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*Does Incrementalism Stem From Political Consensus or From Institutional Gridlock?**

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Theory: Wildavsky (1992) indicated that consensual politics lead to incremental budget results and that dissensual politics result in large and rapid budget changes. Yet it is also possible that dissensual politics could result in policy gridlock with budgets changing very little.

Hypotheses: By associating increased dissensus with divided governments and by measuring the long-term trend in budget volatility, we can test (1) whether the trend is toward more or less incremental budgeting, (2) whether divided government increases or decreases budget volatility, and thus infer (3) whether incremental budget results stem from political consensus or institutional gridlock.

Methods: We use OLS regression to study the intersextile ranges of annual percentage changes in budget authority for the domestic subfunctions of the *Budget of the United States Government* from Fiscal Year 1947 through 1995. A model including the exponential decay of this robust measure of budget variability and a dummy variable for years of divided government is estimated. We then add two additional measures of dissensus: percentage of bills vetoed by the president, and the polarization of the congressional parties (based on the divergence in their respective ADA scores). A variety of alternative hypotheses are also tested.

Results: Variability in relative changes in national government spending is trending downward, and divided government increases budget volatility. Neither additional measure is independently related to volatility. We infer that volatility thus indicates dissensus and that budgeting was more volatile and probably less consensual in the past than in the supposedly rancorous present.

In the view of many observers, the quiet, consensual political decision-making of the early postwar years has been replaced by a more rancorous politics involving fundamental differences over the direction of national public policy. The new politics of rancor have, according to at least some students of the budgetary process, undermined the consensual norms that previously stabilized the process of appropriating public funds. In the final edition of *The New Politics of the Budgetary Process*, Aaron Wildavsky

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(1992, xvi) explicitly associated incrementalism with consensus and large budget changes with dissensus: "Just as budgeting was incremental because it was consensual, and consensual because incremental, so dissensual budgeting leads to larger and more rapid changes, which increases disagreement."

Thus Wildavsky raised the issue of a linkage between consensual politics and incremental budgets and suggested that budgeting in recent times has been less incremental because politics has become less consensual. There are actually two arguments here: first, that budgeting today is less incremental than in the past, and, second, that consensual politics (reflected in the budgeting process) yields more incremental budgeting. A natural extension of this line of reasoning would suggest a role for divided government: eras of separated party control of the national policy-making institutions should lead to more dissensual and less incremental budgeting.

There is, however, a second plausible story line. Political dissensus could lead to classic "gridlock," with nothing of policy consequence being accomplished. Budgets may change little because political leaders are unable to forge broad enough coalitions to overcome the policy deadlock made possible in the American system of governance. How would one distinguish between the two potential explanations? Clearly observing changes in budget outcomes alone would not allow one to decide.

There is a prior problem to attempting such a distinction. To date no evidence has been presented that national public budgeting is actually more or less volatile now than in the past. Nor has there been an empirical demonstration of a relationship between political consensus and changes in annual budgets beyond the early efforts of incremental budget theory (e.g., Davis, Dempster, and Wildavsky 1966; Fenno 1966; Wildavsky 1979 [first edition published in 1964]), which have been widely criticized (see Berry 1990; Gist 1982; Meyers 1994; Natchez and Bupp 1973; Rubin 1988; Shuman 1992; or Wanat 1974).

Researchers must surmount a serious technical difficulty to study budget volatility. Budget categories are not consistent across time, with programs and program-units moving across agencies and subfunctions as organizational changes and analytical convenience dictated. When new categories are added, it is necessary to adjust backwards, but the Office of Management and Budget has done this for budget authority only for the series since 1976. The problem of temporal inconsistency stems from the tendency for programs to migrate across agencies (a real-world organizational problem) or across budget categories (a problem of the categories used by OMB analysts). Perhaps because of this technical hurdle, or perhaps because of simple neglect, we remain ignorant on two basic questions: first, is budgeting more volatile or more incremental today than in the past? Second, is

incrementalism a result of consensus over political goals, or does it stem from dissensus and deadlock?

In this paper, we develop a design useful for clarifying the dynamic relationship between budget volatility and political consensus. In doing so, we present results using a new data set that includes actual budget results, consistently organized, for all domestic subfunctions of the national budget from fiscal year (FY) 1947 through FY 1995. The series is for congressional budget authority, which is closer to the actual budget decision-making process than the more commonly employed outlays data. This data set allows for the first time a comprehensive review of the federal budget across the entire postwar period. Such data have hitherto been unavailable on such an extended period of time. Details may be found in the Data Appendix. In particular, with our categories of spending adjusted from OMB figures to provide consistent definitions over time, we can observe the degree to which the budget has been characterized by incremental versus nonincremental changes in spending, for all budget subfunctions across the entire period.¹

We find that the federal budget has become remarkably more incremental over the years. Contrary to popular myth, the early postwar years were remarkable for dramatic changes in spending priorities, not for a staid and dampened politics based on incrementalism. Overall trends in incrementalism have increased dramatically over the years, even within that part of the budget that remains in domestic discretionary programs. Further, this increase in incrementalism cannot be explained by an increase in consensus, as Wildavsky expected. Divided government is associated with greater volatility in spending, not greater incrementalism. Our focus on congressional budget authority means we study budget *outcomes*, not internal budget processes, and it remains possible that, over time, processes have become more volatile while outcomes have become more incremental. While we do not believe this to be a likely prospect, it cannot be ruled out by the analysis presented here.

¹A subfunction can include several programs, where the programs are directed at similar ends. One may object that, in general, budget decisions are made at the program level rather than the subfunction level; or even at the generally larger agency level. Program data are not available for a consistent time series for this length of time; our new subfunction data is the lowest level of aggregation available for an extended time period. Agency levels of aggregation are problematic for three reasons: programs can shift agency locales, measures of variability are more unstable on the smaller n's, and agency totals often include offsetting receipts from primarily financial subfunctions. Gist (1982) suggests that incrementalism may emerge at higher levels of aggregation, and hence any study of incremental budgeting can be sensitive to the level of aggregation at which budgeting is studied. By studying volatility in annual percentage change, we have gotten around the aggregation problem that plagues the study of increments alone. Moreover, elsewhere we have shown that, with a proper specification of budget change, aggregation levels do not affect the presence/absence of incremental/nonincremental change (Jones, Baumgartner, and True 1996a).

Consensus and Volatility

Consensus, of course, can come in many guises. It may mean a general agreement among policy elites on the direction of public policy—on goals, but not necessarily means. It may mean that there is general agreement among participants on the specifics of existing programs, but disagreement about adding more programs—on means, but not goals. Consensus may have little to do with agreement and much to do with inattention to the growth of programs. It may apply to cuts as well as to growth in budgeting. Finally, a consensus may emerge that allows political leaders to ignore the size of the deficit as they allow all programs to creep upward. Hence one might have a budget that was easy to build (the norms of base and fair share would be honored), but hard to fund. Budgetary consensus is not the same as good public policy.

For the purposes of this paper, we intend “consensus” to refer to any of the above meanings—any process that causes government programs to be treated in a similar manner rather than some being singled out for special treatment or attention. If there is considerable growth in government, a consensual pattern would imply that the growth increment is shared with reasonable equality among programs. If there is contraction (either politically- or financially-caused), then the pain is shared reasonably equally. In the budget process, this general conception of consensual politics is reflected in the norms of “base” (every program deserves consideration of its baseline budget) and “fair share” (the proportion of the available funds or the necessary cuts which are to be distributed to programs; Wildavsky 1979, 16–18).

The Consensus Hypotheses

What we term *the consensus hypotheses* claim that the norms of budgeting are built on a foundation of generally consensual politics. There are two forms. First, if consensus over government objectives has deteriorated during the postwar period, one might expect that budgeting processes would have become less incremental over time. This is Wildavsky’s claim, cited earlier. As the norms of behavior associated with process incrementalism deteriorated, output incrementalism should decrease, and there should be more large changes (positive and negative) in annual budgets. More importantly, as the norms of base and fair share deteriorated, programs would be treated differently, depending on whatever considerations had replaced these understandings. Hence dissensus in the policy process should yield heightened volatility in the budgeting process.

The causes of such dissensus could be manifold. Partisan disagreement over the proper role in government might foster on-again, off-again support for particular programs; decelerating growth in the economy might engender a more general conflict over the aims of government as resources became

more constrained; or disparate groups might successively press conflicting claims on government. From whatever cause, declines in incrementalism as a governing norm should lead to a higher variability in budget outcomes.

On the other hand, budget outcomes may become less volatile over time, and this may have occurred because of an increasing consensus about the role of government. The Second World War was enormously disruptive of domestic programs (Hughes 1991; Peacock and Wiseman 1994). The early period after the Second World War and the years thereafter were times of great experimentation and energy in government. The United States struggled with the challenges of world leadership abroad and a neglected domestic infrastructure at home, which could have led to considerable volatility in the budgeting process. But as time progressed, volatility may have declined as programs and structures were put into place and have been generally accepted as proper functions of government. As programs become established, opponents may find it difficult to attack them within the budget process, finding it necessary to use harsher and harsher language to attack the smaller and smaller number of programs about which there is major disagreement. In this line of thought, volatility is associated with innovation and experimentation, perhaps within a framework of an attributed limit to the overall size of government (hence requiring either growth or cuts to fund new initiatives).

In short, as the underlying consensus over the proper role of government grows, and experimentation and innovation declines, budget volatility should decrease.² This line of thought adopts Wildavsky's reasoning that budget volatility and dissensus are linked, but suggests that the modern era is characterized by more consensus than the past.

The Gridlock Hypothesis

Political consensus, however, may not play the key role in budgetary policies envisioned by the early budget theorists. Perhaps budget volatility declines in the face of increasing political resistance to change, with gridlocked institutions precluding either substantial increases or decreases in existing government programs. If such gridlock has worsened over the years, then a decrease in budget volatility over time would occur. So it is not clear that observing budget data alone will allow one to distinguish between incrementalism as a governing norm which reflects consensus or stasis as a policy deadlock which reflects dissensus.

² There are times when large-scale consensual mobilizations also create large budget changes, such as Democratic and Republican agreement on rearming America at the beginning of the Cold War or going to the moon in the 1960s (Baumgartner and Jones 1993; Kingdon 1984; Schulman 1980). These instances are likely to be relatively rare, if very important. To the extent that they result in uneven budget increases, they would add to volatility.

Divided Government as Empirical Lever

If partisan politics plays an important role in budget volatility, the nature of that role should give us insight into the relationship between political consensus and budget volatility. During periods of unified government, when the presidency and congressional majorities are in the hands of the same political party, budgetary conflict (and hence volatility) may be suppressed because of a greater consensus about what government should be doing. On the other hand, if the “gridlock” hypothesis has validity, divided government would lead to decreased volatility, because less activity is possible.

Of course, periods of divided government may not differ significantly from those of unified control in regard to budget incrementalism. Charles O. Jones (1994) notes the various methods in which presidents may operate in a system of diffused responsibility and split-party control—methods which could act to impose policymaking similarities on divided and unified governments. Empirical findings concerning the passage of major legislation suggests but a scant role for unified versus divided government. David Mayhew (1991) argues that divided governments are not less innovative than unified ones (see also Kelly 1994), and Rohde’s (1991) study of the postreform House of Representatives indicates that divided government did not slow the pace of legislation. More directly relevant for the purposes of this paper, levels of budgeting do not seem to respond to alterations in unified and divided control: Jones, Baumgartner, and True (1996b) show no effect on budgetary changes by function as a consequence of divided government. On the other hand, presidential legislative initiatives are more likely to be blunted by opposition Congresses (Edwards, Barrett, and Peake 1997). In the American states, divided control affects the match between spending and taxing (Alt and Lowry 1994). None of these studies has addressed the issue of volatility—essentially unpredictability on a year-to-year basis, however.

Patterns in Budget Data

So the problem is that low volatility in budgeting could indicate consensus or dissensus, and we have no ready way to distinguish the two. We can, however, use divided government as a lever to pry apart the causal relationships, because it is so obviously associated with dissensus over political goals.

Of course, budget functions and programs respond to a variety of exogenous and endogenous pressures, some exacerbate changes and some encourage stability. Consequently, to expect a complete explanation for every budget change is unrealistic. Nonetheless, the overall dynamics of the sub-functional components of the national budget over the last 49 years should provide evidence of a long-term trend in budget volatility, if there is one, as well as evidence of any effects upon it from divided government.

Based on the above discussion, we may envision two general types of patterns, with two specific patterns for each type. These are:

A. *First Type [The Consensual Hypotheses]*. High budget volatility implies political dissensus because divided government is positively associated with volatility:

Pattern I: [The Wildavsky Hypothesis]. If the trend is toward *increasing* volatility, and if divided government *increases* volatility independently of the trend, then we may conclude: 1) that dissensus causes volatility; and 2) present volatility is due to a breakdown in consensual norms of governance of the past.

Pattern II: [The Innovation Hypothesis]. If the trend is toward *decreasing* volatility, and if divided government *increases* volatility independently of the trend, then we may conclude that 1) dissensus causes volatility; and 2) the past was an era of dissensus and the present is characterized by more consensus, and that divided institutional government does detract from consensus when it occurs.

B. *Second Type*. Budget volatility does *not* imply political dissensus because divided government is negatively associated with volatility:

Pattern III: [The Gridlock Hypothesis]. If the trend is toward *decreasing* volatility, and if divided government *decreases* volatility independently of the trend, then we may infer that 1) dissensus does not cause budget volatility, and 2) the low volatility is likely a result of institutional deadlock.

Pattern IV: If the trend is toward *increasing* volatility, and if divided government *decreases* volatility independently of the trend, then we can conclude that dissensus does not cause volatility, and we have no evidence for any linkage between consensus politics and budget volatility.

Divided government is obviously not the only measure of policy dissensus one might use. Moreover, divided governments (as well as unified ones) might reflect differing levels of dissensus about the desirable course of public policy. Sometimes presidents reach across parties for support; sometimes they are opposed by factions within their own parties. As a consequence, we introduce two additional variables that can be used to assess political dissensus. The first assesses dissensus between the policy-making branches of government. It is the percentage of public acts vetoed by the president. The second assesses dissensus within the legislative branch. It is the ideological divergence between the congressional parties as assessed by their voting records.

The Empirical Study of Budget Volatility

Volatility in budgets implies that growth (or decline) is not uniform across the functions of government. Budget volatility could be associated with either efforts at expansion or contraction or both. Large increases, if

balanced with large decreases elsewhere in the budget, would yield high volatility. If the amount of either large increases or large decreases shrinks, so does volatility. In any case, more volatility implies less incrementalism (and less predictability) in the budgeting process.

As a consequence, we define budget volatility empirically as variability in year-to-year percentage changes in governmental subfunctions (employing in this paper all 55 domestic subfunctions with inflation removed). The larger the variation in year-to-year change, the more volatile (and less incremental) the budget process. Then we calculate a measure of variability for each year. Finally, we trace this measure of volatility across the period studied. To calculate volatility, one needs fine enough categorization to ensure a sizable enough number of budget categories for a given year, so that the volatility measure may be traced over time without being too influenced by a "small-n" problem. Our focus on the subfunction level offers this statistical leverage (see the Data Appendix).

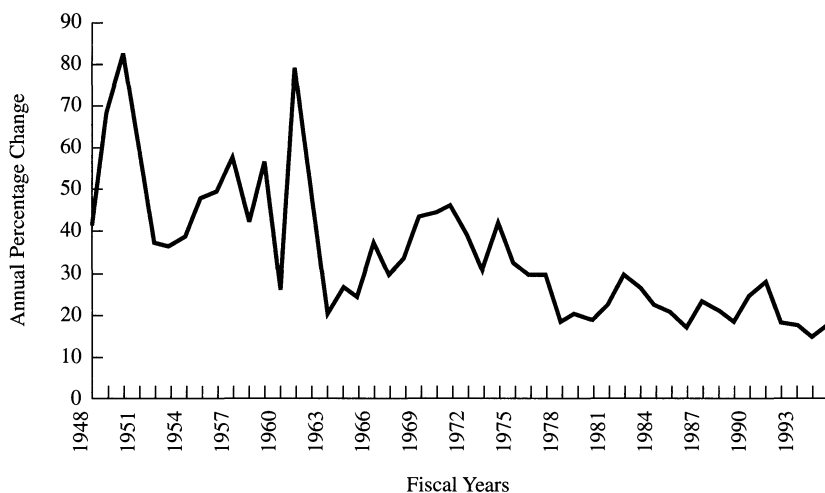
Figure 1 plots the intersextile range of annual percentage changes in all domestic budget subfunctions for the last 49 years. The intersextile range is the absolute difference between the annual percentage change for subfunctions at the 16.67th percentile and the 83.33rd percentile. It is a robust measure of variability, less influenced by large outliers than is the variance (Western 1995). We use the intersextile range as our indicator of variability because our distributions are highly skewed and the variance is, therefore, potentially misleading.

Figure 1 summarizes the degree to which all the categories of spending were subject to an equal percentage change, or to the degree to which different categories experienced different degrees of change. The figure tells us that year-to-year change in subfunctions in the past were more variable, and that this variability has been declining steadily if not monotonically throughout most of the postwar period. Since the late 1980s, however, volatility has largely stabilized, with further declines marginal at best.

In order to pry apart the relationships between budget volatility and political consensus, we introduce divided government into the mix. We estimate a model which includes divided government and the trend in order to avoid confounding effects. The dependent variable in this analysis is the annual intersextile range of percentage changes in subfunction budget authority. Estimating the trend requires a little care, since a declining linear trend makes no theoretical sense here. Volatility is bounded at zero, whereas a linear estimate would imply the possibility of negative values for the measure. Instead we have estimated an exponential decay model, which is asymptotic with the x-axis.³ Fitting an exponential decay trend implies very rapid

³ This is done by logging the dependent variable in a regression equation in which time is the independent variable ($\ln y = a + bT + e$, where T is a year counter). Phillips-Perron tests indicate we may reject the null hypothesis of a unit root in the logged series.

Figure 1. Annual Intersextile Ranges of Annual Percentage Changes in Budget Authority for Domestic Subfunctions



change in volatility at first, but less and less change as time proceeds. It would be appropriate if our speculations about the immediate postwar years being a period of great innovation in government programs, but with innovation declining over time, are correct.

Table 1 presents estimates for the regression of the intersextile ranges of annual percentage changes in budget authority on the exponential trend and the dummy variable for divided government (=1 when the national government was divided; else = 0).⁴ Plots of the residuals, runs tests, and Lagrange multiplier statistics indicated no significant autocorrelation, so we employed OLS estimates for the model. The obvious heteroskedasticity of the dependent variable does not seem to have had a large effect on the estimates.⁵

⁴Governments were matched with FY budgets with a one-year lag. That is, the inaugural year of a president was matched with a fiscal year lagged by +1. So, for example, Truman 1949 was matched with FY 1950. This gives presidents credit for affecting an on-going budget process (and one in which they were not responsible for the initial budget submission). In that sense, it credits a president for affecting congressional negotiations over his predecessor's budget. This may capture recent practices better than earlier ones. Governments were coded as divided if at least one house of Congress was in opponents' hands. All of the Reagan years were scored as divided, including 1981–84 when the House was Democratic and the Senate was Republican.

⁵Some evidence of heteroskedasticity remains even after logs are taken of the series of intersextile ranges of domestic budget changes. SHAZAM's DIAGNOS / HET command produced a variety of statistical tests, some of which allowed for rejection of the null hypothesis of homoskedasticity at .05 level. Consequently, while these OLS estimates are unbiased, we should use a measure

Table 1. Regression Analysis of Logged Intersextile Ranges of Percentage Changes in Subfunctions of U.S. Domestic Budget Authority, FY 1948–95

VARIABLES	Coefficient	Standard Error	<i>t</i> -ratio
Trend (exponential decay)	-0.027*	0.003	-9.78
Divided Government	0.236*	0.076	3.09
Constant	3.961*	0.079	50.22

N = 48

$R^2 = .68$; Adj. $R^2 = .67$

Est. Rho = .011; Runs Test Normal Statistic: -0.28; Goldfield-Quandt Test (df = 20,19): 3.86^a; Breusch-Pagan/Godfrey Test (df = 2): 6.12^a. LaGrange multiplier statistics for a Box-Pierce-Ljung test that the residual correlations are jointly zero through lag five appear in Table 2.

*Statistically significant at <.01 level, one-tailed test.

^aAllows for rejection of null hypothesis of homoskedasticity at <0.05 level.

Source: Budget data compiled by the authors; divided government from *Vital Statistics on Congress*.

Divided government does have a statistically significant effect, even after we have controlled for the overall declining trend. The positive coefficient indicates that divided government is associated with increased “churning” or volatility in the final domestic budgets produced by Congress from one year to the next. The coefficient of .236 means that logged volatility increases over 20% when shifting from a unified to a divided government (controlling for the generally decreasing trend). Because the trend is nonlinear, however, the relative role of divided government on (unlogged) volatility is variable. The exponential decay model implies that the trend was far more important, both relatively and absolutely, in the past than in the present, because year-to-year changes were more dramatic in the past. So the influence of divided government is somewhat ironic: in absolute terms, it was greater in the past. But relative to the declining trend, it is greater in more recent periods.

of caution in interpreting them as well as their related standard errors and *t*-ratios (Greene 1993, 394–5; Kennedy 1992, 114–8). However, reestimating the model attempting to control for dependent variable heteroskedasticity did not produce large changes in the estimates. SHAZAM’s HET command (White 1993, 207–15) produced the following coefficients and asymptotic *t*-ratios for domestic spending: Trend, -0.027 (-10.86); Divided, 0.237 (3.41); and Constant, 3.97 (51.32).

There is a second way to appreciate the role of divided government in a more explicit fashion. If we allow the exponential decay model to consume as much of the variance in volatility as it can, divided government still accounts for an additional 8% of the variance in volatility.⁶

Interpreting the Trend

Before proceeding further, exploring some interpretations of this underlying trend toward lower budget volatility is worthwhile. There are any number of potential reasons that budgets have become less volatile over the years. Two plausible hypotheses are first, that the absolute magnitude of the budget in later years has operated against the ability to make dramatic changes in the course of public policy; and, second, that the growth of mandatory spending categories relative to discretionary categories has made it more difficult to make large changes (at least in the former budget categories).

In Table 2, we present regression analyses to test these two hypotheses. In particular, we have added the percentage of the domestic budget that falls in mandatory spending categories and the absolute size of the budget into the model presented in Table 1. The first column presents the basic results from Table 1, for comparative purposes. The second column enters percent mandatory with the trend; the third column enters both percent mandatory and budget size without the trend, and the final column enters both variables and the trend.

First, note that whatever the combination of variables entered, the divided government relationship is robust; the variable remains significant and of about the same magnitude regardless of the other variables entered into the equation. Second, percent mandatory does not add perceptibly to the trend variable. Finally, none of the three trending variables is significant if all are included in a single model. We conclude that the trend component we estimated is at least a function of budget size, but may also include other

⁶As noted above, we used intersextile ranges of the annual percentage changes in budget authority as our measure of volatility. The intersextile range is robust; that is, it is less affected by outliers, than is the variance (which gives disproportionate weight to outliers by weighting each observation by the square of its distance from the mean, which itself is sensitive to outliers). The distribution of percentage changes across budget categories is highly skewed, with extremely high outliers in many years. In such a case, measures based on means and standard deviations are often misleading and can be highly erratic. Indeed, using the variance as a measure of volatility produces such noise in the dependent variable that no model would be likely to be as efficient with this indicator. Nevertheless, we have estimated the model presented in Table 1 using the logged standard deviations in annual percentage changes instead of the intersextile ranges. The coefficients for the trend variable and the divided government variable are both in the same direction as in Table 1, but divided government is not significant, and the adjusted coefficient of determination drops from .67 to .21.

Table 2. Regression Analysis of Logged Intersextile Ranges of Percentage Changes in Subfunctions of U.S. Domestic Spending on Time, Growth in Mandatory Spending, and Growth in Total Budget

	Coefficient (<i>t</i> -ratio)	Coefficient (<i>t</i> -ratio)	Coefficient (<i>t</i> -ratio)	Coefficient (<i>t</i> -ratio)
Trend (exponential decay)	-0.027*** (-9.78)	-0.026*** (-3.74)	—	-0.017 (-1.19)
Divided Govt	0.236*** (3.09)	0.240*** (3.06)	0.223*** (2.81)	0.235*** (2.96)
Pct Mandatory	—	-0.0018 (-0.030)	+0.0015 (0.235)	-0.00048 (-0.07)
Total Budget (\$million)	—	—	-1.11*** (-8.58)	-0.038 (-0.61)
Constant	3.961*** (50.22)	4.082*** (9.964)	4.016*** (9.63)	4.050*** (9.74)
R ²	.681	.682	.674	.684
Adj. R ²	.667	.660	.652	.655
N	48	48	48	48
Breusch-Pagan/ Godfrey Test Stat (degrees of freedom)	6.117 2	6.257 3	7.306 3	7.718 4
Box-Pierce-Ljung Test Stat (degrees of freedom)	2.469 5	2.574 5	3.037 5	2.788 5
Akaike Info Criterion	0.0675	0.0702	0.0719	0.0726
Schwartz Criterion	0.0759	0.0821	0.0841	0.0882

*Statistically significant at < 0.10 level, one-tailed test; **at < 0.05 level; and ***at < 0.01 level. Test statistics from Shazam DIAGNOS procedure with ACF and HET options (White 1993, 172–5). Sources: Budget data from authors, and divided government from *Vital Statistics on Congress*.

unmeasured elements (the R² for the equation with the trend estimated but without the size of the budget [column 2] is marginally higher than the equation with budget size but without trend [column 3]). For theoretical and for statistical reasons, we proceed with the model estimated in Table 1.

While entering the percentage of mandatory spending into the equation estimated in Table 1 does not change the size or significance of the coefficient for divided government, estimating separate models for mandatory and discretionary spending does. Discretionary spending is largely considered annually by the appropriations committees, while mandatory expenditures usually have a permanent appropriation that must be changed by statute

Table 3. Regression Analysis of Logged Intersextile Ranges of Percentage Changes in Subfunctions of U.S. Domestic, Discretionary, and Mandatory Spending

	Domestic Spending Coefficient (<i>t</i> -ratio)	Discretionary Spending Coefficient (<i>t</i> -ratio)	Mandatory Spending Coefficient (<i>t</i> -ratio)
Trend (exponential decay)	-0.027*** (-9.78)	-0.031*** (-8.13)	-0.016*** (-3.27)
Divided Govt	0.236*** (3.09)	0.352*** (3.32)	-0.017 (-0.13)
Constant	3.960*** (50.22)	4.058*** (37.12)	3.685*** (26.60)
R ²	.681	.601	.207
Adj. R ²	.667	.583	.171
N	48	48	48
Breusch-Pagan/ Godfrey Test Stat (degrees of freedom)	6.117 2	4.795 2	3.219 2
Box-Pierce-Ljung Stat (degrees of freedom)	2.469 5	7.726 5	6.430 5

*Statistically significant at < 0.10 level, one-tailed test; **at 0.05 level; and ***at <0.01 level.

Test statistics from Shazam DIAGNOS procedure with ACF and HET options (White 1993, 172-5).

Sources: Budget data from authors, and divided government from *Vital Statistics on Congress*.

(Schick 1995). Since many mandatory programs were indexed for automatic adjustments in the 1970s, one can argue that they often constitute a form of automatic government (Weaver 1988). Table 3 presents estimates separately, and divided government does not affect volatility in mandatory categories, but has a strong and statistically significant effect on discretionary spending. To the extent that divided government increases budget volatility, it does so entirely through discretionary spending categories.

Finally, we estimated a more complex model to test the hypothesis that volatility is higher during the first year of a unified government, in which much may be accomplished in a few spending categories. Our procedure was to enter a counter variable which equaled 1 in the first year of a unified government, 2 in the second year, etc. Our volatility measure would be inversely related to the unified government counter if the hypothesis of limited-category surges is correct. The counter was, however, statistically insignificant for both domestic and discretionary budget volatility. We also ran a

model in which the first year of unified governments was entered as a dummy variable (= 1 if the first year of a unified government; 0 otherwise). The coefficient was positive, but did not reach statistical significance.

Further Evidence of the Role of Dissensus in the Budget Process

We now have presented evidence that budget volatility increases in eras of divided government, and decreases during periods of unified government. We suggest, then, that political dissensus causes increased budgetary volatility. In this section, we present two other measures of political dissensus, and examine whether they are related to budget volatility. The measures we use are first, the percent of public acts vetoed by the president; and second, a measure of party polarization within Congress. The measure of party polarization is calculated as the difference in means in ADA scores for Democrats and Republicans separately for each house of Congress, and the mean between the houses is taken for the final measure. The measure is available for the period since 1962. The houses track similar time paths, but the Senate is consistently less ideological than the House (Fleisher and Bond 1996).⁷

These measures assess different aspects of dissensus. The percent acts vetoed taps differences between the executive and legislative branches of government, and should be higher in periods of divided control. This is in fact the case: the percentage of acts vetoed is highest during the Nixon-Ford years, peaking at over 6% in FY 1975 and 1976, and is lowest during the Kennedy-Johnson years. But vetoes differed in periods of divided government: Reagan and Bush each vetoed a higher percentage of public acts than did Eisenhower.

The party polarization measure is reasonably constant between 1962 and 1979, but has risen steadily since then. Indeed, the simple correlation between our trend counter and the polarization measure is .924. Moreover, the variable gives evidence of non-stationarity: Augmented Dickey-Fuller and Phillips-Perron tests fail to reject the null hypothesis of a unit root. Nonetheless, the series is bounded between 0 and 100, and thus must have finite mean and variance. We note, in addition, that the measures of dissensus do not track similarly—one could not, for example, think of party polarity in Congress as some kind of continuous surrogate for divided government.

First we examined the role of acts vetoed. If the percentage of acts vetoed is included in a model with the trend, it is statistically significant. If it is included with divided government, divided government is significant, but

⁷ These data were graciously made available to us by Jon Bond and Richard Fleisher. The ideology scores are purged of votes in which the president took a public position, and are thus a measure of polarization independent of presidential activity.

Table 4. Regression Analysis of Logged Intersextile Ranges of Percentage Changes in Subfunctions of U.S. Domestic Spending on Time, Divided Govt, Pct Legis Vetoed, and Ideological Polarity in Congress, FY 1962–95

	Coefficient (<i>t</i> -ratio)	Coefficient (<i>t</i> -ratio)	Coefficient (<i>t</i> -ratio)	Coefficient (<i>t</i> -ratio)
Trend (exponential decay)	-0.028*** (-6.86)	-0.023** (-2.09)	—	-0.019 (-1.55)
Divided Govt	0.337*** (3.14)	0.275*** (3.15)	0.318*** (2.90)	0.336*** (3.12)
Pct Public Acts Vetoed	-0.020 (-0.68)	—	-0.050 (-1.67)	-0.031 (-0.97)
Ideological Polarity	—	-0.005^a (-0.50)	-0.276*** (-6.56)	-0.010^a (-0.85)
Constant	4.000*** (31.59)	4.061*** (20.01)	4.379*** (23.77)	4.162*** (18.23)
R ²	.616	.613	.595	.626
Adj. R ²	.578	.575	.554	.574
N	34	34	34	34
Breusch-Pagan/ Godfrey Test Stat (degrees of freedom)	5.907 3	7.809 3	7.961 3	8.901 4
Box-Pierce-Ljung Stat (degrees of freedom)	1.400 5	2.233 5	2.331 5	1.971 5
Akaike Info Criterion	0.0511	0.0514	0.0539	0.0528
Schwartz Criterion	0.0611	0.0616	0.0645	0.0661

*Statistically significant at < 0.10 level, one-tailed test; **at < 0.05 level; and *** at < 0.01 level. Test statistics from Shazam DIAGNOS procedure with ACF and HET options (White 1993, 172–5). Sources: Budget data from authors, and divided government from *Vital Statistics on Congress*. The simple correlation between the time counter and ideological polarity is .924.

acts vetoed is not. This adds confidence that divided government is a sound measure of interbranch policy dissensus.

In Table 4, we include both new dissensual variables in our model explaining budget volatility (now including only the period 1962–95). In the table, the first column presents an estimate of an OLS regression equation which includes divided government, percent public acts vetoed, and the trend. The second column presents an estimate including the trend, divided government, and the party polarity variable. The third column includes all

three dissensus measures, but not the trend. The final column includes divided government, the trend, and the two new dissensus variables.

First, the percent public acts vetoed adds nothing to the explanation of budget volatility beyond what divided government explains. Second, the party polarization measure adds no explanatory power beyond what the trend explains—indeed, party polarization is not significant whereas the trend is, as the second column indicates. Dropping the trend variable allows party polarization to reach statistical significance, but does not displace the divided government variable. Polarity is negatively related to volatility—seemingly offering support for the gridlock hypothesis that volatility is dampened by dissensual politics. If all variables are included, only divided government is significant.⁸

We conclude, first, that divided government is related to increases in volatility, and that the relationship is robust. There is no efficient surrogate for divided control among our other measures of dissensus. Second, the role of party polarization remains somewhat enigmatic. It adds nothing beyond our trend variable, which carries with it the size of the budget. It is not significant if the trend is included. If the trend is not included, party polarization is significant. We feel that the best interpretation is that party polarization is not important in explaining budget volatility. This interpretation is supported by the fact that during the period of greatest declines in budget volatility (approximately the 1960s), party polarization was quite stable. Hence it would seem that the secular declines in volatility are but spuriously associated with party polarization in Congress.

In the end, then, the model presented in Table 1 is our best estimate of the causes of budget volatility: a trend component representing at least the increasing size of the budget, and divided control of national governing institutions.

Conclusions

Overall budget volatility has declined since the years immediately after World War II. At the same time, volatility increased during periods of divided government, controlling for this trend. The strongest result of the analyses presented above is to discredit the notion that divided government produces institutional gridlock. Incrementalism, assessed as subdued volatility in the budget process, is more associated with unified than divided gov-

⁸One might entertain the hypothesis that divided institutions and polarized parties act in multiplicative fashion, reinforcing one another and producing extra large budget variability. A simple examination of the data allow us to rule this out. The two measures operate in opposite directions (if, indeed, there is any effect due to polarization). Divided government is associated with heightened volatility, whereas polarized parties are, if anything (and we think not) associated with dampened volatility. As a consequence, they cannot reinforce one another.

ernments. It is clear, then, that the institutional gridlock hypothesis cannot account for stasis in the budgetary process.

If institutional gridlock does not account for stasis in the budgetary process, then what does? These two findings, that budgeting is less volatile than in the past but is more volatile in periods of divided government, lead us to infer that decreasing budget volatility is due to consensus on the general direction of government policy.

In terms of the patterns discussed in this paper, empirically we detect Pattern II—what we termed the *Innovation Hypothesis*. Overlaying a secular trend of decreasing volatility (and increasing consensus) are specific periods of increased dissensus associated with divided government. This suggests that there was considerable budgetary dissensus during the period immediately following the Second World War, a period of considerable innovation and experimentation, and reductions in the funding of various public programs. During periods of divided control, it seems, programs are affected differentially, with some increases and some decreases. In periods of unified control, funding increments or decrements tend to be more uniform.

The addition of other measures of political dissensus, in particular, the proportion of bills vetoed by the president and ideological polarization between the congressional parties, makes the picture only slightly more complex. First, the veto measure supports the general line of argument here, since it can serve as a continuous surrogate for the divided government dichotomous variable, albeit a somewhat less satisfactory surrogate. Party polarization has increased in recent years, but it is unlikely that this polarization has affected volatility. Polarization certainly has not increased budget volatility. It probably has not decreased volatility either, although this interpretation is a little more suspect because the trend toward increasing polarization and that toward decreased volatility are confounded. The key empirical point, however, is that polarization was not increasing much between 1962 and 1979, whereas volatility was experiencing major declines during these years. Finally, it is difficult to imagine that divided government and congressional party polarization have *opposite* effects on volatility, with divided government encouraging volatility and polarization suppressing it. As a consequence, we argue that, in the budget process, consensus yields stasis (in the sense of dampened volatility) whereas dissensus yields increased budget changes that are not uniform in direction.⁹

⁹We also examined potential effects on budget volatility from two additional variables: (1) a dummy variable indicating the first two fiscal years in the administration of a president from a different party from his predecessor; and (2) a dummy variable for when a Republican president was in office. The president-of-a-new-party variable had no statistically significant relationship with budget volatility. The Republican-president variable had almost the same effect as the divided government variable, although the Schwartz criterion and the Akaike information criterion indicate that divided

This analysis is a first look at the relative roles of political consensus and the institutional division of powers in the politics of assembling budgets. Measuring budgetary consensus indirectly may mislead us. A rapid increase or decrease in budgets that differentially affects subfunctions can, in fact, be supported by a political consensus. The conclusion that consensus has increased turns entirely on the empirical finding that volatility decreases when governments are unified—but this does happen, and the effects are solid and significant. Moreover, the use of percentage changes as our primary measure downplays the effects of large dollar changes in later years, because a similar dollar change is a smaller percentage change on the larger budgets of later years in comparison to earlier years, even controlling for inflation, as we do. (The alternative of studying first differences would make modern politicians look draconian even though they very modestly changed the direction of governmental programs.)

Finally, the stability in overall budget volatility that has occurred since the late 1970s as the exponential decay trend began to become asymptotic with the x-axis has implications for the role of divided government. In effect, divided government has become *more* important relatively in causing increases in volatility simply because the downward trend is exercising less of an influence.

Surprising to many will be our suggestion that the policy-making process was more dissensual in the past than in the supposedly rancorous present. It may be that the rancorous electoral politics of today are not as connected with the policy process as one might expect—or at least the budgetary part of the policy process. There are good reasons to suspect this. First, divided government—institutional dissensus—has little effect on mandatory spending categories. Budgeting is generally easier in mandatory categories, absent statute changes, because spending is tied to the time trace of external events, such as the number of elderly, rather than the calculations of bureaucrats, presidents, and members of Congress. Second, much of the polarization in Congress may center on statutory direction, not budgetary direction—especially in periods of unified government. Third, dissensus on budgetary issues may have more effect on the timely passage of appropriations and on the language for budget execution than on changes in the subfunctional budget totals for each year. Fourth, political rhetoric may proceed quite independently of the budgetary process. If rancor concerns character or if it concerns issues that are not prominent in funding decisions—such as many regulatory policies, or abortion and other social issues—then the po-

government is slightly superior statistically. That should not be surprising, for except for two years in the Truman Administration, and two years in the Eisenhower Administration, both variables are the same.

litical discourse and budgetary policies can become disconnected. Dissensus on these issues does not necessarily imply dissensus on budgeting. Finally, our measure of volatility implies that a rancorous politics over generally similar budget cuts would be tabulated as incremental, and, indeed, the norms of base and fair share are honored in such circumstances.

In the end, our evidence implies that Wildavsky was wrong about modern budgets being less incremental than earlier ones, at least if one measures incrementalism in terms of dampened volatility across categories of congressional budget authority. On the other hand, he was probably right in associating incremental changes with an underlying consensus about the role of public spending in society.

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APPENDIX

Data

Budget Authority. Budget Authority (BA) should not be confused with budget authorizations, but rather it should be considered as “appropriations-plus.” It consists of appropriations and re-appropriations, borrowing authority, and contract authority. Legally, BA constitutes specific authority to make obligations that will result in immediate or later outlays. This data set includes both federal funds and trust funds as well as supplemental appropriations and rescissions.

The data presented in this paper consist of actual budget authority figures from contemporary *Budgets of the U.S. Government* which have been adjusted to conform to the current definition and corrected for inflation. They are based on actual figures, not estimated ones. Thus the actual budget authority figures for FY 1995 are as reported in the FY 1997 *Budget*. The data are composed of appropriations, borrowing authority, and contract authority for both on- and off-budget federal entities from FY 1976 through FY 1994; of appropriations, borrowing authority, and contracting authority for on-budget entities from FY 1967 through FY 1975; of administrative appropriations and trust fund budget authority from FY 1962 through FY 1966; of new obligating authority and trust fund expenses from FY 1949 through FY 1961; and of appropriations and trust fund expenses from FY 1947 through FY 1948. We omit data from the three months of the transition quarter between FY 1976 and FY 1977 as not comparable.

Bold Subfunctions. While budget decisions are, in many cases, made at the program level rather than the subfunction level, we know of no reliable series of budget authority for programs for the time period studied, nor did we construct one. Budget decisions are also made at the macro-level. Indeed it is the complex interactions between top-down decision-making and bottom-up decision-making, which we believe is captured in these budget authority series at the subfunction level.

Domestic subfunctions exclude financial functions and subfunctions as unsuitable for analysis because they consist mainly of net, rather than complete, transactions. The excluded financial subfunctions are: 155, International financial programs; 371, Mortgage credit; 373, Deposit insurance; 704, Veterans Housing; 809, Deductions for offsetting receipts; 902, Interest received by on-budget trust funds; 903, Interest received by off-budget trust funds; 908, Other interest; 951, Employer share, employee retirement (on-budget); 952, Employer share, employee retirement (off-budget); 953, Rents and royalties on the outer continental shelf; and 954, Sale of major assets. Domestic spending includes all remaining subfunctions except for those in function 050, National Defense, and function 150, International Affairs.

Mandatory and Discretionary Domestic Spending. The authors further disaggregated domestic spending by assigning its subfunctions to mandatory or discretionary categories based upon our analyses of Table 8–5, “Outlays for Mandatory and Related Programs,” in the FY 1995, 1996, and 1997 *Budgets of the United States Government*. Details are available from the authors.

Current and Constant Dollar Figures. Contemporary actual budget figures were converted into constant calendar year 1987 dollars by using the implicit price deflators for the U.S. gross domestic product (GDP) transformed from calendar year to fiscal year. The source of the deflators was the *National Income and Product Accounts of the United States* (Washington: U.S. Department of Commerce 1990) and the National Income and Product Tables of the *Survey of Current Business* (Washington: U.S. Department of Commerce) [serial].

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