

Budget Dynamics

Christian Breunig, University of Konstanz

Peter B. Mortensen, University of Aarhus*

Introduction

Budget dynamics may sound as a contradiction in terms to scholars familiar with Wildavsky and colleagues' seminal work on public budgeting (Wildavsky 1964). As stated by Davis, Dempster, and Wildavsky (1966, 529): "This year's budget is based on last year's budget, with special attention given to a narrow range of increases or decreases."

For some years this simple model was considered something of an empirical law of public budgets. However, already in the 1970s several scholars started to question the empirical validity of Wildavsky's claim. John F. Padgett (1980) argued that the linear assumptions in normal regression statistics were too resistant to non-linear variation in data. In addition to this methodological criticism, rigorous theoretical criticism has claimed that the concept of incrementalism has never been clearly defined (Dempster and Wildavsky 1979; Berry 1990).

But perhaps the most serious problem is that the incrementalism description of stable public budgets simply does not seem to find support in empirical observations. Most studies find periods of stability, but they also find significant and large changes that cannot be accounted for using the incremental approach (Natchez and Bupp 1973). Although the reputation of incrementalism as a very static model of public budgeting may be a little unfair, the approach is definitely not well suited to account for large changes in public spending. Nevertheless, alternative explanations of this pattern of both stability and changes have been

*Authors may be contacted at: christian.breunig@uni-konstanz.de and peter@ps.au.dk

few, and for many years, as True (2000, 4) puts it: “we have been left with incrementalism by default.” In the past decade, however, the interest in stability and change in public budgeting has been revitalized and in this article we highlight some of the main findings and insights of this research agenda.

A rise in political attention and political reprioritization creates large-scale budget changes, whereas political inattentiveness creates stability in spending.

A renewed interest in stability and change in public budgets

The prologue of the renewed scholarly interest in budget dynamics is Baumgartner and Jones’ (1993) book, *Agendas and Instability in American Politics*. The book does not contain public spending data but presents a range of long-time series and shows how political attention in the US is characterized by long periods of stability interrupted by short periods of attention shifts and major policy changes.

Up through the 1990s, Baumgartner, Jones, and True collected time series data on public spending and found in these data a similar pattern of year-to-year stability now and then interrupted by major changes in the budget from one year to the next (Jones, Baumgartner, and True 1998; True 2002). To account for this pattern of stability and change in measures of both political attention and public spending, Baumgartner and Jones (1993) initially developed the punctuated equilibrium theory, which later got a more general expression with the model of disproportionate information processing (Jones and Baumgartner 2005). It is worth noting that this model relies on many of the same assumptions about boundedly rational policymakers as did Wildavsky’s theory of incrementalism. However, whereas Davis, Dempster, and Wildavsky (1974) ascribed major spending changes to special events in the surroundings of the political system – so-called exogenous events – Jones and Baumgartner argue that such major changes are a function of the same basic characteristics of the political decision-making process that causes great stability.

According to the model of disproportionate information processing, the selective attention of policy-makers implies that most of the time they ignore most information signals from their environment. This is consistent with classic, incremental decision-making.

What incrementalism and most other classic theories with focus on the bounded rationality of decision makers ignore, however, is the ‘serial shift’ in the attention of policy makers. The serial processing capacities of the decision makers, which in periods of stability serve to prevent policy change, also leads to increased focus on new issues to the exclusion of others once the agenda shifts. From this perspective, incrementalism is a special case of the more generalized model of disproportionate information processing (see Jones and Baumgartner 2005).

A (new) general empirical law of public budgets

In a seminal paper John Padgett (1980) developed a decision-making model called the serial judgment model, where decision makers prioritize some budget items in a series of rounds and compare them on a one-by-one basis. Jones and colleagues (Jones et al. 2003; Jones and Baumgartner 2005) adopted this line of inquiry when studying budget changes in the US. They linked the punctuated equilibrium model, which claims that policy change is episodic, and they argued that year-to-year changes in public budgets mostly are small but disrupted by large-scale changes. Visually, the distribution of changes should display fat tails (i.e., some very large changes), sharp central peaks (i.e., an abundance of small changes), and ‘weak shoulders’ (i.e., few moderate changes). This pattern is represented in the top right graph in figure 1. We can map this distribution onto the logic of disproportionate information processing. A rise in political attention and political reprioritization creates large-scale budget changes, whereas political inattentiveness creates stability in spending. We

can describe the shape of such a distribution by a summary statistic called kurtosis. The more a distribution shows both such small increments and also large shifts, the more 'leptokurtic' it is. The theory of disproportionate information processing implies that budgetary change is leptokurtic.

Research since the mid-2000s finds leptokurtic distributions in a variety of institutional settings. Indeed, these distributional characteristics approach a general empirical law of public budgets (Jones et al. 2009). The bottom row of figure

1 gives two examples and provides some basic evidence. The bottom left displays more than 3,000 annual percent changes in national budget functions from several European countries (Belgium, Denmark, France, Germany, and the United Kingdom). The bottom right shows the distribution of more than 15,000 annual budget changes in Danish local budgets. It appears that long periods of stasis are interrupted by massive and transformative budgetary changes (100 percent increases or sometimes even much more). Hence, both figures

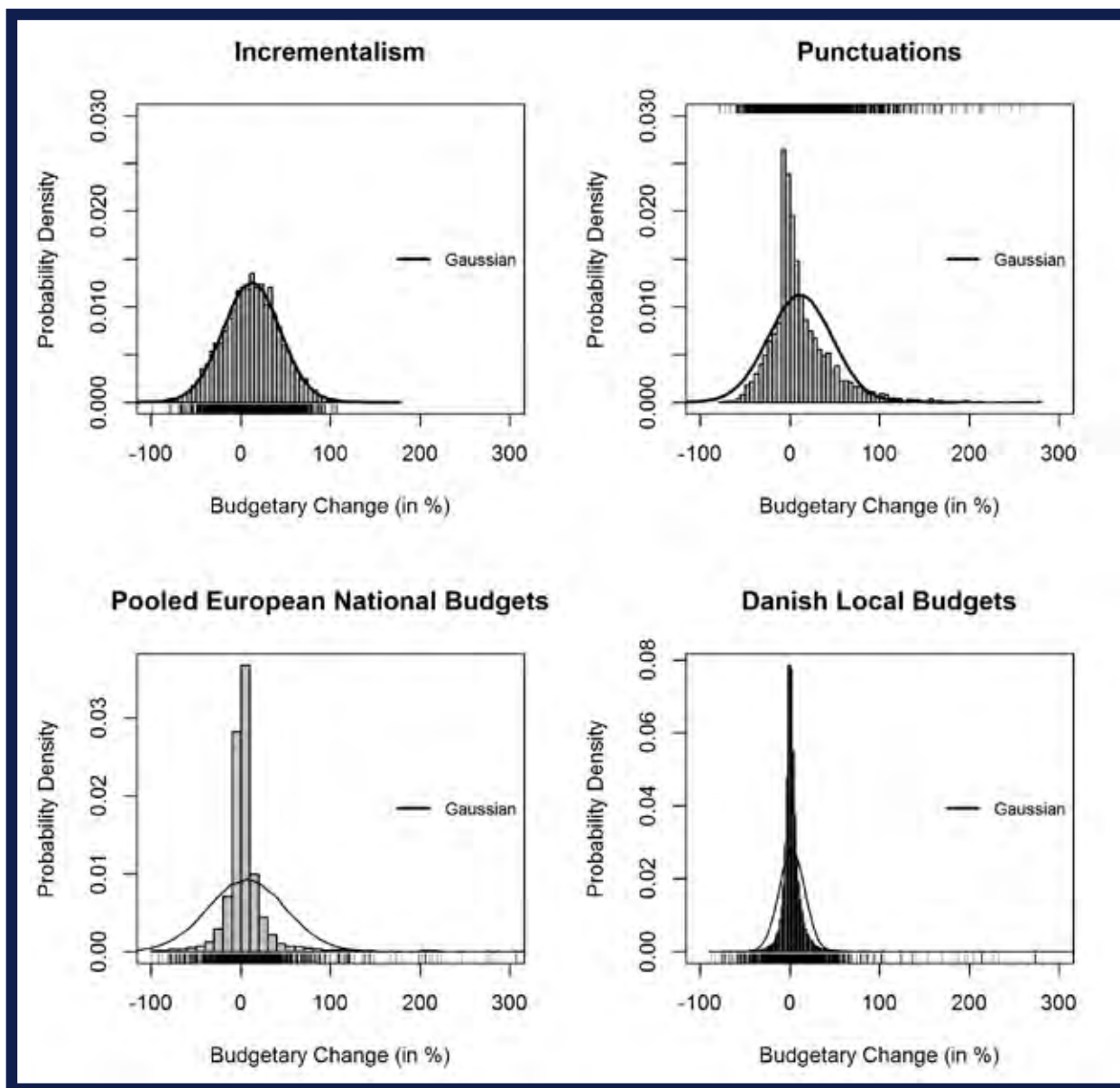


Figure 1. The top row of the figure displays what incrementalism and punctuations look like in theoretical distributions. The bottom row displays pooled budget functions from Belgium, Denmark, France, Germany, and the UK, as well as Danish local budgets. The data are from Jones et al. (2009).

at the bottom of figure 1 lend support for the generalized disproportionate information-processing model of public policymaking.

Variation in budget dynamics

While budgetary change appears to be well represented by the disproportionate information model and well characterized by a leptokurtic distribution, with its sharp peak and large outliers, more recent research detected and theorized about the variation that may occur in budgetary dynamics. To find out more about the mechanisms driving these empirical patterns, a major research topic is to explore conditions leading to more or less leptokurtosis. Do institutional arrangements matter, or are there perhaps other forces at work? In particular, two empirical regularities and related theoretical points stand out. First, the degree of punctuation in budgetary outcomes varies across countries. Second, gradations of leptokurtosis also emerge across policy issues (or, more precisely, budgetary categories such as health care, defense, and education).

Research on national variation in the degree of budget punctuations builds on a vast literature in comparative politics and political economy that assigns institutions core explanatory power. The basic idea holds that variation in the institutional structure of policymaking can be linked to the distribution of policy and budgetary outcomes. Researchers found that increasing institutional friction leads to more leptokurtic policy outcomes. Friction is resistance to policy change built into institutions and can be seen as the costs of making and implementing political choices.

Three findings about how institutional friction works stand out. First, Baumgartner et al. (2009) examine policy processes in Belgium, Denmark, and the United States and find that, regardless of country, policy processes that impose higher decision-making costs show a higher level of kurtosis. They identify budgeting as the process with the most institutional friction. This is visible in the most leptokurtic outcomes when compared with other elements in the policy process, such as parliamentary questions or the introduction of bills.

Second, Jones et al. (2009) show that budgets, regardless of the level of government or type of political system, are highly static and are only occasionally disrupted by large changes. They then contend that differences in the magnitude of kurtosis can be attributed to country- and institution-specific features such as executive dominance, single-party government, bicameralism, and decentralization.

Third, Breunig (2011) focuses on the role of institutional friction in budgeting in Denmark, Germany, the UK and the US. He identifies two sources of friction: the number of veto points in the political system and the role of the finance ministry in cobbling a budget together. It is shown that, in particular, increases in decision-making costs due to high numbers of veto points do not just stabilize public budgets. Instead, high institutional barriers prevent policymakers from adapting to exogenous changes. This constraint then forces decision makers to respond more extremely at a later point in time. Again, this dynamics contributes to a leptokurtic pattern of budget changes.

In addition to distinctive cross-national patterns in the magnitude of budget punctuations, researchers also detected variation across different policy issues. One of the first articles that engaged with the variation across budgetary domains was John and Margetts's (2003) study of British expenditures. They propose several rationales for differences across policy domains, including the size of the budget, the centrality of particular budget items for the government, and ministerial incentives. Mortensen (2005) substantiates this claim in a study of Danish municipal budgets. He shows that areas such as road and library expenditures are more punctuated than school and child-care expenditures. A potential explanation for this difference is that strong and unified interest groups with concentrated benefits are able to continuously increase spending, whereas the lack of interest group involvement makes budgets more malleable and therefore more prone to punctuations.

Breunig and Koski (2012) similarly argue that allocational expenditures (i.e., spending on education, public welfare, or public health) are

more likely to produce incremental changes within budgets than non-allocational ones. This might be the case for two reasons. First, spending on welfare and education is often mandatory and requires a legislative change in entitlements, while non-allocational spending can be adjusted annually in the budget. Second, large entitlement programs receive a constant and multifaceted stream of attention by legislators, lobbyists, and the public, which enables more careful and deliberate budgetary change.

Finally, Breunig, Koski, and Mortensen (2011) show that despite similar levels of punctuations at the aggregate level, differences across issues remain and that these issue-based differences are systematic. By comparing categorical spending in the United States and Denmark, they show that, at all levels of magnitude, budget categories display a similar tendency for punctuation. Regardless of country, agriculture and health-care spending are more punctuated than the domains of justice, health, and education.

Such domain-specific dynamics does not rule out the importance of more universal explanations, but arguments about bounded rationality and information processing alone cannot explain these patterns. Instead, they advocate increased focus on factors operating at the level of budget sub-functions. It is an exciting prospect to understand these domain-specific dynamics better in the future.

Conclusion

We conclude this essay with a few reflections on how this revitalized research agenda on stability and change in public budgets may also improve our understanding of current budget dynamics across Europe. Knowing that when pooling together hundreds of thousands of budget changes, a leptokurtic distribution will be obtained is one thing. Another question is whether the theoretical ideas underpinning these studies can also improve

our understanding of how governments respond to the international economic crisis.

We believe that many of the presented theoretical ideas are consistent with central features of government responses. First, a central assumption of the disproportionate information processing model is that aggregate attention (the whole agenda) of political systems is limited. Issues must be prioritized for action. If policymakers are focused on addressing waiting lists in the hospital sector they are liable to ignore signals of economic imbalances.

In addition to this 'bottleneck of attention', various sources of institutional friction in the process of information processing – resources used in gathering, analyzing, and using information but also costs of decision-making in terms of deliberation and converging on a common agreement – imply that the task of prioritizing and acting on new information presents a major challenge for policymakers. In sum, a complex set of institutions and policymaking arrangements filters, blocks, and occasionally amplifies those signals from the environment.

Hence, the central question is not whether political systems respond smoothly or not to the incoming signals of a crisis, but how far out of kilter with the social and political environment the agenda has drifted before the system attended to the changes and responded by correcting existing policies and by changing budgets?

At least in hindsight, it seems that central policymakers across European countries ignored many of the signals of a forthcoming economic crisis. Once they started to attend to the crisis, the issue of economics quickly conquered almost all of the political agenda. This is a characteristic move from ignorance to overshooting that is consistent with the recent models of budget dynamics, and which shows that reality works differently than the classic incrementalism models described.

References

- Baumgartner, Frank R., and Bryan D. Jones. 1993. *Agendas and Instability in American Politics*. Chicago: University of Chicago Press.
- Baumgartner, Frank R. et al. 2009. "Punctuated Equilibrium in Comparative Perspective." *American Journal of Political Science*, 53(3): 603–20.
- Berry, William D. 1990. "The Confusing Case of Budgetary Incrementalism: Too Many Meanings for a Single Concept." *Journal of Politics* 52(1): 167–96.
- Breunig, Christian. 2011. "Reduction, Stasis, and Expansion of Budgets in Advanced Democracies." *Comparative Political Studies* 44(8): 1060–88.
- Breunig, Christian and Chris Koski. 2012. The Tortoise or the Hare? Incrementalism, Punctuations, and their Consequences. *Policy Studies Journal* 40(1): 45-67
- Breunig, Christian, Chris Koski, and Peter B. Mortensen. 2010. "Stability and Punctuations in Public Spending: A Comparative Study of Budget Functions." *Journal of Public Administration Research and Theory* 20(3): 703–22.
- Davis, Otto A., Michael A. H. Dempster, and Aaron B. Wildavsky. 1966. "A Theory of the Budget Process." *American Political Science Review* 60(3): 529–47.
- Davis, Otto A., Michael A. H. Dempster, and Aaron B. Wildavsky. 1974. "Towards a Predictive Theory of Government Expenditure: US Domestic Appropriations." *British Journal of Political Science* 4(4): 419–52.
- Dempster, Michael A. H., and Aaron Wildavsky. 1979. "On Change: Or, There is no Magic Size for an Increment." *Political Studies* 27(3): 371–89.
- John, Peter, and Helen Margetts. 2003. "Policy Punctuations in the UK: Fluctuations and Equilibria in Central Government Expenditure since 1951." *Public Administration* 81(3): 411–32.
- Jones, Bryan D., Frank R. Baumgartner, and James L. True. 1998. "Policy Punctuations: US Budget Authority, 1947–95." *Journal of Politics* 60(1): 1–33.
- Jones, Bryan D., and Frank R. Baumgartner. 2005. *The Politics of Attention*. Chicago: University of Chicago Press.
- Jones, Bryan D. et al. 2009. "A General Empirical Law of Public Budgets: A Comparative Analysis." *American Journal of Political Science* 53(4): 855–73.
- Mortensen, Peter B. 2005. "Policy Punctuations in Danish Local Budgeting." *Public Administration* 83(4): 931–50.
- Padgett, John F. 1980. "Bounded Rationality in Budgetary Research." *American Political Science Review* 74(2): 354–72.
- True, J. L. 2000. 'Avalanches and Incrementalism: Making Policy and Budgets in the United States', *American Review of Public Administration*, 30, 1, 3–18.
- True, James L. 2002. "The Changing Focus of National Security Policy." In *Policy Dynamics*, ed. Frank R. Baumgartner and Bryan D. Jones. Chicago: University of Chicago Press.
- Wildavsky, Aaron. 1964. *The Politics of the Budgetary Process*. Boston: Little, Brown.