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Article

Betting on the Future with a Cloudy Crystal Ball?
Revenue Forecasting, Financial Theory, and Budgets—
An Expanded Treatment

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In their *Theory to Practice* article, Thompson and Gates use language that is rarely published in *PAR*, such as "efficient frontier" and "portfolio." And though the "simpler" print version avoids the occasional mathematics included in the expanded version, both are similarly difficult to read. To truly understand the authors' arguments, readers will have to immerse themselves in a finance textbook. But that's exactly the point, isn't it? And in my judgment, it's a defensible one. At the very least, the article is the type of thought-provoking contribution that will stimulate discussion—some of which will be quite critical from a traditionalist perspective. Those who are interested in moving beyond that lens will find that the article demonstrates that the benefits of diversification can apply not only to portfolios, but also to public administration theory and practice.

Having said this, I will focus my commentary on the implications of Thompson and Gates's arguments for two types of practice: teaching and budgeting. In terms of the former, I believe that the authors have a point regarding what budget students should know. I question their contention about what *all* students should know, as well as about how useful existing corporate finance texts would be in offering that curriculum.

In terms of the application of Thompson and Gates's forecasting proposals, I argue that it's political, not fiscal, risk that most animates elected officials' concerns. Consequently, technical prescriptions must be calculated to fit into the realpolitik of electoral politics. If they are not, they will not be taken seriously or will be jettisoned quickly once adopted if they yield politically risky or deleterious consequences. Moreover, I argue that trust in technique can be a risky venture for politicians and citizens. Thus, at a minimum, the former are unlikely to embrace the authors' implicit assumption that techniques will be embraced if they are not understood. To make these points, I assess the realpolitik of the revenue, balancing, and smoothing techniques offered in this article as they have and may yet play out in my home state of Maryland.

Are These Techniques Really for Everyone?

Thompson and Gates argue that the techniques that they describe should be included in the "standard repertoire of public sector financial managers." For a subset of that broad occupation, I agree. But other financial management experts should specialize instead in quite different techniques in other fields, including operations and accounting. What *should* be universal in the field, however, is a fundamental understanding of finance concepts, such as uncertainty and the risk-reward relationship. A more widely distributed knowledge of these valuable concepts should make it easier for all to understand the appropriate application of relevant techniques by experts.

Examples of the utility of this approach can be found in Congressional Budget Office (CBO) reports. CBO has successfully applied capital asset, arbitrage, and options pricing models to critical issues of federal budget policy. These issues include:

- How should the financial status of bankrupt but federally insured savings and loans be resolved?
- What is the cost to the federal government of the implicit guarantees granted to government-sponsored enterprises?
- How should the costs of credit programs be measured in the budget?
- Would privatization of the social security trust fund really reduce its financing gap?
- Is the federal government correctly measuring the costs of its insurance programs?

If *PAR* readers look at current issues in state and local government budgeting, they will find similar financial complexity. For examples, I encourage readers to go to www. stateline.org and click on the "taxes and budget" tab. In the week I wrote this commentary, it featured articles on the securitization of tobacco settlement receipts in Ohio, the aftereffects of New Jersey's financing of a tax cut by underfunding pension and other retirement benefit plans, and the sale of promotional rights in the California state parks to, believe it or not, the Oakland Raiders. [Commentator's note: I know—strictly speaking, the last item may not be an issue of finance. But the president of the Raiders, Al Davis, is usually described as a shrewd negotiator who has moved his team from city to city in search of publicly funded benefits; that is, he understands a different "mug's game."] Every week, different cases arise in which it appears that state and local government leaders either lack the financial expertise that resides in the most skilled part

of the private sector, or they have that expertise but do not use it in the best interests of citizens.

Yet if a solution to this problem is a retooling by specialists in public financial management, it's not clear that the best approach is immersion in a corporate finance textbook. That approach may help students make better personal investments or consider a career in the private sector, but it would also be a bit like suggesting that language students take three years of Latin in preparation for a year living in France—helpful for touring Roman ruins but not so great for touring banlieus or talking with énarques. The reason is that textbooks in corporate finance don't lower themselves to consider public sector examples—aside from how to take advantage of tax laws! I will admit that this assertion is based on a sample of the one corporate finance textbook in my office by Ross, Westerfield, and Jaffe (2007). I would be happy to receive citations that would correct any misimpression.

Thompson and Gates do cite selected articles from professional journals that draw on the logic and methods of corporate finance, but as of yet the insights of these articles haven't made it into leading texts in public financial management. Here, my "survey" expands by three textbooks! All are excellent and highly popular: John Mikesell (2007) on fiscal administration for the public sector; Jonathan Gruber (2007) on public finance; and Steven Finkler (2001) on financial management for public, health, and nonprofit organizations. With different emphases, these books cover topics closely related to those explored in corporate finance, such as capital budgeting, cash management, and debt issuance. In the latter case, I believe that there is plenty of sophistication in the public sector. Also, Mikesell and Gruber both have extensive sections on revenues.

Importantly, the language and methods in these books are quite different from those in corporate finance; none of the books uses terms like "portfolio." The only index mention of "covariance" is in Gruber's methodological chapter, which is a simple discussion of empirical inference with examples of government interventions in labor and consumption markets. Again, perhaps I've missed a textbook that incorporates the methods suggested by the authors, and if so, I would welcome any citations. The bottom line, then, is that if Thompson and Gates are correct, there would appear to be an opportunity for new textbook authors!

The Realpolitik of Revenue Forecasting
These pedagogical issues notwithstanding, how useful are Thompson and Gates's prescriptions for forecasting models likely to be in practice? To assess this question, let's consider the state of Maryland. Maryland is a quite different state from Oregon, where Thompson and Gates used the recommended techniques (however, they did not report how their advice was received in Oregon). But, again, that is the point: if their prescriptions are useful, they should be useful and viable everywhere. Taking Oregon first, the state's economy has been quite variable and has generated some periods of high fiscal stress. Perhaps for this reason, as well as its reformist political heritage, it has sometimes been in the forefront of experimentation, such as with its well-regarded Oregon Benchmarks and its more controversial quasi-rationing of Medicaid using cost-effectiveness measures.

In contrast, Maryland is a rich state with a diverse economy that swings very little from revenue peaks to troughs, thanks to a large population of federal civil servants and the ever-present community of federal contractors. It has long held a AAA bond rating, in part due to a budget culture that is relatively

conservative, despite the state's very "blue" (that is, Democratic) partisan orientation. Taxes, and especially spending, are relatively low after accounting for its relatively high wealth. Budget gimmicks often used in other states are generally seen as unnecessary and undesirable by the state's elites. And having avoided numerous fiscal crises, Maryland is not known for experimentation in budgeting, for both better and worse (see Meyers 2007).

But presently, Maryland's budget forecast shows a significant structural deficit. In fact, that structural deficit has been in place for a while, the result of a huge increase in elementary and secondary education spending, continued growth in other entitlement programs, and a small cut in income tax rates. For years the state has coped not only by making selective spending cuts and increasing minor taxes, but also by shifting balances from special and rainy day funds into the general fund, even when the economy has been strong. Now that the surplus balances are effectively exhausted, Maryland must confront its structural deficit.

It appears that Maryland may do so primarily by raising taxes. The last time this was attempted was a decade and a half ago, when Governor William Donald Schaefer's "Linowes Commission" studied alternatives using the methods that Thompson and Gates would replace, such as yield elasticities for each tax. For their time, the studies were an excellent basis for modernizing the state's revenue structure, but they were not persuasive. The reason was a simple, political one: the Democrats were afraid of being blamed by Republicans for having raised taxes.

For almost three decades now, anti-tax rhetoric and policy has played a large part in the Republicans' national resurgence (Pollack 2003). Democrats have retained their majority in Maryland in part because they have not provided Republicans the opportunity to create a sufficiently large anti-tax backlash. Instead, they have argued among themselves whether to add slot machines to the revenue base and, to date, have declined to do so—a somewhat surprising result in a state with a rich history of horse racing, bingo, "policy" (illegal numbers), and a productive state lottery.

The opposition to slots has been from liberals concerned about regressivity and from communities where slots parlors might be located. Leading the proponents for slots has been Senate President Mike Miller, who is now serving his 21st year as that body's leader, which illustrates his phenomenal political abilities. And while it is risky to predict future legislation, I believe that Miller will get what he wants next year: legalized slots, as part of a package that will also include a new, higher rate for a new, top bracket of the income tax.

Ironically, should this happen, the result may mirror Thompson and Gates's example of the income and lottery two-tax portfolio that maximizes negative covariance. In Maryland's case, however, this would be the result of a *blind play*, for there is no apparent intent among the state's political leaders to commission analyses along the lines suggested by the authors. Their focus on political risks simply trumps any interest in reducing revenue volatility. They first hope to convince voters that the state has cut enough spending to make taxes necessary, and then that the new taxes are bearable. Indeed, the most important uncertainty they face is not how the new revenues will behave over the business cycle, but how *voters* will respond to actual higher taxes and to political rhetoric that frames the effects of those taxes. (For an attempt to jointly model economic and political factors in tax design, and a jus-

tification of this approach for normative tax analysis, *PAR* readers should see Hettich and Winer 1999, 2004.)

The Realpolitik of Balancing and Smoothing

Thompson and Gates next discuss hedging and buffering through options, rainy day funds, and insurance pools. Assuming for now that volatility on the spending side of the budget should be avoided, several of the alternatives they survey seem promising in several respects. Particularly interesting was Mattoon's suggestion of a national rainy day fund for states. But since state cutbacks can be quite procyclical in recessions, retarding the national economy's recovery, arguably Mattoon doesn't go far enough. For the purpose of macroeconomic stabilization, the federal government could provide such a backstop. This could work if the federal government reduced moral hazard by requiring states to match from their own-source rainy day funds. They might also take the less likely approach of setting acceptable bounds for state spending and tax levels.

The estimate of an $8 to $10 million price for a put of $1 billion hedged revenues also looks pretty attractive. The authors note that this alternative is unlikely for both technical and political reasons, but don't specify them. Since modern financiers seem capable of developing financial instruments for most anything, I have to assume that the technical problems could be innovated away. Also, since private financiers have convinced some states to sell them roads, I can imagine that some private financiers have already considered making a market in state and local government options.

What political factors might have held them back, besides the obvious difficulty political leaders would have convincing voters that selling futures is a desirable practice? Per-

haps the answer is that not all politicians find "manic depressive patterns of spending and taxing" undesirable, and therefore value hedges at exactly zero (or less). I confess that, as a professor at a public university, I offer this hypothesis with some personal bitterness. As the authors mention, and as the cutback management literature generally shows, state and local governments often balance budgets by wasteful expedients. But, unfortunately, some political leaders don't understand they are doing this and, to be perfectly cynical, some of them do understand but simply don't care about those costs.

From experience, many politicians know that the best time to cut spending and avoid political retribution is when revenues go bust. In states and localities with advanced systems of performance budgeting and priority-setting, the picture may be prettier. However, I suspect most governments fit the first pattern. Similarly, after cutting spending during a recession, politicians can then feel justified in expanding tax bases and raising rates to close any remaining gap. Knowing of these possibilities only encourages them to not set "enough" aside in budget stabilization funds, particularly because they can generate political benefits with spending increases and/or tax cuts during flush times and with myopic voters.

This is not to suggest that states utterly fail to smooth consumption at some level, for the literature says otherwise. In Maryland, for example, some of the dot.com-era revenue boom was not used to start new programs, but was either saved or invested in capital assets (displacing planned borrowing). With this record, "manic depressive" would be a bit too strong a term. But consider also Maryland's later transfer of monies to the general fund from two major special funds: the "transportation trust fund" and the "program open space fund." The

former combines capital and operating expenditures for all modes of transportation and is financed with excise taxes, fees, and bonds. The latter finances public lands acquisition from the proceeds of a dedicated tax on the sales of real property.

These transfers were widely interpreted as "budget balancing" since "the budget" was defined as the general fund, which is only about one-half of the state's budget. In effect, however, the state just shifted spending from transportation and land protection to, say, education, without changing the financial position of the government. To effectively smooth total state consumption, the then-required reductions in transportation and open-space spending would have to be prevented by more borrowing for these purposes. This is more likely to work when interest rates are relatively low. My point is that while the first footnote in the Thompson and Gates's article does note the excessive focus on the general fund, that's not enough if we fully want to understand consumption smoothing. In its Statement 34, the Governmental Accounting Standards Board pushed state and local governments towards comprehensiveness in financial reporting. While that effort has been beneficial, its imperfections are best revealed in budgetary practices that remain remarkably narrow.

Present Value-Balancing Perhaps, but Trust in Technique is Risky
In this same regard, the article's last recommendations propose a spending rule and a method to calculate it. Present-value balancing would require farsightedness—calculating in present-value terms projected revenues, projected outlays, and net financial assets. This is a brave stance for an article that begins with the phrase, "prediction is a mug's game!" However, what they argue in practice is, "predict what you can about

what really matters," and the method they propose has real potential.

This technique could be usefully applied in Maryland by the state's Spending Affordability Committee (SAC). Maryland's constitution grants its governor budgetary powers greater than those held by the other 49 governors. The General Assembly (Maryland's state legislature) developed the SAC to cope with this imbalance. Every year prior to submission of the governor's budget, the SAC recommends a maximum level of growth in the state's operating budget. Moreover, to its credit, it takes a more comprehensive look at the state's situation than merely focusing on the general fund alone (Deschenaux 1997). In most years, the process has helped to bound negotiations over budget totals between the branches. One major drawback of this approach, however, is that it is difficult to understand the basis of the SAC's spending target. After describing a variety of economic and financial facts, the SAC sets a target that is usually reported as an increase from last year's budget, with the precision of two decimal places of a percent. Such precision implies use of a technical model, but thankfully that is not the case because no model that acknowledges the uncertainties inherent in the situation can plausibly recommend policy at that level of specificity. On the other hand, such specificity in the absence of any model is clearly arbitrary. Consequently, the model that Thompson and Gates present in this article would help structure consideration of those facts better.

This benefit notwithstanding, however, the political potential of the model is undercut by an unfortunate assertion that the authors' make. They write: "Fortunately, one does not have to understand how a rule was derived to use it." It is true, of course, that na-

ive trust about how technology works is fundamental to our modern lives, and this naiveté includes many governmental and financial matters. For example, we've reached a stage where the Federal Reserve is judged on its inflation and growth results, not on whether it applies the Taylor rule or uses judgmental tuning. On the other side of this argument, however, is the ghost of Bob Citron, an example that is relevant not only to present-value balancing, but to the topics discussed previously.

As treasurer of Orange County, Citron bet on interest rates using highly leveraged funds, eventually driving Orange County into bankruptcy. That he did so was certainly his fault, but it was also the fault of the many political leaders who looked away when they should have been watching closely (Baldassare 1998). Thus, naiveté is *not* always acceptable: just as we teach children to moo so they know where milk comes from, we should expect political leaders to understand the basis of fundamental government decisions about finance and budgets. And thankfully most leaders will be unwilling to defer to a model that they don't understand when it would set the parameters for one of the most important things they do.

So I conclude with the suggestion that the first step in teaching elected officials how such models work is to drop the word "optimal." Political leaders do not think about taxing and spending as merely technical questions. Their preferences differ dramatically on how much revenue governments should collect, and even more so on how that money should be used. They are rightly reluctant to bind themselves to fiscal rules that would attempt to impose specific preferences that may be far from theirs. Nor will either would-be technocratic solutions or fiscal rules be strong enough to withstand attacks over time when results are not politi-

cally acceptable. At best, present-value balance models can provide baselines for arguments about what path government finances should take. That would be enough of a contribution.

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