

Taking Advantage of “Crisis”

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Abstract

This paper reviews the trace of budgetary shifts in US federal spending, looking first at overall, defense, and domestic spending from 1791 to 1988 and then using more detailed categories of spending for the period of 1947 to 2008. Consistent patterns emerge relating to the prevalence of “extreme values” in each distribution of annual percent budget changes. An analysis of the largest shifts in spending priorities provides mixed evidence for the impact of outside crises in explaining these massive shifts in spending. Endogenous and exogenous explanations for dramatic shifts in budget patterns must be explored simultaneously.

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Government Response to Crises

Since coming to office less than one year ago, US President Barack Obama has been 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; a major initiative on health-care reform; and has announced plans for important shifts in global climate change and US immigration reform.¹ 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). What can we say about the role of crisis in shaping these dramatic policy revisions?

Endogenous and Exogenous Causes of Dramatic Policy Change

It is tempting to think that major policy changes can be associated with the crisis that must have caused them. Policymakers respond dramatically to new challenges, and one need look no further than the financial meltdown of 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

¹ Thanks to John Lovett for very capable research assistance. Data reported here were collected in part through the Policy Agendas Project (www.policyagendas.org) with support of the National Science Foundation grants number SBR 0111611 and SBR 9320922. Many of the concepts discussed here have been developed jointly with Bryan D. Jones.

Bush and Obama responded in similar ways to the crisis, and did so with breathtaking speed and awesome scope. The US federal government now owns 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 is in spite of a complete lack of interest by any major political figure in the US 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.

How often do governments generate such massive policy shifts? Is this generally the result of exogenous crises or does it sometimes occur in the absence of an exogenous shock? Other elements of the Obama administration’s agenda remind us of the importance of endogenous elements of policy change: election effects, the buildup of pressure but the stickiness of response, and other aspects of policymaking in the complex organizational structure of US politics point to the high institutional cost of change and to the stickiness of the status quo. In previous work Bryan Jones and I have developed a model of institutional friction which focuses on internal causes of the general tendency towards recreation of the status quo but the occasional burst of policymaking attention and dramatic policy change (see Jones and Baumgartner 2005).

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 paper I will take as the object of analysis “major policy changes” and assess the degree to which we can associate these with external crises. This is subtly different

from an approach which 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.² 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 crisis 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 through historical tracing.

The Distribution of Annual Budget Changes at Different Levels of Aggregation

This section presents a series of data on the same question aggregated in three ways: The entire US federal budget (one observation per year; also separating Defense v. non-Defense spending); by OMB “function”; and by OMB “subfunction.” The Office of Management and Budget presents the annual budget in 19 major categories of spending (called “functions”) and further breaks these down into smaller components, called “subfunctions.” The Policy Agendas Project (PAP; www.policyagendas.org) makes available all these data and has revised the historical data

² In 1976 as a freshman at the University of Michigan, I received a “National Defense Student Act” loan (later renamed “National Direct Student Loan”); the NDSL program was created by act of Congress in 1958 as a direct result of the Sputnik launch. Thank you, Khrushchev; thank you, Eisenhower.

back to 1947 to ensure consistency in the use of current OMB definitions of what the categories entail. (That is, any shifts in spending cannot be attributed to changes in OMB's classification system.)

The Entire US Federal Budget, 1791-Present

Figure 1 presents the trace of federal spending from 1791 to 1990 in billions of inflation-adjusted 1984 dollars. Figure 1a presents the raw numbers and 1b shows the same figures on a log scale to make the early period more discernible. Spending started at the equivalent of approximately \$4 million in 1791, reached \$10 million by 1799, \$50 million in 1847, surged from \$67 to \$475 million in 1862, then up to \$1.298 billion in 1865 before declining to \$521 million in 1866 and down to \$237 million in 1878. It remained in a period of slow growth until the outbreak of World War One when it moved from \$713 million in 1916 and, in annual increments, to \$1.954 billion, \$12.677 billion, and \$18.493 billion in 1918 before declining sharply to \$2.924 billion in 1925. The increase associated with World War Two was substantial as well, from \$6.765 billion in 1938 to a peak of \$98.303 billion in 1945. Spending reached the inflation-adjusted level of \$100 billion by 1962 and ended the series at \$1.056 trillion in 1988.³

(Insert Figure 1 about here)

A simple glance at the data, especially on the log scale, makes clear that dramatic adjustments are surprisingly common. Are these due to wars and similar massive shocks, do that have a more generic and self-contained explanation, or what is the mix? We can look at domestic and defense-related expenditures separately and do so in Figure 2.

(Insert Figure 2 about here)

³ These data come from OMB historical files. I am in the midst of a project to update to the current period and to adjust them to a more recent budget year. The 2011 federal budget is now over \$3 trillion.

We can easily calculate the percentage change in year-to-year expenditures. Figure 3 presents these data, which make it easier to see when the most dramatic shifts occur in the size of the entire US federal budget, and separately for defense and domestic spending.

(Insert Figure 3 about here)

Finally, Figure 4 presents a non-chronological way of looking at these data. Rather than looking over time and observing the periods when large and small shifts take place, this presentation simply shows the extreme level of volatility that characterizes these distributions. The histogram simply presents the number of years in which changes of each size have occurred. Kurtosis is a measure of the “peakedness” of the distribution, where a Normal distribution has, by definition, a Kurtosis of 3. (L-Kurtosis is a scale-free measure of the same concept ranging from zero to one, with a Normal value of 0.123; LK is less sensitive to individual outlying cases so is the preferred statistical measure of peakedness.) By looking at the peakedness of the distribution our attention is simultaneously drawn to the size of the “tails” – the number of extreme values. No matter which distribution we consider, it is clear that the US federal budget is an extreme distribution indeed. (For more details on this analysis and findings that the results are quite common across western countries, see Jones et al. 2009.)

(Insert Figure 4 about here)

Figure 4 shows that each of the series is associated with a “extreme-value” distribution which Bryan Jones and I have previously argued is emblematic of a punctuated-equilibrium pattern of policy change: An over-abundance of extremely small adjustments based on the previous year’s base combined with a consistent presence of changes many standard deviations from the average. Further, these extreme values occur on both the positive and negative sides of the distribution, though they are more common on the positive side.

The following sections present data similar to Figure 4 for two more detailed compilations of data covering only the post-World War Two period. After showing that the patterns in Figure 4 are common to all aggregations of data whether we consider the last 200 years or look with a finer-grained analysis at the last 60 years, the last section identifies the largest changes in each series in order to discover if a particularly high percentage of these changes seem to be associated with exogenous crises.

OMB Functions and Subfunctions

The OMB divides federal spending into 19 major functional categories (see Table A1), of which two are financial. Figure 5 shows the annual percentage change calculated over all available data from 1947 to 2008 for 17 categories of functional spending (that is, excluding financial transactions). The data are similar to those presented in Figure 4, but rather than a single observation per year, 17 series are combined, with annual percentage changes calculated for each series for each year. Figure 6 presents the same data broken down into the finer “subfunction” categories. Table A2 shows the breakdown of these categories, of which 66 non-financial ones are used here.

(Insert Figures 5 and 6 about here)

The trends made apparent in Figure 4 are confirmed in Figures 5 and 6 but on a much larger empirical base. The similar characteristics of the data series even at different levels of aggregation suggests a “scale-free” series (see for example Bak 1996, Sornette 2000, or Barabasi 2005 for discussions of this concept, common in the study of complexity). While it is clear that many of the huge shifts in overall spending patterns at the highest level of aggregation seem to be due to wars, the same may not be true at lower levels of aggregation. Further, the data in Figure 4 do not suggest that exogenous events are the main movers of all large budget changes;

domestic spending was greatly affected by the Civil War and by World War One but not so much by World War Two, for example. In the next section we look at the most extreme outliers from Figures 4 through 6.

The Timing and Policy Areas of Dramatic Policy Change

Table 1 presents the twenty largest budget increases and decreases in overall federal spending from Figure 4 and Tables 2 and 3 present similar analyses for the OMB functions and subfunctions presented in Figures 5 and 6.

(Insert Table 1 about here)

Glancing at Table 1 suggests the importance of 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 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. The Reagan-era defense build-up based on the Cold War also shows the ability of government leaders to use an outside threat to justify massive spending increases even in the absence of “troops on the ground” (see Jones and Baumgartner 2005 for a discussion and demonstration of this effect).

(Insert Tables 2 and 3 about here)

Table 2 shows similar data for the biggest increases and decreases listed in Figure 5, by OMB functional category; Table 3 shows similar data for the subfunctional categories presented in Figure 6.

It is clear from Figures 1 and 2 that the post-1947 period has been relatively stable in terms of massive budgetary shifts of the scale that affected the entire US government in earlier periods of history. Are the punctuations we observe in the budget in this more recent period caused by obvious external shocks? The list presented in Tables 2 and 3 suggest perhaps not.

Toward an Analysis of Endogenous and Exogenous Causes of Policy Change

This paper provides perhaps a roadmap for an analysis if not an answer to the question of the relative roles of exogenous and endogenous causes of policy change. If crises often lead to dramatic government response, so too do dramatic policy changes sometimes come in the absence of crisis, and are crises sometimes used to justify a policy shift that a political leader wishes to make. It is hard to find the crisis that led to the 300 percent increase in the Medicare budget in 1967 or some of the other shifts apparent in the data presented here. On the other hand, we need to take care with these analyses since single yearly changes could simply reflect volatility in a budget series, not a permanent shift in priorities. More detailed analyses in progress and similar findings across a range of public budgets (see Jones et al. 2009) suggests that the patterns of dramatic shifts shown here are not peculiar to the US. Further, the obvious effects of major wars early in the development of the US government have not been followed by similar effects in more recent decades, and each previous war did not produce huge shifts in spending patterns. We should look both for external causes of policy shifts and for the internal determinants of it. Bryan Jones and I have suggested that a model of “friction” based on simple ideas of bounded rationality can explain much of what we observe. Governments under-respond

to changing signals in the environment as long as those signals are under some threshold of urgency. Over this threshold, on the other hand, they can seize the opportunity to make dramatic changes to their spending and policy priorities. External shocks may provide the excuse to make these changes, but the accumulation of pressure from previous inattention to a pressing policy can also produce the impetus. As we look at President Obama's initiatives on health care, immigration, and climate change, it is clear that dramatic shifts can sometimes be more due to a history of ignoring a problem than to the sudden appearance of an external shock. To understand the nature of government response to crisis, we need to understand the relative importance of outside shocks and internal dynamics and how external shocks can be used for other purposes. Of course, some shocks do indeed lead to straightforward and predictable responses. Understanding the relative mix of these causes of dramatic policy change should be the object of continued research.

References

- Bak, Per. 1996. *How Nature Works: The Science of Self-Organized Criticality*. New York: Copernicus.
- Barabasi, Albert-Laszlo. 2005. *Linked*. New York: Penguin.
- Jones, Bryan D., and Frank R. Baumgartner. 2005. *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.
- Kingdon, John W. 1995. *Agendas, Alternatives, and Public Policies*. 2d ed. New York: HarperCollins.
- Sornette, Didier. 2000. *Critical Phenomena in Natural Sciences*. Berlin: Springer.

Tables and Figures

Table 1. Ten largest increases and decreases in US Federal outlays, 1791-1988

Declines		Increases	
Year	Change	Year	Change
1920	-65.62	1836	72.22
1866	-59.86	1794	75.00
1843	-52.00	1844	83.33
1946	-38.63	1847	103.57
1947	-35.48	1943	133.18
1922	-35.03	1812	150.00
1867	-31.29	1942	156.79
1817	-29.03	1917	174.05
1796	-25.00	1918	548.77
1848	-21.05	1862	608.96

Note: See Figures 1 through 4 for source information.

Table 2: Highest Percentage Increases and Decreases, 1947-2008 OMB Functions

Year	OMB Topic	Description	Amount	Percent Change
2008	370	Commerce	218234	2024.14
1956	450	Community Dev.	2456	1454.43
1950	270	Energy	4490	1025.31
1961	450	Community Dev.	18470	774.11
1950	450	Community Dev.	1267	682.10
1950	370	Commerce	34797	589.05
2008	270	Energy	4222	538.73
1976	270	Energy	47210	489.76
2004	270	Energy	3571	465.93
2005	450	Community Dev.	91890	351.39
1954	350	Agriculture	20860	331.44
1974	400	Transportation	69064	297.77
1963	450	Community Dev.	6069	296.41
1967	571	Medicare	19293	294.46
1965	450	Community Dev.	5820	288.26
1980	270	Energy	92959	278.42
1950	350	Agriculture	17548	276.08
1967	370	Commerce	44737	246.15
1979	350	Agriculture	23465	236.32
2002	270	Energy	469	232.62
1955	450	Community Dev.	158	-93.53
1962	450	Community Dev.	1531	-91.71
1951	350	Agriculture	2980	-83.02
1998	270	Energy	375	-82.74
1972	370	Commerce	12738	-80.03
1993	370	Commerce	14948	-77.85
1951	370	Commerce	7711	-77.84
2006	270	Energy	317	-77.29
1964	450	Community Dev.	1499	-75.30
1981	270	Energy	24621	-73.51
1969	370	Commerce	10401	-72.07
1968	270	Energy	2235	-71.18
1995	370	Commerce	11206	-69.80
1959	450	Community Dev.	715	-69.21
1984	350	Agriculture	21423	-67.69
1959	370	Commerce	9185	-67.54
1961	270	Energy	2181	-65.33
2006	450	Community Dev.	32782	-64.32
1976	300	Natural Resources	17867	-61.95
1977	270	Energy	18267	-61.31

Note: The table excludes financial functions, trust fund subfunctions, lagged amounts less than 100, and amounts less than zero.

Table 3: Highest Percentage Increases and Decreases, 1947-2008 OMB Subfunctions

Year	OMB Topic	Description	Amount	Percent Change
1999	0517	DOD- Other	5582	4551.67
1965	451	Community Development	4831	3532.33
1974	401	Ground Transportation	56638	2433.01
1962	0517	DOD- Other	3312	1814.45
1968	505	Other labor services	3895	1571.67
1973	806	General purpose fiscal assistance	34888	1562.13
1967	702	Veterans education and training	3257	1316.09
1966	0517	DOD- Other	8076	1309.42
1955	504	Training and Employment	2133	1241.51
1950	271	Energy supply	4490	1025.31
1950	151	Intl dev. and hum. assistance	1956	814.02
1961	451	Community Development	16744	696.95
1957	453	Disaster Relief and insurance	3208	682.44
2005	453	Disaster Relief and insurance	82798	651.00
1980	271	Energy supply	93801	585.83
1971	372	Postal service	54314	581.40
1975	604	Housing Assistance	148220	570.71
1978	274	Emergency energy preparedness	8613	568.71
1973	453	Disaster Relief and insurance	2338	566.10
2008	372	Postal service	4186	534.24
1991	453	Disaster Relief and insurance	1	-99.96
1998	0517	DOD- Other	120	-98.47
1962	451	Community Development	296	-98.23
1951	604	Housing Assistance	114	-97.95
1955	451	Community Development	92	-96.18
1986	274	Emergency energy preparedness	194	-94.64
1958	453	Disaster Relief and insurance	198	-93.83
1976	304	Pollution control and abatement	2129	-92.40
1973	401	Ground Transportation	2236	-91.34
2006	453	Disaster Relief and insurance	7416	-91.04
1977	152	Intl. Security Assistance	1957	-90.36
1948	504	Training and Employment	84	-89.95
1972	372	Postal service	5848	-89.23
1964	0517	DOD- Other	622	-89.14
1951	351	Farm Income Stabilization	1928	-88.25
1968	152	Intl. Security Assistance	1560	-86.68
1948	054	Defense related activities	38	-86.23
1981	271	Energy supply	15062	-83.94
2007	372	Postal Service	660	-83.48
1964	452	Area and Regional Development	977	-82.82

Note: The table excludes financial functions, trust fund subfunctions, lagged amounts less than 100, and amounts less than zero.

Figure 1. US Federal Spending, 1791-1988

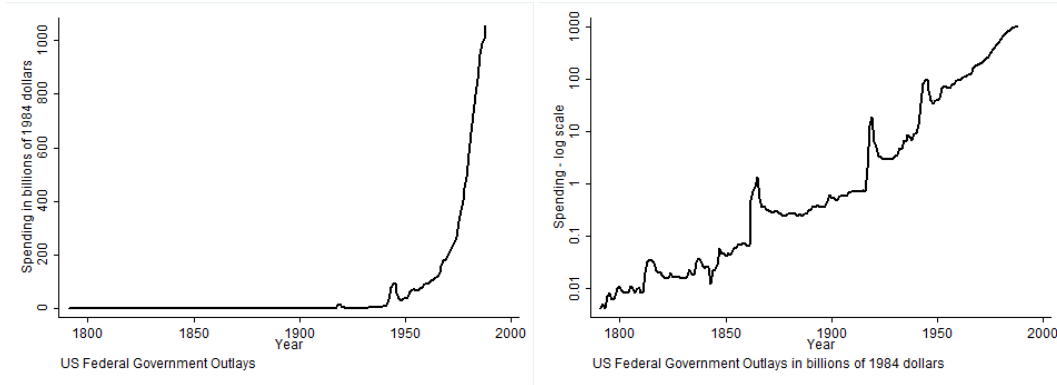
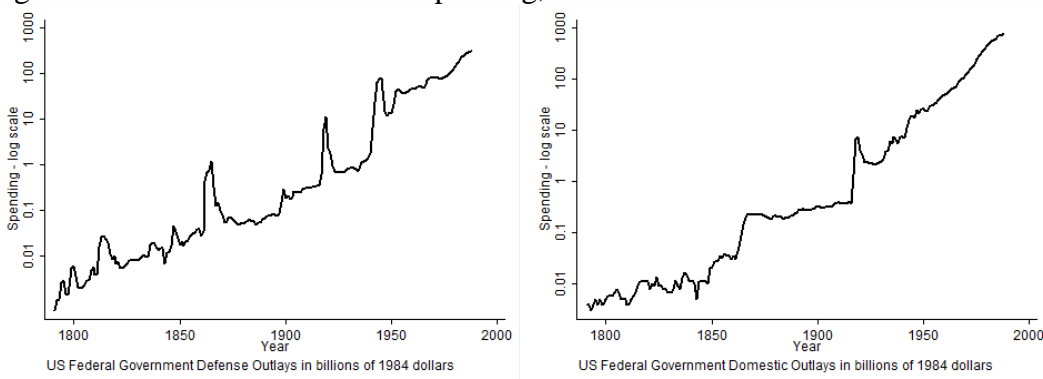
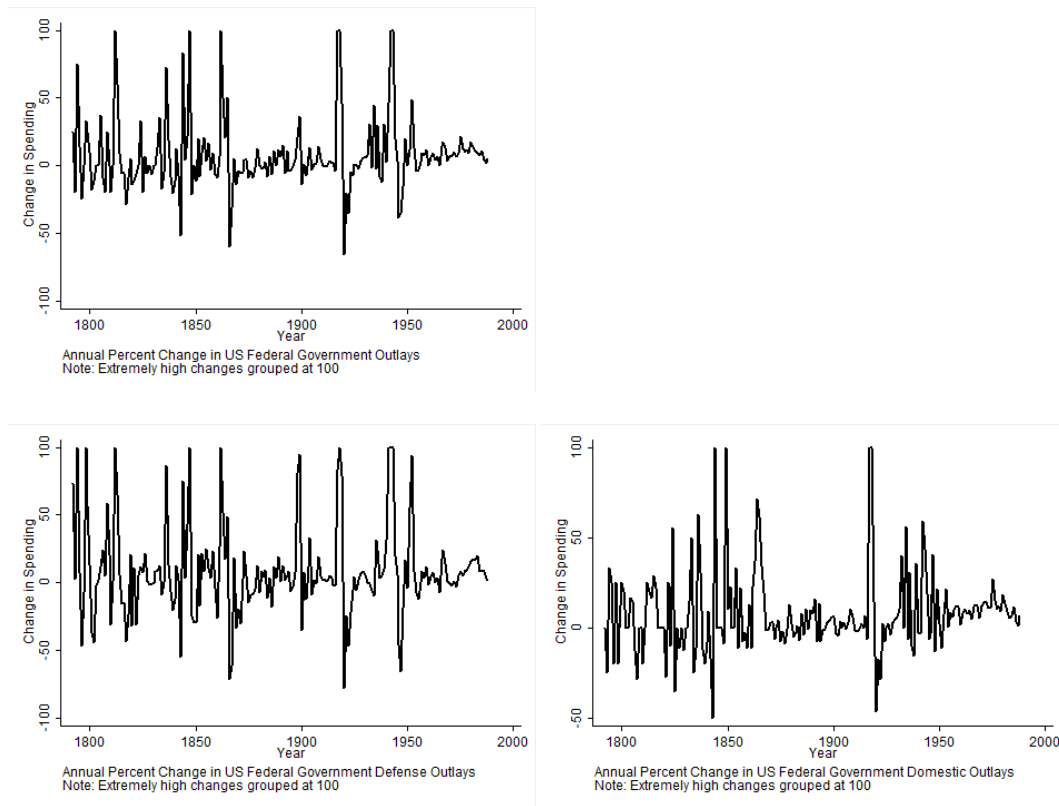


Figure 2. Defense and Domestic Spending, 1791-1988



Note: "Outlays" in Figure 1 are the sum of defense and domestic outlays, presented in Figure 2.

Figure 3. Annual Percentage Changes in Spending



Note: Extremely high values are clustered at +100 percent in order to make the graphs more legible. For each of the series, these values have been changed:

Total outlays: 1862 (609), 1918 (549), 1917 (174) 1942 (157), 1812 (150), 1943 (133), 1847 (104)

Defense: 1862 (1134), 1918 (896), 1812 (295), 1942 (266), 1941 (246), 1943 (176), 1847 (168), 1794 (139), 1798 (138)

Domestic: 1918 (389), 1917 (255), 1844 (120), 1849 (100)

Figure 4. Distribution of budget changes, US federal government 1791-1988

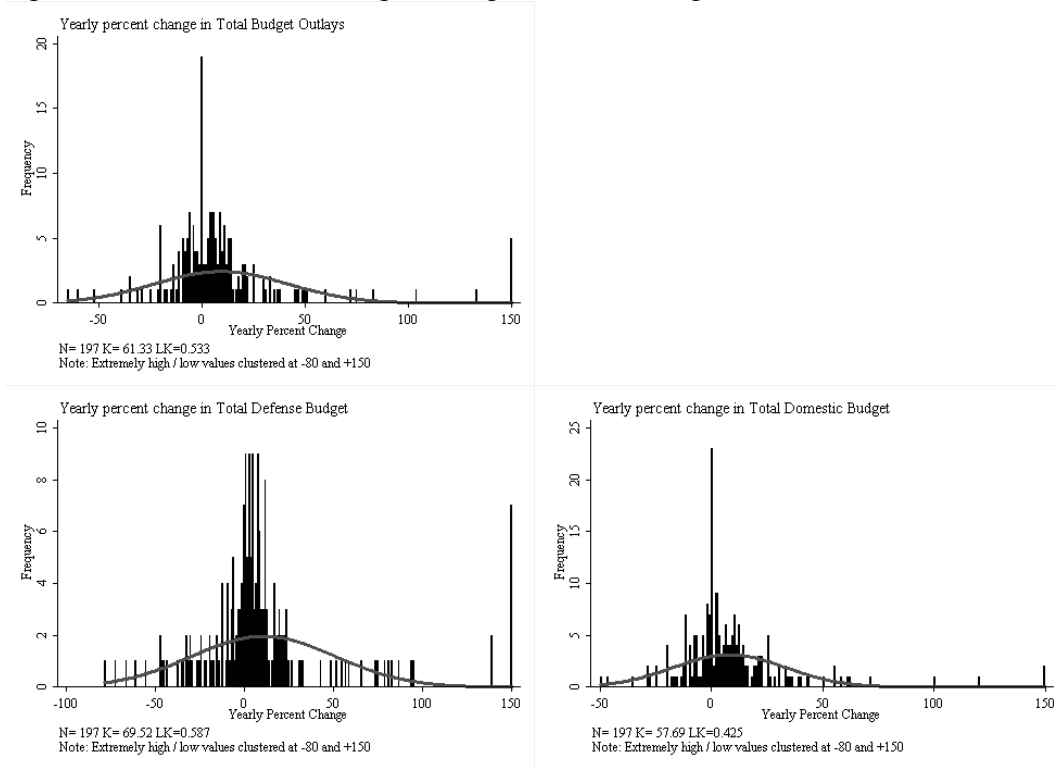


Figure 5. Distribution of budget changes, OMB functions, 1947-2008

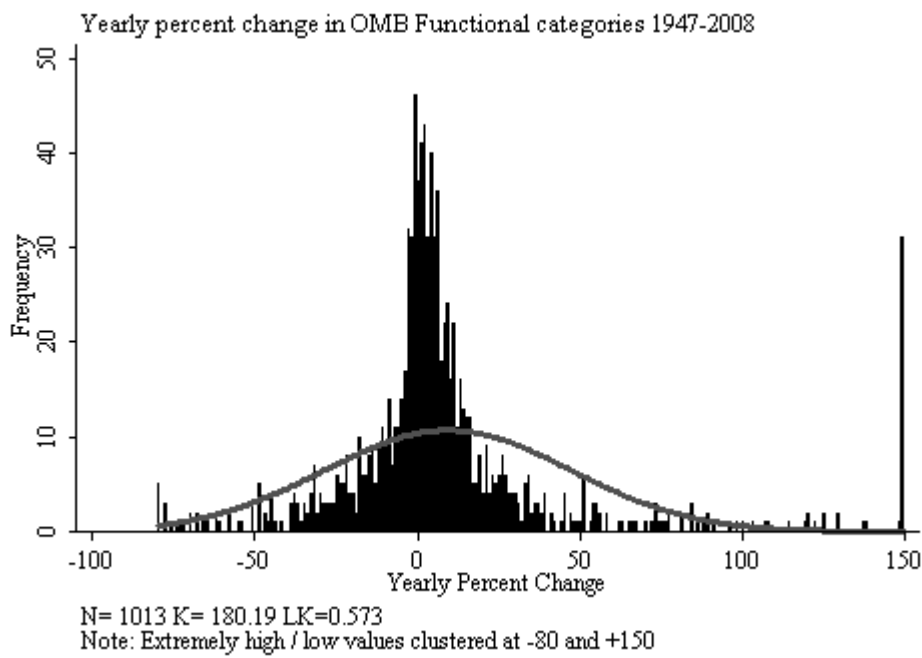
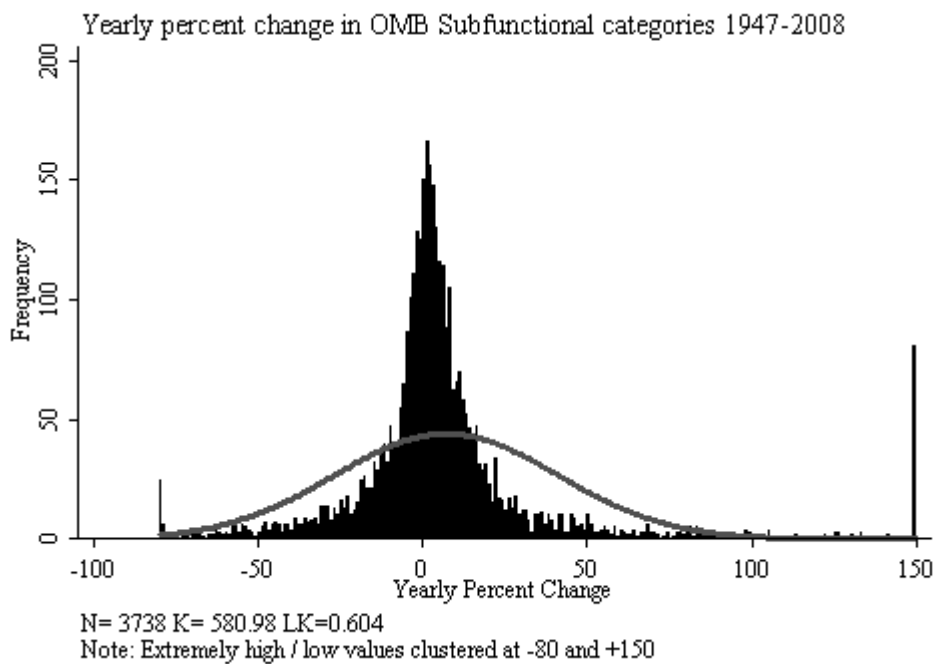


Figure 6. Distribution of budget changes, OMB subfunctions, 1947-2008



Appendix

Table 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 900, 950, and 1000

Table 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. All figures are in millions of inflation-adjusted 2008 dollars.

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 3 and 4 in Table A2; b) the value of the previous year’s budget is less than 100; 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.

Source: www.policyagendas.org