghton Mifflin.

Shannon, Claude E. 1948. A Mathematical Theory of Communication. *Bell System Technical Journal* 27: 379–423, 623–656.

Shannon, Claude, and Warren Weaver. 1971. *The Mathematical Theory of Communication*. Urbana, Ill.: University of Illinois Press.

Shepsle, Kenneth A. 1978. *The Giant Jigsaw Puzzle.* Chicago: University of Chicago Press.

Simon, Herbert. 1996. *The Sciences of the Artificial*. Cambridge, MA: The MIT Press.

Simon, Herbert A. 1997. *Administrative Behavior* 4th ed. New York: Free Press.

Simon, Herbert A. 1946. Proverbs of Administration. Public Administration Review 6: 53-67.

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

Simon, Herbert A. 1997. Managing in an Information-Rich World. In Herbert A. Simon, Ed.,
    Models of Bounded Rationality. Cambridge, MA: The MIT Press.

Skocpol, Theda. 1992. Protecting Soldiers and Mothers: The Political Origins of Social Policy
    in the United States. Cambridge: Harvard University Press.

Skocpol, Theda. 1993. America's First Social Security System: The Expansion of Benefits for
    Civil War Veterans. *Political Science Quarterly* 108, 1 (Spring): 85–116.

Sornette, Didier. 2000. *Critical Phenomena in Natural Sciences.* Berlin: Springer.

Soroka, Stuart. In press.

Soroka, Stuart, Christopher Wlezien, and Iain McLean. 2006.   Public Expenditure in the UK:
    How Measures Matter. *Journal of the Royal Statistical Society, Series A* 169 (part 2):
    255–71.

Souter, Justice David H. 2010. Text of Justice David Souter's speech, Harvard Commencement
    remarks (as delivered). May 27. Available at:
    http://news.harvard.edu/gazette/story/2010/05/text-of-justice-david-souters-speech/

Sparrow, Bartholomew. 1996. *From the Outside In: World War II and the Development of the
    American State.* Princeton: Princeton University Press.

Stimson, James A. 1999. *Public Opinion in America: Moods, Cycles, and Swings.* 2nd ed.
    Boulder, CO: Westview.

Sullivan, Eileen. 2012. Expensive Counter-terror Offices Produced Little Valuable Intel.

 October 3. Associated Press. (http://www.keprtv.com/news/national/Expensive-

 counter-terror-officesproduced-little-valuable-intel-172469071.html). Accessed

 10/3/2012

Talbert, Jeffery C., Bryan D. Jones, and Frank R. Baumgartner. 1995. Nonlegislative Hearings

 and Policy Change in Congress. *American Journal of Political Science* 39: 383-406.

Taleb, Nassim Nicholas. 2010. *The Black Swan: The Impact of the Highly Improbable*. New

 York: Random House.

True, James L., Bryan D. Jones, and Frank R. Baumgartner. 1999. Punctuated Equilibrium

 Theory. In Paul Sabbatier, ed. *Theories of the Policy Process*. Boulder, Colo:

 Westview.

U. S. Census Bureau. 2002. *2002 Census of Governments: Vol 1. No. 1. Government

 Organization.* Washington, DC: GPO. GC02(1)-1 Retrieved from

 http://www.census.gov/prod/2003pubs/gc021x1.pdf 14 May 2012.

U.S. House of Representatives. 2011. Rule X. Organization of Committees. Available at:

 http://www.gpoaccess.gov/hrm/browse_110.html, downloaded May 10, 2011.

U. S. Senate. 2011. Senate Committees.

 http://www.senate.gov/artandhistory/history/common/briefing/Committees.htm accessed

 April 20, 2011.

Wanat, John (1974). "Bases of Budgetary Incrementalism." *American Political Science

 Review* 68: 1221 -28.

Weisman, Jonathan. 2012. House Bill Takes a Scythe to Spending. *New York Times* (June 5).

Whyman and Jones 2012. Building Blocks and Bursts in US Lawmaking. Paper presented at the

    Comparative Policy Agendas Project, Reims, France, June 14-16.

Wildavsky, Aaron. 19xx. Policy as Its Own Cause.

Williams, Walter. 1990. *Mismanaging America: The Rise of the Anti-Analytic Presidency*.

    Lawrence Kansas: The University Press of Kansas.

Williams, Walter. 1998. *Honest Numbers and Democracy*. Washington DC: Georgetown

    University Press.

Williams, Walter. 2003. *Reaganism and the Death of Representative Democracy*. Washington

    DC: Georgetown University Press.

Wilson, Woodrow. 1885. *Congressional Government: A Study in American Politics*. New

    York: Houghton, Mifflin and Company.

Wilson, James Q. 1979. American Politics, Then and Now. *Commentary*. February: 39-46.

Workman, Samuel. 2012a. Agenda Change and the Development of the Administrative State.

    Policy Agendas Project, University of Texas at Austin.

Workman, Samuel. 2012b. *Bureaucracy and Problem-Solving: Information Processing in the

    Administrative State.*

Workman, Samuel, Bryan Jones, and Ashley Jochim. 2009. Information Processing and Policy

    Dynamics. *Policy Studies Journal* 37: 75-92.

Worsham, Jeff and Chaun Stores. 2012. Pet Sounds: Subsystems, Regimes, Policy

    Punctuations, and the Neglect of African American Farmers, 1935-2006*. Policy Studies

    Journal* 40: 169-189.