

Beyond Bailouts: Federal Tools for Preventing State Budget Crises

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ABSTRACT

More than two years after the official end of the Great Recession, state governments still face significant budget deficits that cannot be addressed without further drastic spending cuts or substantial revenue increases. The structural origins of the ongoing state fiscal crisis are well known. Excessively procyclical revenue structures, combined with spending obligations that increase with economic downturns, have resulted in a budget dynamic for the states that is not sustainable over the long term. The consensus solution to this problem is for states to save money during boom times (via budget stabilization or “rainy day” funds) and to draw on those savings during recessions. Unfortunately, numerous studies have shown that states do not save anywhere close to an adequate amount for this to be an effective strategy. As a result, during each of the past several downturns, states have turned to the federal government for fiscal assistance—often derisively termed “bailouts”—to address fiscal imbalances. Yet these bailouts have their own problems, including creating an incentive for states not to establish adequate rainy day funds, which in turn increases the likelihood of future bailout demands.

To escape from this vicious cycle, we propose a set of federal policy reforms to facilitate state savings. We offer a menu of policy options, rather than a single solution, because we argue that existing evidence does not clearly explain why states do not save. Therefore, we first analyze the possible sources of failure and then tailor a number of remedies for each; in nearly all cases, it is clear that states would be unable to overcome the problem on their own, making federal intervention particularly apt.

INTRODUCTION

Despite the end of the Great Recession more than two years ago, many state governments continue to face significant funding gaps.¹ Legislatures across the country have cut programs and services, while also raising taxes, in an effort to satisfy state constitutional balanced-budget requirements.² These actions grow out

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1. Nicholas Johnson, Phil Oliff, & Erica Williams, *An Update on State Budget Cuts: At Least 46 States Have Imposed Cuts That Hurt Vulnerable Residents and Cause Job Loss*, CTR. ON BUDGET & POL’Y PRIORITIES 1–2 (Feb. 9, 2011), <http://www.cbpp.org/files/3-13-08sfp.pdf>.

2. See Monica Davey, *Budget Worries Push Governors to Same Mind-Set*, N.Y. TIMES, Jan. 17, 2011, at A1.

of an understandable instinct to make do with less, yet they intensify recessionary pressures on households and businesses, jeopardizing economic recovery and, paradoxically, exacerbating state budget problems.³ Worse still, current research has shown that state budget cuts during recessions tend to be steepest in social safety-net programs, with the result that households most affected by the economic downturn (that is, low- and moderate-income households) are hardest hit by state responses to budget shortfalls.⁴ In this Article, we propose and compare possible federal interventions to disrupt these dynamics and prevent states from contributing to future economic downturns.

The cycle of recession-reinforcing budget crises is a recurring phenomenon in recent U.S. history.⁵ As we have explained in earlier work, state fiscal difficulties arise chiefly from structural changes in the composition of state tax bases and the nature of state expenditure obligations.⁶ State tax revenues are strongly procyclical—receipts vary with changes in the underlying economy, exhibiting swings from peak to trough more severe than would be expected from a tax system that merely tracked economic activity.⁷ The result is a rollercoaster pattern of tax receipts that is notoriously susceptible to fiscal mismanagement. State and local spending also responds to the business cycle, with demands on social insurance programs in particular rising during economic downturns. The problem is easy to describe—the demand for public services goes up as revenues go down—but difficult to resolve. Private actors typically manage a divergence between receipts and expenditures through borrowing, saving, or some combination. Unfortunately, state and local governments face significant limitations on both fronts.

As for borrowing, the ability of state residents to migrate to other jurisdictions limits the extent to which states can borrow against future resources. Unlike the federal government, state and local governments must be attentive to the risks of eroding their tax bases through the outmigration of taxpayers averse to excessive debt levels. This concern is especially acute with regard to the wealthiest taxpayers, who are both the most readily mobile segment of the population and the most likely to bear the burden of future debt repayment obligations. Even if taxpayer exit were not a constraint, most states are limited in their capacity to borrow because of

3. See Jonathan Rodden & Erik Wibbels, *Fiscal Decentralization and the Business Cycle: An Empirical Study of Seven Federations*, 22 *ECON. & POL.* 37, 37 (2010) (demonstrating self-reinforcing effect of recessions and subnational budgets).

4. See David Super, *Rethinking Fiscal Federalism*, 118 *HARV. L. REV.* 2544, 2614–40 (2005).

5. *Id.* at 2611–14; Bob Zahradnik & Nick Johnson, *State Rainy Day Funds: What to Do When it Rains?*, *CTR. ON BUDGET & POL'Y PRIORITIES* 7 (Jan. 31, 2002), <http://www.cbpp.org/cms/index.cfm?fa=view&id=1539>.

6. Brian Galle & Jonathan Klick, *Recessions and the Social Safety Net: The Alternative Minimum Tax as a Countercyclical Fiscal Stabilizer*, 63 *STAN. L. REV.* 187, 195–205 (2010); Kirk J. Stark, *The Federal Role in State Tax Reform*, 30 *VA. TAX REV.* 407, 419–23 (2010).

7. See Timothy Schiller, *Riding the Revenue Roller Coaster: Recent Trends in State Government Finance*, *BUS. REV.*, First Quarter 2010, at 23, 23–30 (2010), http://www.philadelphiafed.org/research-and-data/publications/business-review/2010/q1/brq110_revenue-roller-coaster.pdf.

constitutional limitations adopted out of fear of excessive debt.⁸ These limitations were enacted in part out of a concern that voters or officials could be present-biased—that is, they may weigh the benefits of spending today more heavily than the cost of repaying tomorrow. Voters may be present biased either because they expect to move somewhere else before the bill comes due or because of a general psychological tendency to underestimate future costs. Officials are people too, and so could be subject to a similar psychological bias; they may also rationally expect that they will be out of office before the burden of debt repayment materializes. In recognition of the risks of excessive borrowing, most states have constitutional limitations on state indebtedness as well as some form of balanced-budget requirement.

The most obvious strategy when faced with a need to smooth consumption in the face of borrowing constraints is to save when times are good. Indeed, the consensus solution advanced by most experts in the field of state and local public finance is for states to set aside additional revenues during periods of strong economic growth, thus obviating the need to borrow when revenues decline. In practice, however, this strategy has proved exceptionally difficult to implement.⁹ States face difficulty saving for the same reason they might be inclined to borrow excessively: savings means giving up benefits today in order to reduce the pain of tomorrow. Even if some officials do manage to put money aside in budget stabilization (“rainy day”) funds, future officials may raid the funds for their own purposes. Fearing such an outcome, boom-year lawmakers understandably develop a “use it or lose it” mentality, reasoning that, if future actors are unlikely to use savings wisely, why save at all? Confirming these effects, empirical studies have shown existing rainy day funds to be inadequate to the task of sheltering state budgets from recessionary revenue declines.¹⁰

The inability of states to smooth expenditures over the business cycle has implications beyond sound fiscal housekeeping. Ultimately, the pathologies of state budgeting imperil the project of federalism itself. State budget crises prompt demands for federal bailouts, as evidenced in the most recent federal stimulus package.¹¹ Federal bailouts answer a short-term problem of how to maintain spending levels in a fiscal crunch, but they also risk undermining the goals of federalism. Most significantly, bailouts result in a softening of the budget constraint that states face. Each new bailout erodes the incentive for fiscal responsibility in the

8. Galle & Klick, *supra* note 6 at 200–04. For a fuller explanation of the points in this paragraph, see *infra* notes 38–50.

9. Russell S. Sobel & Randall G. Holcombe, *The Impact of State Rainy Day Funds in Easing State Fiscal Crises During the 1990–1991 Recession*, PUB. BUDGETING & FIN. 28, 33 (1996); Super, *supra* note 4, at 2611; Christian Gonzalez & Arik Levinson, *State Rainy Day Funds and the State Budget Crisis of 2002–?*, ST. TAX NOTES, Aug. 11, 2003, at 441, 444; see Justin Marlowe, *Fiscal Slack and Counter-Cyclical Expenditure Stabilization: A First Look at the Local Level*, 25 PUB. BUDGETING & FIN. 48, 50 (2005); see also Christian Y. Gonzalez & Vicente B. Paqueo, *Social Sector Expenditures and Rainy-Day Funds* 6 (World Bank Policy Research, Working Paper No. 3131, 2003).

10. See sources cited in footnote 9.

11. See Robert P. Inman, *States in Fiscal Distress*, 6 REG’L ECON. DEV. 65, 65–66 (2010), <http://research.stlouisfed.org/publications/red/2010/01/Inman.pdf>.

future, jeopardizing the supposed efficiency benefits of decentralization. Moreover, to the extent that federal bailouts come with strings attached (as is almost always the case), state fiscal autonomy is also compromised.¹² Over time, if states cannot responsibly manage their own finances, there will be increasing pressure to return the task of revenue raising to the federal government. Centralized funding in turn implies either federal control over policy or legal controversy over the rules for disbursing federal grants.

We propose to address these problems by designing a set of federal policies to encourage states to establish robust rainy day funds (RDFs) subject to restrictions on withdrawal except in the case of genuine fiscal emergency. The basic framework of our proposal is not without precedent. Over the past several decades, Congress has established a broad range of federal incentives to encourage household savings—such as Individual Retirement Accounts (IRAs) and 401(k) plans. The problem that motivated those provisions is, in many ways, similar to that faced by state governments today, yet no such program to encourage state savings exists.

Given the stakes for the national economy and the collective action problem facing states, federal intervention is both merited and necessary. Moreover, the problem in the United States is one largely of the federal government's making. By devolving an increasing share of social insurance functions to states over the last two decades, Congress has rendered these programs increasingly vulnerable to the fiscal vicissitudes of the states¹³—a vulnerability that the national government, with its indifference to exit pressures and vastly superior borrowing capability, does not share.

Surprisingly, despite the recurrence of state budget crises and the broad academic consensus in favor of rainy day funds, there is almost no scholarship in any discipline on how to design an RDF system that would actually work.¹⁴ One official at the Federal Reserve has written a brief conference paper proposing that states might establish a shared pool of emergency funds.¹⁵ That is a good starting point, although—as we discuss further below—in our view that approach is likely to be unworkable because of the moral hazard and common-pool problems it would create. Others have examined which features of state RDFs make them more or less effective.¹⁶ But as noted above, states have little incentive to adopt even effective

12. *Id.* at 69–70.

13. *See infra* text accompanying notes 30–40.

14. To be sure, rainy day funds are not the only possible solution to state budget dilemmas. For example, David Gamage argues that states could alleviate some budgetary pressure by changing how they structure their tax systems. David Gamage, *Preventing State Budget Crises: Managing the Fiscal Volatility Problem*, 98 CAL. L. REV. 749, 792–811 (2010). As Gamage notes, however, rainy day funds would be the “first-best” solution—if they worked. *Id.* at 765–66.

15. Richard Mattoon, *Creating a National State Rainy Day Fund: A Modest Proposal to Improve State Fiscal Performance* (Fed'l Res. Bank of Chicago, Working Paper No. 20, 2003).

16. Brian Knight & Arik Levinson, *Rainy Day Funds and State Government Savings*, 52 NAT'L TAX J. 459, 468–69 (1999); Dean Stansel & David T. Mitchell, *State Fiscal Crises: Are Rapid Spending Increases to Blame?*, 28 CATO J. 435, 435, 445–46 (2008); Gary A.

policies. These problems suggest that federal intervention is likely needed, yet there has not been any analysis of how federal intervention could facilitate state savings.

As a result, our effort here is in many ways preliminary, in that we hope that ours will be only the first of many efforts toward designing an efficacious RDF system. Because there is still much the scholarly community does not know about why RDFs fail, we cannot confidently claim that there is one perfect solution to the RDF problem. Instead, we start with first principles, attempting to diagnose more precisely the political failures that doom rainy day funds and suggesting alternative solutions for each possible failure.

The central diagnostic problem in designing a federally supported RDF program is that it is unclear whether the current state failures are attributable to individual voters, state officials, or both.¹⁷ There are good reasons to think both groups are biased in favor of spending over savings. But there are also plausible theoretical arguments that either one might be willing to save under the right circumstances. Economic theory suggests that state budget surpluses should increase land values, providing an immediate financial reward at least for homeowners in responsible states. Similarly, studies find that RDFs improve a jurisdiction's credit rating by lowering borrowing costs and thereby freeing up extra funds for officials to spend in the short term.¹⁸

Identifying the sites of the political failures is important because it allows for better design of federal policies to encourage state savings. For instance, if voters favor RDFs but their representatives are incapable of satisfying that preference, a federal policy giving immediate benefits to elected officials, such as unrestricted grant funds, might flip the state officials' incentives and trigger significant RDF utilization. On the other hand, if state officials would favor RDFs but the idea lacks popular support, it might be preferable to design a federal subsidy more directly targeted at reversing voter preferences, such as a federal income tax deduction set to the taxpayer's per capita share of the state's annual amount saved.

It is also useful to understand why a particular failure happens. For example, we argue that the nature of present bias allows for the design of psychologically informed policy tools that could flip bias against itself. Thus, we suggest letting states "save more tomorrow," as Thaler and Sunstein have suggested for individual savings toward retirement.¹⁹ Because present-biased officials will discount both the

Wagner & Erick M. Elder, *The Role of Budget Stabilization Funds in Smoothing Government Expenditures Over the Business Cycle*, 33 PUB. FIN. REV. 439, 441, 459 (2005); see Antonio Fatás & Ilan Mihov, *The Macroeconomic Effects of Fiscal Rules in the US States*, 90 J. PUB. ECON. 101, 111 (2006); Arik Levinson, *Balanced Budgets and Business Cycles: Evidence from the States*, 51 NAT'L TAX J. 715, 726–27 (1998); Sobel & Holcombe, *supra* note 9, at 37; see also Gonzalez & Paqueo, *supra* note 9, at 9; cf. James W. Douglas & Ronald Keith Gaddie, *State Rainy Day Funds and Fiscal Crises: Rainy Day Funds and the 1990–1991 Recession Revisited*, 22 PUB. BUDGETING & FIN. REV. 19, 25 (2002); Yilin Hou, *Fiscal Reserves and State Own-Source Expenditure in Downturn Years*, 33 PUB. FIN. REV. 117, 130 (2005).

17. For explanation of the points in this paragraph, see *infra* text accompanying notes 63–92.

18. Cleopatra Charles, *The Impact of Budget Stabilization Funds on State General Obligation Bond Ratings*, 31 MUN. FIN. J. (forthcoming 2011), manuscript at 3, 12 (also finding that more stringent RDF rules "are associated with higher credit ratings").

19. RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT*

future costs of savings as well as the rewards, they may be willing to agree in the present to commit to saving in the future at a fraction of the cost of agreeing to start saving immediately. On the individual level, present bias can be used to get voters to reveal the extent of their preference for immediate rewards, allowing the government more easily to identify those who oppose savings policies.

Again, though, savings are only half the story; there must also be mechanisms for protecting RDFs against premature “raids,” so that the resources set aside will be available when a recession hits. Accordingly, we also consider alternative methods of restricting RDF withdrawals. Allowing states to control their own funds, subject to federal approval of the state plan or federal penalties for early withdrawal, might permit more flexibility and innovation. But it also opens the door to rent-seeking and the pathologies of state budgeting. Alternately, granting control to federal officials can insulate RDFs from state politics albeit at the cost of particularized information about state needs. The optimal tradeoff therefore is hard to identify in the abstract; some experimentation is likely required.

Part I of this Article will explain in more detail the causes of states’ budget woes, and why those problems call for national solutions. Part II attempts to diagnose why RDFs, despite their theoretical appeal, have failed to significantly improve states’ ability to weather economic downturns. Part III offers a menu of options for encouraging states to make contributions; our discussion is largely informal, but readers who desire some mathematical modeling can find it in the margins throughout this Part. Part IV similarly outlines the tradeoffs policy makers face in any effort to encourage states to retain money in their savings funds until recessions actually strike. We then conclude.

I. THE CASE FOR STATE RAINY DAY FUNDS

In a world where revenues perfectly matched expenditures there would be no need for borrowing or saving in order to maintain government spending obligations over time. Unfortunately, governments at all levels routinely face a mismatch between inflows and outflows, and thus must confront the question of how to manage budget surpluses and deficits. At the state and local level, structural changes in the fiscal landscape over the past quarter century have led to increased volatility in both revenues and expenditures over the business cycle. It bears emphasizing that there is great variation among the states. With that caveat, however, certain general tendencies nevertheless clearly emerge.

On the revenue side of the equation, key structural changes in state and local tax systems over the past three decades have resulted in a significant increase in revenue volatility over the business cycle. Numerous factors are no doubt at work, but three developments in particular deserve emphasis here.

First, state and local governments have increased their reliance on personal income taxes significantly over the past three decades. Whereas in 1977 personal income taxes accounted for only 16.6% of total state and local tax revenues, by 2007 they accounted for 22.5% of the total.²⁰ Because income taxes generally

HEALTH, WEALTH, AND HAPPINESS 114–19 (2d ed. 2009).

20. THE URBAN INSTITUTE-BROOKINGS INST. TAX POLICY CTR., http://www.taxpolicycenter.org/taxfacts/Content/PDF/dqs_table_49.pdf (2010).

exhibit greater variability over the business cycle than other taxes, this change in the composition of the tax base has increased the volatility of state and local tax receipts. Not surprisingly, concern about the effects of revenue volatility on state and local budgeting has been the greatest in states that have experienced the largest increase in reliance on personal income taxes. In California, for example, personal income taxes as a share of all state and local taxes nearly doubled over the past thirty years, increasing from 15.2% in 1977 to 30% in 2007.²¹ In part because of this shift, California has become the nation's poster child for subnational fiscal turmoil.²²

A second, related development is the reduced reliance on property taxes. In 1977, property taxes accounted for 35.5% of total state and local tax revenues, but by 2007 that figure had dropped to 30.3%.²³ In effect, state and local governments have swapped out a portion of property tax revenues for income tax revenues. Because property taxes are a relatively stable source of revenue, this change has resulted in a more volatile tax mix for state and local governments. Again, there is substantial variation among the states worth noting. About a third of the states actually increased their reliance on property taxes from 1977 to 2007, including Texas and Florida (both of which have constitutional prohibitions on personal income taxes), but in the remaining states property taxes accounted for a smaller share of total taxes in 2007 than in 1977.²⁴ California, the epicenter of the property tax revolt in the mid-1970s with its famed Proposition 13, dramatically reduced its reliance on the property tax over the ensuing three decades.²⁵ In 1977, the year before Proposition 13 was approved by California voters, property tax revenues accounted for 42.1% of the Golden State's total tax revenue; by 2007, that figure had dropped to 27%.²⁶

Finally, a substantial nationwide increase in income inequality over the past thirty years has resulted in an ever larger share of personal income tax revenues coming from high-income households. This well-documented shift is evident in

21. State & Local Government Finance Data Query System. <http://www.taxpolicycenter.org/slf-dqs/pages.cfm>. The Urban Institute-Brookings Institution Tax Policy Center. Data from U.S. Census Bureau, Annual Survey of State and Local Government Finances, Government Finances, Volume 4, and Census of Governments.

22. Stark, *supra* note 6, at 432–36; *see also*, Robert Frank, *The Price of Taxing the Rich*, WALL ST. J., Mar. 26, 2011, at C1; *but see* INST. ON TAX. & ECON. POL'Y, *In It For the Long Haul: Why Concerns over Personal Income Tax "Volatility" Are Overblown* 1 (March 31, 2011).

23. *State and Local Property Tax Revenue as a Percentage of Total Tax Revenue, Selected Years 1977-2009*, THE URBAN INSTITUTE-BROOKINGS INST. TAX POLICY CTR. [hereinafter *State and Local Property Tax*], http://www.taxpolicycenter.org/taxfacts/Content/PDF/dqs_table_83.pdf.

24. *Id.*

25. Robert W. Wassmer, *California's State and Local Revenue Structure after Proposition 13: Is Denial the Appropriate Way to Copy?*, in *State and Local Fiscal Policy: Thinking Outside the Box?* (Edited by Sally Wallace) (Edward Elgar Publishers 2010)—pages 98-124—with a pincite, if you really want one, to page 98 (the first page of the book chapter), which notes the dramatic reduction in California's reliance on the property tax post-Prop 13.

26. *State and Local Property Tax*, *supra* note 23.

numerous statistical measures. For example, the Gini coefficient for U.S. households, perhaps the most common measure of income inequality, increased from .402 in 1977 to .463 in 2007.²⁷ Perhaps more intuitively, the share of total income earned by the top 5% of the income distribution increased significantly over this period, rising from 16.8% in 1977 to 21.2% in 2007.²⁸ In other words, just as state and local governments were retreating from the property tax, the income tax base into which they were shifting was becoming increasingly concentrated in a smaller number of households. One important effect of this shift was that state and local budgets became more and more sensitive to the economic fortunes of the country's highest earners. Unlike low- and middle-income households, wealthy households derive a substantial share of their income from notoriously volatile sources, such as capital gains, dividends, restricted stock, and stock options. As one of California's most highly regarded revenue forecasters remarked, "[w]e built a large part of our government on the state's most unstable income group."²⁹

Structural changes in the composition of state and local government expenditures have likewise contributed to the sensitivity of state and local budgets to the business cycle. State and local governments are major providers of social insurance in the United States.³⁰ Although federal rules often set out the basic framework for the various tools of social insurance, subnational governments supply much of the money and policy detail.³¹ Unemployment insurance, Medicaid, supplemental nutrition programs, and temporary assistance to needy families (TANF) all rely heavily on state administration, albeit with substantial fiscal support and guidance from the federal government.³²

The trend since the 1980s has been to shift responsibility for social insurance downwards.³³ Defenders of this "devolution revolution" emphasize the federalism benefits that can come with local administration: a closer match between local preferences and the extent of social insurance offered, greater flexibility, and perhaps greater experimentation and responsiveness.³⁴ Cynics note that the shift also eases budget pressures on Congress.³⁵ Whatever the explanation, the

27. Table H-4. *Gini Ratios for Households, by Race and Hispanic Origin of Householder: 1967 to 2009, Current Population Survey, Annual Social and Economic Supplements*, U.S. CENSUS BUREAU, <http://www.census.gov/hhes/www/income/data/historical/inequality/index.html>.

28. *Id.* at Table H-2. *Share of Aggregate Income Received by Each Fifth and Top 5 Percent of Households, All Races: 1967 to 2009*.

29. Frank, *supra* note 20.

30. DIANA M. DiNITTO, *SOCIAL WELFARE: POLITICS AND PUBLIC POLICY* 27 (7th ed. 2011).

31. Kenneth Finegold, *The United States: Federalism and Its Counter-factuals*, in *FEDERALISM AND THE WELFARE STATE: NEW WORLD AND EUROPEAN EXPERIENCES* 138, 152–59 (Herbert Obinger, Stephen Leibfried, & Francis G. Castles, eds., 2005).

32. *Id.*

33. Super, *supra* note 4, at 2575–76; See Andrew Reschovsky, *The Impact of State Government Fiscal Crises on Local Governments and Schools*, 36 ST. & LOC. GOV'T REV. 86, 86–102 (2004).

34. E.g., Michael S. Greve, *Big Government Federalism*, AEI OUTLOOKS, at 5–6 (Mar. 2001), <http://www.aei.org/docLib/Big%20Government%20Federalism.pdf>.

35. Super, *supra* note 4, at 2584–85.

devolution of social insurance programs has increasingly exposed the system to the volatility of state budgets.³⁶

State budgeting differs from national budgeting in several crucial respects. Perhaps most importantly, states cannot print their own money.³⁷ As a result, this age-old method of raising revenue via currency debasement is simply not available to state governments. Two other factors, though, account for many of the differences we focus on here. First, interstate migration of both households and firms is relatively common in the United States.³⁸ Second, citizens of one state do not vote in other states, with the result that each state's officials have little reason to care about the impact of their actions on residents of other jurisdictions.³⁹ In contrast, it is very costly to leave the United States altogether, and the national government is relatively more sensitive to the welfare of the entire country.⁴⁰

The first factor, the threat of exit, has made it challenging for states, and especially local governments, to raise money to pay for social insurance during recessions. Many studies have shown that taxpayers consider relative burdens when deciding where to live or do business.⁴¹ Further, the credible *threat* of exit also gives additional political voice to the most mobile.⁴² For similar reasons, states also

36. Thomas L. Gais, *Stretched Net: The Retrenchment of State and Local Social Welfare Spending Before the Recession*, 39 PUBLIUS: J. FEDERALISM 557, 564, 573–74 (2009); see Super, *supra* note 5, at 2591–93 (explaining sources of state vulnerability to federal aid reductions).

37. U.S. CONST. art. I, § 10.

38. For individuals, see William A.V. Clark & Suzanne Davies Withers, *Family Migration and Mobility Sequences in the United States: Spatial Mobility in the Context of the Life Course*, 17 DEMOGRAPHIC RES. 591, 592 (2007). For firms, see Jeffrey A. Frankel, *Measuring International Capital Mobility: A Review*, 82 AM. ECON. REV. 197, 197–202 (1992).

39. Clayton P. Gillette, *Can Public Debt Enhance Democracy?*, 50 WM. & MARY L. REV. 937, 976–77 (2008).

40. Todd E. Pettys, *The Mobility Paradox*, 92 GEO. L.J. 481, 519–20 (2004).

41. See, e.g., Richard J. Cebula, *Internal Migration Determinants: Recent Evidence*, 11 INT'L ADVANCES ECON. IN RES. 267, 272 (2005) (reporting that cost of living affects migration patterns); Michael P. Devereux & Rachel Griffith, *Taxes and the Location of Production: Evidence from a Panel of US Multinationals*, 68 J. PUB. ECON. 335, 335, 351–58 (1998); Peter John, Keith Dowding, & Stephen Biggs, *Residential Mobility in London: A Micro-Level Test of the Behavioural Assumptions of the Tiebout Model*, 25 BRIT. J. POL. SCI. 379, 379 (1995) (“Taxes and services are found to be important factors in the moving decision”); Joseph M. Phillips & Ernest P. Goss, *The Effect of State and Local Taxes on Economic Development: A Meta-Analysis*, 62 S. ECON. J. 320, 320, 323–29 (1995); Hui Shan, *Property Taxes and Elderly Mobility*, 67 J. URB. ECON. 194, 194 (2010) (finding that rising property taxes cause older households to relocate).

42. Gillette, *supra* note 39, at 966; see William W. Bratton & Joseph A. McCahery, *The New Economics of Jurisdictional Competition: Devolutionary Federalism in a Second-Best World*, 86 GEO. L.J. 201, 264–65 (1997); see also Emmanuelle Reulier & Yvon Rocaboy, *Regional Tax Competition: Evidence from French Regions*, 43 REGIONAL STUD. 915 (2009) (finding that main source of pressure on individual income tax rates in competing localities is ability of individuals to compare their own rates against neighbors and threaten to punish underperforming officials).

cannot easily borrow; since public debt augurs higher future taxes, large debt burdens, too, create exit pressure.⁴³

Present bias and other forms of externalities also lead to a political environment that heavily curtails state borrowing. Present bias is simply the tendency of an individual to favor the present over the future, and in the fiscal context, it can result either from either political or psychological factors.⁴⁴ Politically, voters and officials may both anticipate that they will not be around when the future comes: they may die, they may move, or they may be voted or term-limited out of office, so that the future costs represent an intertemporal externality.⁴⁵ Evidence suggests that individuals are often unable to resist the temptation to live for today, even if our objective preference would be to plan for tomorrow.⁴⁶ Present bias manifests itself in policymaking at all levels of government, but it is arguably more acute at the subnational level because of the prospect of interjurisdictional mobility. At the state and local level, the present is separated from the future not only by time but also, potentially, by space. It may be perfectly rational for those who anticipate a future elsewhere not to fully internalize the cost of future debt payments.⁴⁷

Present bias should predictably lead to excessive borrowing, which paradoxically is why state borrowing is so difficult.⁴⁸ Borrowing offers rewards today, such as the opportunity for officials to buy off important constituencies, or offer incentives for mobile taxpayers to relocate to their jurisdiction; the costs arrive only later, perhaps after the official is out of power. However, over time electorates, recognizing this dynamic, have imposed significant restrictions on public officials, such as constitutional debt limitations and balanced budget requirements.⁴⁹

43. Galle & Klick, *supra* note 6, at 198–200; see Barry Bosworth & Gary Burtless, *Pension Reform and Saving*, 57 NAT'L TAX J. 703, 717–18 (2004) (interpreting their own empirical findings on unfunded pension obligations as supporting this argument).

44. For a technical definition, see Jess Benhabib, Alberto Bisin & Andrew Schotter, *Present-Bias, Quasi-Hyperbolic Discounting, and Fixed Costs*, 69 GAMES & ECON. BEHAV. 205, 205–06 (2010). To see present bias mathematically, suppose that we represent an agent's subjective present value of future consumption as βc , where δ is a standard discount rate, such as is produced by a market rate of interest, and beta is a special discount, between 0 and 1, that the individual applies only to future consumption. A rational, unbiased actor allocating resources across time maximizes current consumption subject to future consumption, $u1 + \delta u2 + \delta^2 u3 + \dots \delta^n u_n$. But the present-biased actor excessively discounts future consumption, maximizing instead $u1 + \beta \delta u2 + \beta \delta^2 u3 + \dots \beta \delta^n u_n$.

45. Gary A. Wagner, *Political Control and Public Sector Savings: Evidence from the States*, 109 PUB. CHOICE 149, 150 (2001); Michael Wolkoff, *An Evaluation of Municipal Rainy Day Funds*, 7 PUB. BUDGETING & FIN. 52, 61 (1987).

46. GEORGE AINSLIE, *PICOECONOMICS: THE STRATEGIC INTERACTION OF SUCCESSIVE MOTIVATIONAL STATES WITHIN THE PERSON* 63–80 (1992); Richard H. Thaler, *Some Empirical Evidence on Dynamic Inconsistency*, in *QUASI RATIONAL ECONOMICS* 127, 128 (Richard H. Thaler ed., 1991).

47. Levinson, *supra* note 15, at 716.

48. Galle & Klick, *supra* note 6, at 200–04.

49. Levinson, *supra* note 15, at 717. There are other forces, such as political and bond market pressures, that limit borrowing as well. See Douglas & Gaddie, *supra* note 15, at 20. On state constitutional debt limitations, see D. Roderick Kiewiet and Kristin Szakaly,

These limitations necessarily (and intentionally) make it difficult for states to rely on borrowing as a strategy for smoothing government expenditures over the business cycle. In combination with the increased volatility of state revenue structures discussed above, restrictions on subnational borrowing exacerbate fiscal distress during economic downturns.⁵⁰ Revenue declines associated with cyclical variability in the economy are naturally to be expected, but states have a limited range of policy instruments available to them to weather the storm. Often the only choice that states have is to curtail governmental services. Historically, the deepest recessionary cuts have been exactly in those areas most needed during recessions: social insurance and aid to the poor.⁵¹

These facts would seem to set up a strong case for federal intervention. Since the national government faces much weaker exit pressures, it has more freedom to use taxes to pay for social insurance during downturns.⁵² While the same present bias described above no doubt exerts an influence at the national level as well, the federal government has never bound its own borrowing capacity as tightly as the states, perhaps because present bias is lower, or because a central government faces less pressure to borrow in order to compete with its neighbors.⁵³ National budgeting also allows for fiscal diversification; regions that are less impacted by a downturn can support those that are in greater need.⁵⁴ Even if states did not face taxing and borrowing constraints, they might still spend inadequately on social insurance from a national perspective.⁵⁵ State economies are heavily intertwined⁵⁶—recessions in

Constitutional Limitations on Borrowing: An Analysis of State Bonded Indebtedness, 12 J. L. ECON. & ORG. 62, 67 tbl.1 (1996).

50. Hou, *supra* note 15, at 123; Levinson, *supra* note 15, at 717–19; Gary A. Wagner & Erick M. Elder, *Revenue Cycles and the Distribution of Shortfalls in U.S. States: Implications for an “Optimal” Rainy Day Fund*, 60 NAT’L TAX J. 727, 728 (2007)..

51. Super, *supra* note 4, at 2614–40.

52. See Kirk J. Stark, *Fiscal Federalism and Tax Progressivity: Should the Federal Government Encourage State and Local Redistribution?*, 51 UCLA L. REV. 1389, 1408–10 (2004) (describing debate over this issue, and noting evidence in favor of conclusion that decentralized redistribution is difficult).

53. See Nancy C. Staudt, *Constitutional Politics and Balanced Budgets*, 1998 U.ILL. L. REV. 1105, 1106–10 (noting failure of various efforts to enact federal balanced budget requirement).

54. Levinson, *supra* note 15, at 724.

55. See Robert P. Inman, *Transfers and Bailouts: Enforcing Local Fiscal Discipline with Lessons from U.S. Federalism*, in FISCAL DECENTRALIZATION AND THE CHALLENGE OF HARD BUDGET CONSTRAINTS 35, 45–47 (Jonathan Rodden et al. eds., 2003) (discussing extraterritorial effects of local fiscal failures); See also Tamim Bayoumi & Barry Eichengreen, *Restraining Yourself: The Implications of Fiscal Rules for Economic Stabilization*, 42 IMF STAFF PAPERS 32, 46 (1995) (“[S]tate budgets played a significant role in macroeconomic stabilization in the 1970s and 1980s . . .”).

56. See Robert P. Inman & Daniel L. Rubinfeld, *Can We Decentralize Our Unemployment Policies? Evidence from the United States*, 54 KYKLOS 287, 301 (2001); see also Thomas A. Garrett, Gary A. Wagner, & David C. Wheelock, *Regional Disparities in the Spatial Correlation of State Income Growth, 1977–2002*, 41 ANNALS REGIONAL SCI. 601, 601–18 (2007) (measuring influence of U.S. state growth on neighbors’ economies). More generally, neighboring economies of any kind exert strong impacts on the success of trading partners. See generally Ramon Moreno & Bharat Trehan, *Location and the Growth of Nations*, 2 J. ECON. GROWTH 399, 399–418 (1997).

New York hurt New Jersey and Connecticut, too—but each state has little incentive to take neighboring welfare into account when deciding how much to spend.

Unfortunately, existing forms of federal support for struggling states have serious flaws. Discretionary federal supports, such as the most recent stimulus bill, often miss the mark in their timing and size, and they may demand substantial amounts of inefficient spending—for example, pork-barrel spending—to win passage.⁵⁷ Automatically triggered responses, such as David Super's suggestion of variable federal subsidies for state unemployment assistance in an amount determined by local need, are difficult to design, in part because they represent a kind of bailout.⁵⁸ Since states know that they are insured against losses, they may take less care to avoid fiscal disaster.⁵⁹ The federal tax system does already (and accidentally) include a version of this automatic bailout, but as recent experience demonstrates, even that has not prevented major suffering at the state level during downturns.⁶⁰ Finally, ongoing supports, such as Canada's revenue-sharing system, might encourage excessive state spending, especially during boom times.⁶¹

One largely unexplored alternative to these designs is to encourage states to save, rather than borrow. As many other commentators have recognized, if states could save effectively when times are good they would have little need to borrow when times are bad.⁶² A typical vehicle for state savings is the RDF. The state simply sets aside a portion of its unused tax revenues in an account, with some limitations on the account to prevent the money there from being spent, except in a time of fiscal need.⁶³ If the federal government could encourage long-term use of RDFs, the flaws of all the other federal mechanisms could be avoided.

Of course, one might wonder, if RDFs are so great, why it should be that states need any encouragement to embrace them. We turn now to that question; in the Parts that follow, we analyze potential federal solutions to the failures we identify.

57. Jeff Strnad, *Some Macroeconomic Interactions with Tax Base Choice*, 56 SMU L. REV. 171, 180 (2003).

58. Galle & Klick, *supra* note 6, at 205–07.

59. Torsten Persson & Guido Tabellini, *Federal Fiscal Constitutions: Risk Sharing and Moral Hazard*, 64 ECONOMETRICA 623, 629–35 (1996).

60. Galle & Klick, *supra* note 6, at 210–35.

61. See Kirk J. Stark, *Rich States, Poor States: Assessing the Design and Effectiveness of a U.S. Fiscal Equalization Regime*, 63 TAX L. REV. 957, 959 (2010); see 2 DEP'T OF TREASURY, TAX REFORM FOR FAIRNESS, SIMPLICITY, AND ECONOMIC GROWTH 63–64 (1984) (making this point about federal deductibility of state taxes).

62. Inman, *supra* note 11, at 78; see Wagner & Elder, *supra* note 15, at 441; see also Philip G. Joyce, *What's So Magical About Five Percent? A Nationwide Look at Factors that Influence the Optimal Size of State Rainy Day Funds*, PUB. BUDGETING & FIN., 62, 79–82 (2001); see also Super, *supra* note 4, at 2643–44.

63. Gary A. Wagner & Russell S. Sobel, *State Budget Stabilization Fund Adoption: Preparing for the Next Recession or Circumventing Fiscal Constraints?*, 126 PUB. CHOICE 177, 180 (2006); see Hou, *supra* note 16, at 120 (discussing the role of budget stabilization funds).

II. FAILURES OF EXISTING RAINY DAY FUND DESIGNS

In the presence of revenue volatility and borrowing constraints, rainy day funds have an obvious appeal as a potential method of smoothing government expenditures over the business cycle. Unfortunately, experience shows that existing funds have thus far failed to live up to their promise. In Part II.A., we explore some of the possible explanations for why states have not adequately utilized RDFs. Identifying the fault lines is critical, because even if states cannot correct flaws on their own, it may be possible to design federal policies that will make RDFs a more viable tool for smoothing state and local government spending over the business cycle.

A. Understanding the Failure of State RDFs

Although nearly every state has some form of RDF, studies have shown that they have been inadequate in sheltering state budgets from recessionary revenue declines.⁶⁴ This is not to suggest that there is nothing to learn from state experience with RDFs. A few public finance scholars have begun to examine cross-state variation in the design of state RDFs in an effort to determine which features are most likely to predict RDF balances at a level adequate to protect against recessionary revenue declines. For example, RDFs vary in their rules both for when a state must make contributions to the fund as well as rules for when funds can be withdrawn.⁶⁵ In general, studies have shown that a combination of strict rules requiring states to make contributions to their funds, together with rules limiting when legislatures are allowed to make withdrawals, seems to be the most effective mechanism for ensuring the efficacy of the fund.⁶⁶ Unfortunately, the combination of binding deposit requirements and withdrawal restrictions is rare.⁶⁷

These results suggest that RDFs suffer from many of the same problems of present bias discussed above. When lawmakers are not legally obligated to deposit funds into a budget stabilization fund, they tend not to do so. In addition, legal ambiguity regarding the circumstances in which RDF balances may be accessed are typically resolved in favor of withdrawal. Only when states tie their own hands and force themselves to save are they able to forego present consumption (understood here as either increased spending or reduced taxes) in order to augment RDF balances. It is not clear whether the source of this present bias results from the incentives of officials, of individual voters, or both. Studies to date have not focused on that question, although some of them offer some evidence one way or another, as we will now explain.

64. See sources cited *supra* note 9.

65. See Gary A. Wagner, *The Bond Market and Fiscal Institutions: Have Budget Stabilization Funds Reduced State Borrowing Costs?*, 57 NAT'L TAX J. 785, 787 tbl.1 (2004) (listing state rules).

66. See sources cited *supra* note 16.

67. See Wagner, *supra* note 65, at 787 tbl.1.

1. Individual Voters

While there is some polling evidence to suggest popular support for RDFs,⁶⁸ there are several reasons to expect a state's residents to be skeptical about the value of such funds. As with borrowing, some voters may be excessively present-focused and thus inclined to favor current spending (or tax cuts) over saving for a rainy day. Moreover, the chief benefit of robust RDF balances—that is, the economic stability derived from avoiding drastic service cutbacks in the face of recessionary revenue declines—is in the nature of a public good, so that one would expect there rarely will be a coherent political constituency in favor of budget stability for its own sake.⁶⁹ Even those with the strongest preferences for state savings may see little value in insisting on more robust RDFs if they fear that fund balances will not be used for their intended purposes.⁷⁰ It is well established that long-term budgetary commitments require the support of durable political coalitions, and the maintenance of such coalitions is costly.⁷¹ To ensure that RDFs serve their intended function, proponents must invest in continual oversight and lobbying, making the potential costs to them of preserving savings in the long term prohibitively high.⁷²

There is one sense in which individuals might be expected to internalize the benefits of RDFs. To the extent that fiscal stability (or, framed differently, the absence of instability) is valued by incoming households and businesses, it is possible that an effective RDF could be reflected in increased property values (and thus home prices and local rents). If government indebtedness implies higher future taxes, and a corresponding impairment of property values,⁷³ then excess funds stored in an RDF should imply the opposite—that is, property values should rise on the prospect of lower future tax burdens made possible by RDF balances.⁷⁴ In

68. See *What's Next California?* DELIBERATIVE POLL 6 (June 24–26, 2011), <http://cdd.stanford.edu/polls/california/2011/nextca-results.pdf>.

69. Cf. Gillette, *supra* note 39, at 955 (making this point about misuse of public funds). A “public good” is one for which the purchase by one person allows others also to consume it. Thus, each individual has an incentive to free ride on the purchase by others, resulting in lower than optimal consumption overall.

70. This is an application of the general problem that any political coalition must account for the possibility of future changes in determining how much effort to exert in pushing for legislative change. Murray J. Horn & Kenneth A. Shepsle, *Commentary on “Administrative Arrangements and the Political Control of Agencies”*: *Administrative Process and Organizational Form as Legislative Responses to Agency Costs*, 75 VA. L. REV. 499, 503, 505 (1989).

71. Cf. Staudt, *supra* note 53, at 1160–63 (explaining ease with which politicians may renege on budget commitments).

72. See Horn & Shepsle, *supra* note 70, at 503–07 (explaining strategic interactions between officials and constituents when laws are subject to revision).

73. See Reiner Eichenberger and David Stadelmann, *How Federalism Protects Future Generations from Today's Public Debts*, 6 REV. L. & ECON. 395, 396 (2010) (reporting authors' findings that local debt in Swiss cantons reduced home values).

74. See Wallace E. Oates, *The Effects of Property Taxes and Local Public Spending on Property Values: An Empirical Study of Tax Capitalization and the Tiebout Hypothesis*, 77 J. POL. ECON. 957, 959 (1969) (explaining that value of local government should be reflected in home prices). This assumes that there is some limit on new home construction, which

effect, the “capitalization” of RDF balances into property values enables current residents to realize in the present some of the future benefits of savings.⁷⁵ In theory, the most direct beneficiaries of capitalization (homeowners and other owners of immobile factors) might even lobby against premature raids of RDF balances in order to protect the value of their assets. To the extent that RDF balances are capitalized into property values, this would also reduce the credibility of exit threats by homeowners demanding immediate expenditures since rising home values are objective evidence that the jurisdiction is becoming more, not less, desirable.⁷⁶ But typically the homeowner story is more powerful in local rather than state politics, which may explain why it has not significantly impacted state-level savings so far.⁷⁷

2. Official Incentives

In a similar fashion, theory offers conflicting predictions about official preferences for RDF savings. Once again the uncertainty derives chiefly from the problem of officials’ limited-time horizon: to the extent that public officials expect to have a limited time in office, they may favor current spending (or reduced taxes) over a robust RDF, especially if saving would simply transfer funds to their political rivals.⁷⁸ This view has some empirical support.⁷⁹ And just as the opportunity to borrow against future revenue creates a common pool from which officials may race to fish, an existing RDF balance is also a shared resource subject

generally occurs either through restrictive zoning, physical limitations on the amount of undeveloped property, or both. Of course, renters might have the opposite view, Levinson, *supra* note 43, at 731 n.1, but conventionally homeowners are by far the more powerful political force.

75. Cf. Oded Palmon & Barton A. Smith, *New Evidence on Property Tax Capitalization*, 106 J. POL. ECON. 1099, 1099–100, 1106 (1998) (reporting new and prior evidence that housing values reflect future tax liabilities).

76. In those jurisdictions with an annual cap on property tax assessment increases, rising home values also result in lock-in, because relocation even to a home of equal value would result in higher property taxes. See Keith R. Ihlanfeldt, *Do Caps on Increases in Assessed Values Create a Lock-in Effect? Evidence from Florida’s Amendment One*, 64 NAT’L TAX J. 7, 19–20 (2011).

77. For contrasting views on the homeowner cohesion point, compare WILLIAM A. FISCHEL, *THE HOMEVOTER HYPOTHESIS: HOW HOME VALUES INFLUENCE LOCAL GOVERNMENT TAXATION, SCHOOL FINANCE, AND LAND-USE POLICIES* 73–76 (2001) (arguing that homeowners in small and moderate-sized jurisdictions share enough social and geographic ties to be a cohesive unit) with Richard Briffault, *Our Localism: Part II—Localism and Legal Theory*, 90 COLUM. L. REV. 346, 400–22 (1990) (describing situations in which this social cohesion breaks down).

78. See Alberto Alesina & Guido Tabellini, *A Positive Theory of Fiscal Deficits and Government Debt*, 57 REV. ECON. STUD. 403, 412 (1990); Lars P. Feld & Gebhard Kirschgässner, *Does Direct Democracy Reduce Public Debt? Evidence from Swiss Municipalities*, 109 PUB. CHOICE 347, 350 (2001); cf. H. Abbie Erler, *Legislative Term Limits and State Spending*, 133 PUB. CHOICE 479, 486–88 (2007) (finding that legislative term limits increase spending).

79. See Chara Dalle Nogare & Roberto Ricciuti, *Term Limits: Do They Really Affect Fiscal Policy Choices?* 4 (CESifo Grp., Working Paper No. 2199, 2008) (surveying other studies).

to the pressures of competitive depletion.⁸⁰ These factors do not bode well for the success of state RDFs.

Pointing in the other direction is the possibility that RDF balances might lower the state's cost of borrowing. Gary Wagner, for example, finds that states with the most restrictive RDF rules have higher RDF balances and pay lower interest rates on general obligation bonds.⁸¹ Wagner argues that this relation is causal and that RDF balances effectively serve as a security deposit for bondholders in that they represent funds available for debt repayment.⁸² In support of this view is the fact that the major municipal bond credit-rating agencies consider RDF balances when rating issuer creditworthiness.⁸³ Since higher bond ratings translate directly into lower interest rates,⁸⁴ this implies that RDF contributions could well lower the cost of public borrowing. Present-biased officials, therefore, can capture at least a portion of the value of any savings through reduced current-year debt service expenses.⁸⁵ Lower borrowing costs also will typically allow legislatures to borrow more under their own budgeting rules, again expanding the resources available immediately to legislators.⁸⁶

Another possible mechanism for officials to translate the future gains of savings into present utility is by using RDF contributions as a credible signal of fiscal prudence. Although we are not aware of any scholarly analysis of the signaling effect of RDFs, in theory they should send a signal of fiscal prudence to inside and outside monitors of the jurisdiction's officials. Thus, RDFs can serve elected officials in much the way payment of dividends serves firm managers, as a costly (and therefore credible) signal of individual performance.⁸⁷

80. See Wagner, *supra* note 45, at 150; Barry R. Weingast, Kenneth A. Shepsle, & Christopher Johnsen, *The Political Economy of Benefits and Costs: A Neoclassical Approach to Distributive Politics*, 89 J. POL. ECON. 642, 642–64 (1981).

81. See Wagner, *supra* note 65, at 786; see also Charles, *supra* note 18, at 3, 12 (also finding that more stringent RDF rules “are associated with higher credit ratings”).

82. See Wagner, *supra* note 61, at 789; see also Mattoon, *supra* note 15, at 2.

83. See Mattoon, *supra* note 15, at 5, 8.

84. See Craig L. Johnson & Kenneth A. Kriz, *Impact of Three Credit Ratings on Interest Cost of State GO Bonds*, 23 MUN. FIN. J. 1, 1–16 (2002).

85. For a more formal model, see Wagner, *supra* note 45, at 155–57.

86. See Yilin Hou & Daniel L. Smith, *A Framework for Understanding State Balanced Budget Requirement Systems: Reexamining Distinctive Features and an Operational System*, PUB. BUDGETING & FIN. 22, 38–39 (2006) (noting most states require that revenues meet all expenditures). For a general overview of state budgeting matters, including a discussion of balanced budget provisions, see NATIONAL CONFERENCE OF STATE LEGISLATURES, NCSL FISCAL BRIEF: STATE BALANCED BUDGET PROVISIONS (2010), available at <http://www.ncsl.org/documents/fiscal/StateBalancedBudgetProvisions2010.pdf>.

87. Corporate finance scholars hypothesize that corporate officers pay dividends in order to signal credibly to shareholders the officers' success: the manager is so confident of her position that she does not need to hoard cash to protect against buyouts, and she is so concerned with shareholders' interests that she would rather have shareholders use the money than use it for her own idiosyncratic ends. Because talk is cheap, such claims would be meaningless unless backed up by an actual costly sacrifice on the part of the manager; thus the manager's sacrifice of her own use of the money makes the signal credible. See Merton H. Miller & Kevin Rock, *Dividend Policy Under Asymmetric Information*, 40 J. FIN.

In addition to signaling sound fiscal stewardship skills, RDF contributions may also credibly reveal to voters that the official is a good “type”—that is, that the official values voters’ long-term interests over the official’s political self-interest.⁸⁸ Ordinarily, voters who value the state’s long-term fiscal health have no easy way of judging which politicians feel similarly, except through after-the-fact retrospection.⁸⁹ And history suggests that officials can easily manipulate these kinds of ex-post evaluations.⁹⁰ Thus, RDF contributions allow the politician to signal fiscal responsibility to such voters more credibly than with the cheap talk of a mere promise.

As a caveat to these points, we note that the signaling value of RDF contributions is likely to be dominated by the signaling value of tax cuts. In the same way that RDF contributions put resources beyond the control of current lawmakers, and thus serve as a costly signal of an ability to “make do with less,” officials may use their support of tax cuts as a signal of fiscal rectitude. Tax reductions likewise involve relinquishing control over resources, with the possible (though debatable) implication being that the official’s management has been so efficient that additional funds are unneeded. Alternately, the act of giving up control over the funds could imply that the official is not self-serving but instead is looking out for the interests of constituents. Unlike a rainy day fund, however, the tax cut returns money to the immediate use of the voter.⁹¹ Thus, the political rewards for enacting a tax cut seem likely to outweigh those for funding an RDF.⁹²

3. Federal Intervention

Some commentators have also suggested that central governments are somewhat to blame for fiscal irresponsibility by their subnational components.⁹³ In this story, the states expect that federal taxpayers will offer them a “bailout” if any state’s finances crater. Because state recessions harm neighboring states as well as the federal fisc, a state could calculate that even purely self-interested neighboring officials would have reasons to help the state when it is in need.⁹⁴ As we mentioned

1031, 1031–51 (1985); Michal Barzuza, *Lemon Signaling in Cross-Listing* 5–6 (Oct. 1, 2007) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1022282. The reason that the RDF is a costly signal is because the current official is giving up use of the money for her own preferred projects.

88. Cf. Kenneth Rogoff, *Equilibrium Political Budget Cycles*, 80 AM. ECON. REV. 21, 32 (1990) (suggesting that competent officials can signal their skill by refusing to manipulate fiscal policy for their own benefit).

89. See Alberto Alesina, Filipe R. Campante, and Guido Tabellini, *Why is Fiscal Policy Often Procyclical?*, 6 J. EUR. ECON. ASS’N 1006, 1012–13 (2008).

90. Staudt, *supra* note 49, at 1160–63.

91. A rainy day fund is indistinguishable from a tax cut under perfect Ricardian equivalence, but perfect equivalence is unlikely at the state level because taxpayers can relocate. See Levinson, *supra* note 49, at 716.

92. Cf. Mattoon, *supra* note 15, at 3 (quoting Wisconsin assemblyman calling RDF an “over-taxation fund.”)

93. E.g., Persson & Tabellini, *supra* note 59, at 629–35.

94. See Inman & Rubinfeld, *supra* note 56, at 301 (noting interdependence of regional labor markets).

earlier, implicit insurance of this kind could contribute to moral hazard, leading states to take fewer precautions to protect themselves against downturns. Since rainy day funds are one form of precaution states could choose, the possibility of federal bailouts may itself be a factor that undermines states' willingness to save.

Evidence on whether this form of moral hazard is a serious problem in the United States is mixed. One leading public finance economist has argued that the U.S. is fairly unique in its ability to credibly threaten that it will not bail out failing states.⁹⁵ On the other hand, Europe's recent sovereign debt troubles can arguably be traced to the assumption by Euro currency member nations that the remainder of the EU would bail them out in the event of a crisis.⁹⁶

Another potential piece of U.S. evidence is the states' response to an existing savings program, which is embedded in the unemployment insurance finance system. Both state and federal governments tax employers to cover the costs of unemployment insurance (UI).⁹⁷ States that deplete their available UI funds can borrow from the federal fund.⁹⁸ States that take more than a year to repay face a modest interest charge, and if they fail to repay within two years then employers in their state are subject to an extra charge of twenty-one dollars per employee per year in federal UI taxes.⁹⁹ The twenty-one dollar figure is a small fraction—less than 10% on average—of the tax most employers pay.¹⁰⁰ In short, the federal UI fund offers reinsurance to states through a common pool, with only a mild penalty, payable in the future, for overuse of the insurance.

Qualitative studies of state UI funding show significant evidence of moral hazard. States routinely underfund their UI pools, and this is generally true even of states that provide less generous UI benefits.¹⁰¹ The federal penalty for default has not changed since 1983, and, of course, the real value of twenty-one dollars has declined significantly since then.¹⁰² During that time span, states' contributions to their own funds have declined, and state borrowing against the federal fund has increased sharply.¹⁰³ Many states have explicitly shifted to a "pay-as-you-go" policy, which means that the state is simply refusing to save in advance for

95. Inman, *supra* note 55, at 59-62.

96. E.g., Steven L. Schwarcz, *Sovereign Debt Restructuring Options: An Analytical Comparison*, 1 HARV. BUS. L. REV. ___ (forthcoming 2011), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1872552.

97. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-10-440, UNEMPLOYMENT INSURANCE TRUST FUNDS: LONG-STANDING STATE FINANCING POLICIES HAVE INCREASED RISK OF INSOLVENCY 4-5 (2010).

98. *Id.* at 7-8.

99. NAT'L EMPL. L. PROJECT, UNEMPLOYMENT INSURANCE FINANCING IN CRISIS: HOW SHOULD STATES RESPOND TO TRUST FUND INSOLVENCY? 1, 6 (2010), <http://www.nelp.org/page/-/UI/StateSolvencyStrategies.pdf?nocdn=1?nocdn=1>.

100. *Id.* at 6 (reporting that average tax nationwide is about \$275 per worker).

101. See *supra* note 102, at 9-23 (finding that crisis in state UI funding is due to funding shortfalls, not overly generous benefits); See *supra* note 104, at 5, 7 ("[T]he roots of the trust fund crisis lay in short-sighted financing decisions in the years leading up to the recession.").

102. The penalty amount is a percentage of the "taxable wage base," or the portion of each employee's income that is subject to federal tax. See *supra* note 102, at 5-8. Neither the percentage nor the base of \$7,000 has changed since 1983. *Id.* at 5, 26.

103. *Id.* at 14-22.

recession-driven spikes in UI claims.¹⁰⁴ In effect, states are planning to borrow against the federal fund and deferring to the future the costs of repaying the resulting loans.¹⁰⁵ It is possible, though, that these failings are unique to the design of the UI system. Less formal “bailout” expectations in which the pool of funds is not expressly limited, and the penalties are not pre-defined as so low, might not produce moral hazard to the same degree.

Accordingly, although we know that states do not use RDFs effectively, the precise reasons for that failure remain unclear. However, if political breakdowns could be identified more precisely, it should be possible to design policy interventions to remedy those particular failures. In the ensuing Parts, we sketch some possible interventions. We should note, though, that we do not seriously consider here the possibility of reducing or conditioning federal “bailouts.” Overall, although we regard states’ hopes for federal assistance as a serious potential contributor to the current failure of rainy day funds, we regard the question of whether the federal government should offer assistance to needy states---and if so, under what conditions---as so complex that it warrants separate treatment, which we reserve for future work.

B. An Interstate Borrowing Pool?

To our knowledge, the only other commentator to have considered the possibility of some sort of federal or interstate coordination of state RDFs is Richard Mattoon, a senior economist and economic advisor with the Federal Reserve Bank of Chicago.¹⁰⁶ Mattoon begins his analysis by emphasizing the potentially significant nationwide benefits of counter-cyclical state spending. Accordingly, he proposes that “a national rainy day fund be established.”¹⁰⁷ While we agree with the notion of federal support for state RDF funding, in our view Mattoon’s proposal has certain shortcomings that would make it unworkable.

Mattoon’s national RDF is modeled on the federal unemployment insurance pool. Under this federal-state partnership, states that must make unemployment insurance payments beyond their own budget capacity are permitted to borrow against a pool of funds shared among all the states.¹⁰⁸ As we understand Mattoon’s proposal, states would apparently form their own RDFs but share the money in the RDFs with other states.¹⁰⁹ States with lower balances in their RDF would be

104. *See supra* note 104, at 6–8.

105. *Cf. supra* note 102, at 29(claiming that federal loans “reduce the incentive for states to maintain robust trust funds”).

106. *Id.* at 1. A proposal for “tax-base insurance” advanced by Akash Deep and Robert Lawrence is similar in spirit to Mattoon’s proposal, though quite different in its operational details. *See* Akash Deep and Robert Lawrence, *Stabilizing State and Local Budgets: A Proposal for Tax-Base Insurance*, Discussion Paper 2008-01, Brookings Institution (June 2008), at http://www.brookings.edu/~media/Files/rc/papers/2008/06_tax_base_lawrence/06_tax_base_lawrence.pdf.

107. *Id.* at 3–4.

108. *See id.* at 3.

109. *See id.* at 12.

required to make higher annual contributions.¹¹⁰ Withdrawals from the shared RDF would be permitted only “when a state’s real revenue growth is negative, or unemployment rises by greater than 1% from the previous year or personal income growth is negative.”¹¹¹ States that are forced to borrow from the common pool would be required to carry a higher balance in the future.¹¹² A “quasi-governmental agency created by the states” would administer the fund.¹¹³

Our first and most significant concern with Mattoon’s proposal is that it seems to encourage states to take large risks with their budgeting and even the overall management of their economies. Because the proposed fund is a common pool, each state faces an incentive to withdraw from the pool before the others. As each state recognizes that other states face this same incentive, they will race to get their money before the other participants exhaust it.¹¹⁴ Similarly, since the pool is a form of budget insurance, there will be moral hazard: states can export some of the downside risk of their budget and economic decisions onto other contributors.¹¹⁵

Mattoon recognizes this moral hazard problem, but his solution does not seem to take account of the causes of RDF failure. He argues that increasing the size of the RDF balance required for a state after it borrows can serve as a form of “experience rating,” in effect gently punishing states that make withdrawals so that they will internalize some of the costs of their borrowing.¹¹⁶ The difficulty, though, is that the state will incur this penalty years after engaging in whatever risky behavior it is that leads to the need for borrowing. If voters or officials are present-biased, as we have suggested above, the opportunity to reap current benefits from premature withdrawal seems likely to outweigh the distant threat of having to maintain higher RDF balances. And, of course, we know that one group or the other *is* present-biased. Otherwise we would not need any intervention.

Furthermore, Mattoon’s proposal could actually undermine an alternative mechanism for containing moral hazard. Any RDF necessarily creates some degree of moral hazard, even if it is available only to the state that funded it since the RDF by definition is insurance against local economic or budgetary failures. As we have noted, however, depleting RDF balances should have the effect of increasing a state’s borrowing costs. Thus, to the extent that rating agencies consider RDF balances in evaluating state creditworthiness, the increased borrowing costs associated with a reduction in RDF balances should operate as a sort of co-pay for actors who seek to use up the funds, mitigating the moral hazard problem.¹¹⁷ Under

110. *Id.* at 13.

111. *Id.*

112. *See id.* at 13–16.

113. *Id.* at 17.

114. *See* Pablo Sanguinetti & Mariano Tommasi, *Intergovernmental Transfers and Fiscal Behavior Insurance Versus Aggregate Discipline*, 62 J. INT’L ECON. 149, 151 (2004) (noting the “common pool problem” in inter-jurisdictional fiscal insurance).

115. *See id.* at 153–54.

116. Mattoon, *supra* note 15, at 15–17.

117. *See supra* text accompanying notes 80–86. Co-pays are a standard prescription for reducing moral hazard. *See* WILLARD G. MANNING & M. SUSAN MARQUIS, *HEALTH INSURANCE: THE TRADE-OFF BETWEEN RISK POOLING AND MORAL HAZARD* 31 (RAND CORP. 1989).

Mattoon's proposal, however, all states would have access to the national pool of RDF money, so the reduction in any one state's balance presumably would have only *de minimis* effects on its credit rating.

Recent experiences with Mattoon's model, the federal unemployment insurance fund, support our analysis.¹¹⁸ As we've just described, the UI funding closely resembles Mattoon's proposal: both are shared funding pools with only modest future penalties for over-use. And, as we mentioned, that structure seems to have produced significant moral hazard.

A final, more general concern we have with Mattoon's plan is that it does not offer a convincing case that states will participate in the shared-pool arrangement. The pool requires up-front contributions while promising the opportunity to soften recessions at some point in the unknown future, which of course is exactly the temporal structure of RDFs themselves. Moreover, it is ambiguous as to whether restricting the conditions for withdrawals increases the appeal of RDF contributions. On one hand, withdrawal limits might appeal to voters who are otherwise reluctant to support contributions for fear that the savings would quickly be wasted. On the other hand, officials who prefer to have control over state funds would likely favor contributions to a fund with fewer strings attached. Thus, it is possible that Mattoon's plan actually reduces the likelihood that states will save.

Put another way, we think a basic requirement of any successful plan is that it should incentivize savings by present-biased voters, officials, or both. The next Part offers some possibilities in that direction.

III. CONTRIBUTION MECHANISMS

Having laid out what we regard to be the case for some sort of federal support for state RDFs as well as the shortcomings of the sole proposal in this area, we now provide a menu of possible policy options. In this Part, we discuss possible mechanisms for encouraging state contributions to funds while in Part IV we analyze methods for preserving the funds until genuine fiscal emergencies arise. We expect that deposit and withdrawal devices could be mixed and matched to find the most appealing combinations. As we have already noted, the existing literature on RDFs provides little basis for certainty regarding the causes of RDF underutilization; it would thus be premature for us to argue definitively in favor of or against any given instrument or combination of instruments. Therefore, the analysis that follows should be regarded as tentative and suggestive.

A. Mandates versus Incentives

We begin by offering a brief explanation for why we believe that any federal policy in support of state RDFs should take the form of incentives rather than a

118. Another organization that faces the combined common pool and moral hazard problems is the FDIC. *Cf.* George G. Kaufman, *Bank Failures, Systemic Risk, and Bank Regulation*, 16 *CATO J.* 17, 23–24 (1996). The FDIC, though, has extraordinary powers to investigate and even assume control over insured banks—powers we assume no participating state would agree to grant to a federal or interstate agency.

mandate for states to save.¹¹⁹ Although we recognize that the difference between these two approaches is more one of degree than of kind, we believe that outright mandates have significant costs that are unlikely to be outweighed by the benefits they might offer.

Perhaps most obviously, a federally imposed obligation to maintain RDF balances of a certain size would make it difficult to preserve the diversity benefits of federalism.¹²⁰ Citizens of different states may have varying preferences for financial risk-taking and for the timing of their consumption, implying that some states may wish to save more than others.¹²¹ Similarly, the size of the budget buffer a state needs depends on how much the state expects to spend in the future and the volatility of the state's revenue streams.¹²² States that prefer to spend little, or those with revenue structures that do not exhibit much cyclical variability, would need to save relatively less than those with larger expenditure obligations or revenue sources that drop dramatically in a downturn. Drilling down further still, the optimal size of a RDF for any given state may vary based on the likelihood of premature raids, a factor that is likely to depend on the political institutions and culture of the state.¹²³

We doubt a federal mandate could do nearly as good a job incorporating this variation as state regulations (if properly motivated) could. Even if the federal mandate were structured to allow for local variation, federal regulators will likely lack information about details such as citizen risk preferences, state officials' expectations about future spending, or state political culture.¹²⁴ Regulators could not expect to get reliable information from state partners because, as we have already explained, the state officials' incentives would be to save as little as possible. Partnering with state bureaucrats, who might be somewhat more attuned to the state's long-term interests, could improve the reliability of the information exchanged but would also likely reduce its quality, as the bureaucrats are, by

119. Cf. Gamage, *supra* note 14, at 766 (noting possibility of an "administrative agency requiring surplus revenues to be invested in rainy day funds").

120. For general discussions of the diversity benefits of decentralized policy-making, see PAUL E. PETERSON, *THE PRICE OF FEDERALISM* 17–19, 25–26 (1995); Robert P. Inman & Daniel L. Rubinfeld, *The Political Economy of Federalism*, in *PERSPECTIVES ON PUBLIC CHOICE* 73, 83–85 (Dennis C. Mueller ed., 1997); Wallace E. Oates, *An Essay on Fiscal Federalism*, 37 *J. ECON. LITERATURE* 1120, 1122–23 (1999).

121. See Wagner & Elder, *supra* note 62, at 461; Wolkoff, *supra* note 45, at 59.

122. See Gary C. Cornia & Ray D. Nelson, *Rainy Day Funds and Value at Risk*, *ST. TAX NOTES*, Aug. 25, 2003, at 563, 564–66; Joyce, *supra* note 62, at 68–77.

123. Cf. Wagner & Sobel, *supra* note 63, at 187 (noting that state fiscal institutions influence how states spend revenues).

124. Cf. Ben Lockwood, *Inter-Regional Insurance*, 72 *J. PUB. ECON.* 1, 2 (1999) (claiming that central government will never have information about local preferences and policies that is accurate enough to prevent moral hazard). Information is a problem even for the task of properly motivating states since, in theory, any federal encouragement like a subsidy should be set so that the state will save the optimal amount. See Gamage, *supra* note 14, at 766 (noting informational problems in design of RDFs). For this reason, several of our proposals emphasize opportunities for the federal government to reveal information about state preferences, as we will explain.

definition, relatively remote from citizen preferences.¹²⁵ Moreover, states are powerful lobbyists on their own behalf, so allowing for variation might simply open the door to states pushing the effect of any savings mandate down to meaningless levels.¹²⁶

Another problem with a direct mandate is the likelihood that it would distort state decisions. A mandate to save is effectively a tax on state revenues. As it is well known, taxes can reduce economic efficiency by changing people's behavior.¹²⁷ For instance, if only states are required to save, state governments might shift revenues and programs to the local level or to quasi-governmental entities, such as schools and universities, that can raise money through fees rather than taxes subject to the savings requirement. If the mandate is broadened to include these substitutes, still others might appear; for example, residents might simply vote to lower taxes and form private associations, such as charities or gated communities, to escape the mandate.¹²⁸ Even if no substitution at all were possible, voters might simply spend less overall—or perhaps would spend the same amount but tax themselves more, depending on the relative influence of the income and substitution effects of the tax.¹²⁹

In similar debates about the best form of regulatory tools for environmental regulation, commentators sometimes argue that mandates (as opposed to less coercive tools, such as incentives) provide greater certainty of outcomes at least.¹³⁰

125. See RONALD N. JOHNSON & GARY D. LIBECAP, *THE FEDERAL CIVIL SERVICE SYSTEM AND THE PROBLEM OF BUREAUCRACY: THE ECONOMICS AND POLITICS OF INSTITUTIONAL CHANGE* 2–8 (1994) (discussing incentive structure of administrative officials).

126. See Roderick M. Hills, Jr., *The Political Economy of Cooperative Federalism: Why State Autonomy Makes Sense and "Dual Sovereignty" Doesn't*, 96 MICH. L. REV. 813, 861, 866–67 (1998) (examining the power of intergovernmental lobbying).

127. See RICHARD A. MUSGRAVE & PEGGY B. MUSGRAVE, *PUBLIC FINANCE IN THEORY AND PRACTICE* 280 (5th ed. 1989). For example, suppose the Dude wants to open a conventional bowling alley. Conventional bowling is taxed but candlepin isn't. One possible outcome is that the Dude simply abides: he opens a conventional bowling alley and pays the tax. But he might also switch to candlepin. In that case, he is bummed, and the government also raises no additional tax revenue. The Dude's bummer is a pure loss of utility for no offsetting gain, also known as a "deadweight loss." *Id.* at 284.

128. See Robert C. Ellickson, *Cities and Homeowner Associations*, 130 U. PA. L. REV. 1519 (1982) (arguing that private associations can be substitutes for local government); Brian Galle, *The Distortionary Effects of Subsidies for Charity in a Federal System* (Jan. 12, 2011) (unpublished manuscript) (modeling tradeoff between local government and private substitutes).

129. The "substitution effect" of the mandate refers to the fact that for any voter, spending a dollar on state spending will buy less than spending that same dollar somewhere else because a portion is wasted (from the voter's present-biased perspective). On the other hand, the mandate makes the voter subjectively poorer. Some goods are more or less desirable depending on income, which is the phenomenon we refer to when we say "income effect." So if state spending is an "inferior good," meaning it is more attractive when income is lower, then the mandate could increase taxes. But most data indicate that government spending instead is a "normal" good for which demand increases with income, and so we expect that the mandate would depress state spending. See, e.g., Daniel Hewitt, *Demand for National Public Goods: Estimates from Surveys*, 23 ECON. INQUIRY 487, 496 (1985).

130. See William A. Pizer, *Choosing Price or Quantity Controls for Greenhouse Gases*,

If the regulator wants to achieve a certain amount of reduction in emissions, or a certain savings target, she simply sets that as the requirement and does not have to guess about the market's response to an incentive.¹³¹ We think this overestimates the certainty of mandates and underestimates the flexibility of incentives. The actual outcome of a mandate regime depends on enforcement efforts, lobbying, and court battles. Setting a target does not mean states will hit it. And incentive-based tools can be continually fine-tuned or even set in advance to vary, depending on market response.¹³²

One clear advantage we do see for a mandate is that, if designed as a percentage of revenues, it is inherently counter-cyclical. That is, as revenues increase, a percent-of-revenues mandate would require states to save more.¹³³ When revenues decline, however, this form of mandate would demand less savings (or permit distributions). This design is appealing because such "automatic" adjustments eliminate the cost and delay that come with manual changes.¹³⁴

Notwithstanding this minor advantage, the preferred approach in our view would be to adjust the incentives of state-level actors so that they can use their superior information to set the optimal level of savings for their jurisdiction. Since both voters and officials may be biased against savings, we consider instruments for attuning the incentives of each group in turn.

B. Voter Incentives

As noted in Part II, one possible explanation for the underutilization of state RDFs is that voters simply favor current spending (or reduced taxes) over the diffuse future benefits of budget stability that RDFs are designed to promote. Our first proposal for reaching individual voters, though, targets not voters themselves but instead political "entrepreneurs" and other intermediaries who connect the public to their elected representatives. To explain why that is so, we must first sketch the difficulties that any subsidy intended for individuals would face, and then we detail the mechanisms we think those difficulties require. We then go on to describe tools for reaching voters *qua* voters, using the lessons of behavioral economics as building blocks.

in CLIMATE CHANGE ECONOMICS AND POLICY 99, 99 (Michael A. Toman ed., 2001); Reuven S. Avi-Yonah & David M. Uhlmann, *Combating Global Climate Change: Why a Carbon Tax is a Better Response to Global Warming Than Cap and Trade*, 28 STAN. ENVTL. L.J. 3, 36, 46 (2009).

131. See AVI-YONAH & UHLMANN, *supra* note 123, at 46.

132. See Louis Kaplow, *Taxes, Permits, and Climate Change*, (Nat'l Bureau of Econ. Res., Working Paper No. 16268, 2010).

133. See WILLIAM J. BAUMOL & ALAN S. BLINDER, *ECONOMICS: PRINCIPLES AND POLICY* 88–89 (5th ed. 1991) (defining countercyclical spending).

134. See Christina D. Romer, *Changes in Business Cycles: Evidence and Explanations*, J. ECON. PERSP. Spring 1999, at 23, 37 (finding historical evidence that automatic stabilizers were more effective than discretionary stimulus).

1. Translating Preferences into Politics

Entrepreneurs and other intermediaries also may be more concerned about long-term fiscal health than individual voters. The leader of a given interest group is not likely concerned about a state's fiscal standing as a whole because, from the perspective of any one interest group, the overall budget represents a common pool; stability is still a public good.¹³⁵ However, the internal rules of the intermediary organization can be structured to give its managers incentives to care about the long-term health of the organization.¹³⁶ Nonprofit managers, for example, typically have very long tenure in office and derive much of their compensation from reputation and personal satisfaction rather than from a share of profits.¹³⁷ Thus, their own success is tied to the continuing vitality of the entity and its constituents.¹³⁸

At the same time, the literature demonstrates that exit pressures limit the power of beneficiaries of government payouts. A state or local-level entitlement program, even one that receives federal matching money, might be costly for relatively wealthier residents, whose threat to leave if the program grew too expensive would be a serious concern for local officials.¹³⁹ And federally supported programs might draw newcomers who would then be entitled to other local programs with smaller subsidies (such as education), which could also drive away higher earners.¹⁴⁰ The combination of these factors is thought to hold down state enthusiasm for redistributive programs, perhaps even those with large federal matching components, such as Medicaid.¹⁴¹

135. An exception might be leaders of those special interests that benefit disproportionately from public spending, and who would therefore be unable to free ride on the stability-defending efforts of others. Teachers' and other public-employees' unions seem plausible candidates here.

136. See Eugene F. Fama & Michael C. Jensen, *The Separation of Ownership and Control*, 26 J.L. & ECON. 301, 318–21 (1983) (describing how internal structure of nonprofits aligns incentives of managers with those of other stakeholders).

137. See Bruce R. Kingma, *Public Good Theories of the Non-profit Sector: Weisbrod Revisited*, 8 VOLUNTAS 135, 142 (1997) (arguing that employee control over the organization's mission and services explains empirical evidence of lower wages in the nonprofit sector). For a more developed discussion of the motivations of nonprofit employees, see Usha Rodrigues, *Entity and Identity* 23–60 (November 2010) (unpublished manuscript) (on file with University of Georgia School of Law).

138. Cf. Bengt Holmström, *Managerial Incentive Problems: A Dynamic Perspective*, 66 REV. ECON. STUDIES 169, 169–82 (1999) (modeling claim that individual's desire for developing their career can align with interests of firm).

139. See Stark, *supra* note 52, at 1408–10.

140. See Edward M. Gramlich & Deborah S. Laren, *Migration and Income Redistribution Responsibilities*, 19 J. HUM. RESOURCES 489, 510 (1984); Paul E. Peterson & Mark Rom, *American Federalism, Welfare Policy, and Residential Choices*, 83 AM. POL. SCI. REV. 711, 725 (1989).

141. See Jan K. Brueckner, *Welfare Reform and the Race to the Bottom: Theory and Evidence*, 66 S. ECON. J. 505, 505–25 (2000) (finding some evidence for this effect in welfare spending); Craig Volden, *The Politics of Competitive Federalism: A Race to the Bottom in Welfare Benefits?*, 46 AM. J. POL. SCI. 352, 352–36 (2002) (also finding some evidence for this effect in welfare spending); Reagan Baughman & Jeffrey Milyo, *How Do States Formulate Medicaid and SCHIP Policy? Economic and Political Determinants of*

Accordingly, an important empirical question in the design of an effective rainy-day subsidy is the effect of exit pressures on state savings behavior. If exit appears to play a large role in creating pressure to spend immediately, then incentives targeted generally at all voters will likely have only limited effectiveness. On the flip side, incentives targeted specifically at the most mobile citizens might be especially cost-effective.

It may be surprising that state political parties have not already developed as intermediaries for state fiscal health. In theory, the parties are repeat players that could benefit from reputations for fiscal prudence. The problem, apparently, is that modern parties are largely organized and identified according to nationally-salient issues.¹⁴² As a result, at the state level parties do not tend to compete on the basis of local policy outcomes.¹⁴³

Another targeting issue our analysis raises is that if intermediaries are the critical link between voters and state policy, it might be argued that incentives should be aimed not at voters but at the intermediaries themselves. We think this is a possibility, but the available evidence suggests it might not be a long-term solution. The literature on federal grants suggests that local officials understand how to buy off interest groups in order to obtain their support. For example, when the federal government awards a targeted block grant to a state (rather than directly to the individuals within the state), state officials often will choose to spend a significant fraction of the grant on the targeted purpose, even though there are no genuinely effective legal enforcement mechanisms for requiring them to do so.¹⁴⁴ Commentators argue that, much as in the direct grant story, this may be evidence that officials are using the grant dollars to develop and curry favor with the interest group that will lobby for additional federal dollars.¹⁴⁵ Some studies have found, though, that this process is relatively short-lived; it may be that as competing interest groups learn about the available funds they lobby for directing the money elsewhere.¹⁴⁶

State Eligibility Levels 15–17 (2009) (unpublished manuscript) available at <https://mospace.umsystem.edu/xmlui/bitstream/handle/10355/2393/HowStatesFormulateMedicaid.pdf?sequence=1> (finding some evidence that state Medicaid policy is influenced by generosity of neighbors).

142. See David Schleicher, *Why is There No Partisan Competition in City Council Elections?: The Role of Election Law*, 23 J.L. POL. 419, 448–59 (2007) (explaining this phenomenon in the context of municipal government).

143. Brian Schaffner, Matthew Streb & Gerald Wright, *Teams Without Uniforms: The Nonpartisan Ballot in State and Local Elections*, 54 POL. RES. Q., 7, 19–22 (2001); Melinda Hall, *State Supreme Courts in American Democracy: Probing the Myths of Judicial Reform*, 95 AMER. POL. SCI. REV. 315, 329 (2001).

144. E.g., Katherine Baicker, *Government Decision-Making and the Incidence of Federal Mandates*, 82 J. PUB. ECON. 147, 177–78 (2001); Geoffrey K. Turnbull, *The Overspending and Flypaper Effects of Fiscal Illusion: Theory and Empirical Evidence*, 44 J. URB. ECON. 1, 15–22 (1998).

145. Sang-Seok Bae & Richard C. Feiock, *The Flypaper Effect Revisited: Intergovernmental Grants and Local Governance*, 27 INT'L J. PUB. ADMIN. 577, 583–85 (2004); Radu Filimon, Thomas Romer & Howard Rosenthal, *Asymmetric Information and Agenda Control: The Bases of Monopoly Power in Public Spending*, 17 J. PUB. ECON. 51, 52 (1982).

146. Nora Gordon, *Do Federal Grants Boost School Spending? Evidence from Title I*, 88 J. PUB. ECON. 1771, 1773 (2004); Byron Lutz, *Taxation with Representation:*

2. Subsidized Lockboxes

These observations about intermediaries lead us to suggest that the most effective mechanism for deflecting present bias among voters might be subsidized, federally-enforced lockboxes. In public finance lingo, a “lockbox” is usually a pool of money that is set aside under state law for use for a particular purpose, such as education or policing.¹⁴⁷ As part of a rainy-day subsidy program, the federal government could permit a fraction of the subsidy to be set aside in these dedicated accounts, to be reserved for targeted future spending. Both targeted and untargeted subsidies would be contingent on the state meeting other criteria, such as the withdrawal mechanisms we will discuss in Part IV.

The strength of this approach is that it leverages state officials’ political acumen, allowing them to target dollars where they will be most effective. That is, if state officials share the federal commitment to long-term stability (either because that is their own preference or because additional funds are used to change their incentives—about which more will be discussed shortly), they could use contributions to these boxes, bolstered by federal money, to buy off those interest groups who would otherwise demand immediate spending. Local officials have superior information about who those groups are. While the reduced flexibility of the locked-up funds would somewhat reduce their efficacy,¹⁴⁸ the fact that they are reserved for the future would be a significant advance over current practices, in which state funds are allocated to interest groups for immediate use.¹⁴⁹

Lockboxes also help to overcome the problem that grant-related buy-outs are sometimes short-lived. Again, studies suggest that lobbying by other interest groups may in time overwhelm the targeting of a federal grant.¹⁵⁰ When moneys are legally committed to a fund, though, they of course become harder to divert. In other grant situations, there is also a danger of offsetting cuts: officials leave grant moneys in place, but slash other forms of benefits to the targeted group in order to satisfy demands by others.¹⁵¹ But there is a zero lower bound on offsetting cuts: if the grant funds are the only source of spending for the targeted groups, there is obviously nowhere else to offset.¹⁵² That is largely the case with rainy-day funds: savings in most jurisdictions are so low that it is unlikely that lockbox funds could be fully offset by cuts in other savings programs.¹⁵³

Intergovernmental Grants in a Plebiscite Democracy, 92 REV. ECON. & STAT. 316, 323–24 (2010).

147. Alasdair Roberts, *Lockbox Government: Segregated Funding Strategies and the Decline of Governmental Flexibility*, 15 GOVERNANCE 241, 251–52 (2002).

148. *Id.* at 259.

149. *Cf.* Douglas & Gaddie, *supra* note 49, at 23, 26–28 (finding that multiple special-purpose funds are more difficult to raid than a single pool).

150. *See* Roberts, *supra* note 145.

151. Gordon, *supra* note 144, at 1772–73.

152. *Cf.* Richard Steinberg, *Does Government Spending Crowd Out Donations? Interpreting the Evidence*, 62 ANNALS PUB. & COOPERATIVE ECON. 591, 591 (1991) (noting that government expenditures increase total spending on a good when private spending is zero).

153. *See* Gonzalez & Levinson, *supra* note 60; Gonzalez & Paqueo, *supra* note 60; Marlowe, *supra* note 60; Sobel & Holcombe, *supra* note 60; Super, *supra* note 4.

The security of lockbox funds also increases their efficacy in buying off interest groups by making it more certain that the promised benefits are actually delivered. In practice, the fastenings that bind lockbox dollars to their targets are notoriously easy to unwind, because the state legislature can usually easily amend or bypass the lockbox conditions.¹⁵⁴ Even when conditions are hard to change, few have been held to be meaningfully judicially enforceable.¹⁵⁵ However, if a federal official, or other neutral third party, holds the keys to the box instead, then the commitment to spend the targeted funds is far more credible.

3. Other Individually Targeted Payments

If incentives aimed at intermediaries prove unworkable or politically unsavory, subsidies for rainy-day funds could of course always be paid directly to voters. Again, one might expect that rationally ignorant voters are unlikely to connect a check they receive in June from the federal government with their support in November for state officials who made the right decision about an obscure state budget line.¹⁵⁶ Some evidence (including our own) suggests, though, that these mechanisms do have some influence on policy outcomes, probably because they indirectly shape the influence and behavior of political intermediaries.¹⁵⁷

With some modifications, an RDF subsidy could follow the pattern of other successful efforts, for example by increasing the federal deductibility of state tax payments that go toward RDF contributions. Simply expanding the current federal tax deduction for state and local taxes would not be ideal, though, because of the interaction of that provision with the Alternative Minimum Tax (AMT).¹⁵⁸ The AMT disallows the SALT deduction for taxpayers subject to AMT liability, and the likelihood of AMT liability increases with income.¹⁵⁹ In effect, the AMT makes the SALT deduction more valuable as income declines and vice versa. That is a good result when the goal is to induce states to spend more during recessions. But it is a bad outcome if the goal is to get them to *save*. States should be saving *more* when

154. Susannah Camic, *Earmarking: The Potential Benefits*, 4 PITTSBURGH TAX REV. 55, 67–69 (2006). For evidence, see Calvin Blackwell, John C. Crotts, Stephen W. Litvin & Alan K. Styles, *Local Government Compliance with Earmarked Tax Regulation*, 34 PUB. FIN. REV. 212, 213–28 (2006).

155. However, budgeting rules and other structural mechanisms can give legislators incentives to respect dedicated funds. ERIC M. PATASHNIK, PUTTING TRUST IN THE U.S. BUDGET: FEDERAL TRUST FUNDS AND THE POLITICS OF COMMITMENT 31–32 (2000); Garrett, *supra* note 131, at 567–68 (suggesting that budget rules create opportunities for congressional deliberation and public influence).

¹⁵⁶ See Louis Kaplow, *Fiscal Federalism and the Deductibility of State and Local Taxes Under the Federal Income Tax*, 82 VA. L. REV. 413, 487 (1996) (suggesting that existing federal efforts to support higher state taxes may suffer this problem).

¹⁵⁷ Galle & Klick, *supra* note 6, at 223–35.

158. I.R.C. §§ 55–58. For an overview of the AMT's complex provisions, see STAFF OF THE JOINT COMM. ON TAXATION, JCX-38-07, PRESENT LAW AND BACKGROUND RELATING TO THE INDIVIDUAL ALTERNATIVE MINIMUM TAX, 1–6 (2007), available at www.jct.gov/x-38-07.pdf.

159. For a complete explanation, see Galle & Klick, *supra* note 6, at 210–23.

their income increases, and an RDF subsidy that relied on the AMT-limited SALT deduction would have the opposite effect. But this could be remedied by amending the AMT to allow bonus deductions for a state's RDF contributions. If that were done, we would have the standard case in which deductions are more valuable as the taxpayer's income rises, resulting in stronger incentives to save as the state's economy improves and average income increases.¹⁶⁰

Whether or not policy makers rely on bonus deductibility, any individually targeted subsidy should attempt to economize on the federal dollars expended by focusing on critical individuals. For example, if the evidence supports the view that discontented homeowners are especially influential in states' savings behavior, then subsidies would be most cost effective if they were disproportionately slanted to the benefit of those homeowners. Perhaps the subsidy could take the form of a federal credit against local property taxes. In addition to reaching a politically important population, a property tax credit could leverage the high salience and considerable unpopularity of property taxes: relief from the property tax would appear more valuable than the equivalent dollar value devoted to unnoticed and relatively acceptable levies, such as the sales tax.¹⁶¹

Other than property owners, though, it is hard to predict which individual voters are key to obstructing state savings, which implies that an effective targeting mechanism would have to induce voters to reveal their "type," that is, whether or not they are biased against savings. The goal would be to produce a "separating equilibrium" in which the incentive itself is only appealing to those who are present-biased, so that the people who accept it are necessarily those who would have been most resistant to savings.¹⁶² For instance, suppose that the incentive payment is a small fraction of the state's per capita savings, but that the voter can access it immediately, such as through a debit card, rather than having to wait until the following April to claim a tax refund.¹⁶³ Alternative uses of the state's money would benefit the voter only after some delay: police and teachers must be hired

160. See Yair Listokin, *The Income Tax Code at War with Fiscal Policy: Why Tax Scholars Can No Longer Ignore Macroeconomics* 25 (Yale Program for Studies in Law, Econ., & Pub. Policy, Research Paper No. 378, 2011), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1372782.

161. See Richard L. Cole & John Kincaid, *Public Opinion and American Federalism: Perspectives on Taxing, Spending, and Trust—An ACIR Update*, 30 *PUBLIUS* 189, 190–95 (2000) (reporting voter attitudes toward different tax instruments); Wallace E. Oates, *On the Nature and Measurement of Fiscal Illusion: A Survey*, in *TAXATION AND FISCAL FEDERALISM: ESSAYS IN HONOR OF RUSSELL MATHEWS* 65, 65–66 (Geoffrey Brennan, Bhajan S. Grewal & Peter Groenewegen eds., 1988) (noting that economists assume that visibility of a tax affects political attitudes toward it).

162. A "separating equilibrium" is one in which sellers split the market for a product into two or more segments by offering differing bundles of prices and quantities of that product. By choosing a particular bundle, consumers reveal information about their preferences to the seller. For a more complete explanation, see Michael Rothschild & Joseph Stiglitz, *Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information*, 90 *Q.J. ECON.* 629, 630–38 (1976).

163. Cf. MICHAEL J. GRAETZ, 100 MILLION UNNECESSARY RETURNS: A SIMPLE, FAIR, AND COMPETITIVE TAX PLAN FOR THE UNITED STATES 178–79 (2008) (suggesting use of "smart" cards for delivery of tax rebates).

and their services parceled out over time, and even cash benefit checks are typically spread across the year. A highly impatient voter would discount these future services relative to the immediate payment and hence would happily accept the immediate payment.

Subsidies that induce voters to reveal their type might save money in at least two ways. First, since the impatient voter has a much higher discount rate than the market rate of interest, the accelerated rebate allows the payor to offer a subsidy of considerably less than the amount the state will contribute to the RDF. Second, the discounted payment helps to reduce the extent to which subsidies would flow to inframarginal voters—those who would be willing to support RDF contributions even without a subsidy.¹⁶⁴ Those with more patience would not find the small present payment a worthwhile substitute for benefits that are delayed only a relatively short time, but presumably these voters would also be less opposed to savings. Admittedly, though, not all voters who are present-biased in their preferences for state spending are also present-biased in their personal finances, and so alternative targeting mechanisms might be needed to further separate out the electorate.

C. Official Incentives

1. Matching Contributions to State Funds

An alternative (and more direct) method of building state RDF balances is for the federal government to match state contributions. Matching grants create a substitution effect: each dollar of savings costs the state only a fraction of a dollar, making savings a bargain compared to other choices.¹⁶⁵ As we have explained, one reason state officials may fail to contribute adequately to RDFs is because officials excessively discount the value of having future fiscal security. The substitution effect of the matching grant helps to counterbalance this present bias.

At the same time, the very fact that matching contributions can only benefit the state in the future may make direct grants to an RDF a relatively inefficient use of federal money. Again, the only benefits a present official gains from federal payments to her RDF are the possibility of future fiscal solvency and perhaps a lower immediate cost of borrowed funds. And deferring funds into the future might

164. See MOLLY F. SHERLOCK & JANE G. GRAVELLE, CONG. RESEARCH SERV., R40919, AN OVERVIEW OF THE NONPROFIT AND CHARITABLE SECTOR 36 (2009), available at <http://pppnet.org/pdf/R40919.pdf> (explaining that government subsidies for production of public goods often are paid to those who would buy the good anyway).

165. JONATHAN GRUBER, PUBLIC FINANCE AND PUBLIC POLICY 35–37 (3d ed. 2010). Thus, matching grants outperform block grants as a method for changing state behavior. In contrast to a matching grant, block grants may simply crowd out deposits the state would have made anyway. That is, if I plan to save \$100 of my allowance money toward a bicycle, and my Aunt Petunia gives me \$50 to put in the bank, my rational response is to deposit Petunia's \$50, save \$50 of my own, and then spend the extra \$50. Block grants also strongly resemble a simple federal savings pool in that their size is largely uncontrolled by states, leading to the federalism and moral hazard problems we discussed in Part II, *supra*.

adversely play into the hands of political rivals.¹⁶⁶ So each matching dollar the RDF receives is *also* discounted by present officials, diminishing the substitution effect of the match.

A better “matching” grant to overcome political present bias might be unrestricted payouts to states that make their own contributions to a qualifying RDF. This instrument resembles the traditional “IRA” many workers use to save for retirement: it grants an immediate benefit—in the case of the IRA, a deduction from the present year’s taxes—in exchange for the taxpayer’s willingness to defer consumption until age fifty-nine and a half.¹⁶⁷ Early withdrawals are generally subject to a 10% penalty.¹⁶⁸ Another form of retirement savings, the “Roth IRA,” offers no present savings; both forms of IRA allow savers to defer tax on any gains in the money invested until it is spent.¹⁶⁹ Relative to the Roth IRA, the traditional IRA helps to encourage workers whose present bias would make them indifferent to the value of deferral to nonetheless make contributions.¹⁷⁰

In much the same way, a present grant to states based on their RDF contributions would be disproportionately valuable to present-biased officials. Further, since the value to present officials of higher RDF balances, even if heavily discounted, is still likely to be more than zero, the federal grant could be less than dollar for dollar and still be effective. Of course, funds granted immediately need not be devoted to counter-cyclical spending, and so the immediate grant is less efficient in that sense.

Just as with individual retirement incentives, it might be beneficial for the federal government to offer both forms of matching grants and allow states to reveal their “type” by opting into one or the other. Immediate matching payments could have a lower discounted present value than federal contributions directly to an RDF. By definition, present-biased officials view deferred consumption as costlier than the market rate of interest, so they will prefer the immediate payment, as we have just outlined. Other jurisdictions, however, may be only weakly present-biased, so that the direct-to-RDF payments will have a higher present value and might be sufficient to trigger savings. That would allow both the state and federal funds to be devoted to the RDF, increasing the cost-effectiveness of the subsidy. By

166. See Wagner, *supra* note 45.

167. I.R.C. § 72(q)(2)(A) (2006).

168. *Id.* § 72(q).

169. Ordinarily, transferring funds from one investment vehicle to another would result in an immediate tax, Cottage Savings Ass’n v. Commissioner, 499 U.S. 554, 559–62 (1991), but IRAs escape this treatment as long as the transfer is to another IRA. Internal Revenue Serv, *supra* note 168, at 22–23. Roth distributions are actually entirely tax-free in most cases. *Id.* at 64.

170. Richard H. Thaler, *Psychology & Savings Policy*, 84 AM. ECON. REV. PAPERS & PROC. 186, 188 (1994).

Despite this, IRA enrollments are surprisingly low, INV. CO. INST., THE IRA INVESTOR PROFILE: TRADITIONAL IRA INVESTORS’ CONTRIBUTION ACTIVITY, 2007 AND 2008, at 1–2 (2010), available at http://www.ici.org/pdf/rpt_10_ira_contributions.pdf, perhaps because the effort of choosing either plan itself takes on exaggerated cost. Ted O’Donoghue & Matthew Rabin, *Procrastination in Preparing for Retirement*, in BEHAVIORAL DIMENSIONS OF RETIREMENT ECONOMICS 125, 140–52 (Henry J. Aaron ed., 1999).

observing state responses and calibrating the payment ratios of the two programs, federal administrators could help to trim the amount of money spent unnecessarily to overcome present bias: the central government could offer increasingly steeply discounted present payments, but use the alternative of undiscounted direct contributions to the RDF as a backstop to ensure that states will still save.

Direct contributions to RDFs do have one other possible advantage over simple cash transfers, but it is not overwhelming. Directing funds to a state's RDF allows the federal government to defer its own payments until the time that the state actually would withdraw its funds¹⁷¹—just as a bank account is really only a promise by the bank to pay on demand, so that the bank is free to use the money elsewhere until the depositor demands it. This is advantageous to the customer because the bank has better investment opportunities than the individual depositor, and therefore can afford to pay out some of the superior return in the form of interest payments. Similarly, if the federal government can make better use of the RDF contribution in the time between the state's contribution and its desired withdrawal, then leaving the funds in the general federal treasury increases the total funds available to both. But this strategy poses both political and economic risks. For one, Congress could renege on its promise to pay. Even if the federal promise is somehow insulated from political pressures, the strategy is economically risky, because a state's later demand for RDF funds may coincide with a national downturn. That will make it more difficult for the federal government to make good on its contribution; moreover, if the withdrawing state is relatively insulated from the national recession, federal funds would be better channeled to those harder hit.

2. Let States “Save More Tomorrow”

Another possible approach to overcoming official present bias would be to turn it against itself. This bit of fiscal jujitsu is inspired by Benartzi, Thaler, and Sunstein's work on designing incentives for individuals to save for retirement. Individuals who are excessively present-biased are likely to save too little to pay for their needs later in life.¹⁷² Benartzi, Thaler and Sunstein suggest, among other possibilities, that present-bias can be flipped to actually encourage savings through their “Save More Tomorrow” Plan.¹⁷³ Under the plan, workers agree with their employers that they will contribute a portion of their paychecks toward retirement,

171. That is, the matching grant paid by the federal government could take the form of a promissory note to pay a sum certain upon demand, if the state meets other withdrawal conditions.

172. O'Donoghue & Rabin, *supra* note 170, at 140. To remind the reader, these individuals may be “hyperbolic” discounters: they value present consumption too much, and later consumption too little, relative to the valuation they would have given in a more objective state. In addition to the political effects we have described, this form of present bias also discourages personal savings, since savings is simply the exchange of present for future consumption. *Id.*

173. THALER & SUNSTEIN, *supra* note 19, at 114–17; Shlomo Benartzi & Richard H. Thaler, *Heuristics and Biases in Retirement Savings Behavior*, 21 J. ECON. PERSP., Summer 2007, at 81, 100.

but also that contributions will not start until some later date, such as when the worker gets her next raise.¹⁷⁴ Because the pain of savings is deferred into the future, it too is subject to a high degree of discounting, making the difference between discounted costs and benefits far narrower than “normal” for the hyperbolic discounter—enough so that workers offered the Save More Tomorrow Plan in Benartzi and Thaler’s study joined in numbers far exceeding those who participated in traditional retirement plans.¹⁷⁵

We propose a similar mechanism translated to state budgeting. In order to claim its federal subsidy, a state would have to commit to make *future* contributions to a qualifying RDF. Benartzi and Thaler attribute the success of their plan to psychological factors such as inertia and excessive risk aversion, but we think it also follows from the logic of present bias. Precommitment flips the usual time-discounting factors: an official can claim immediate rewards, such as credit for fiscal responsibility and an improved bond rating.¹⁷⁶ But these rewards do not require the official to give up any spending on current projects. The price will have to be paid in the future, but by then the official may be out of office—or, even better, the cost will do political harm to her rivals/successors. The fact that the costs of savings will be discounted makes enrolling in the project more appealing for the official, just as with the individual saver.¹⁷⁷

At the same time, from the federal government’s perspective, not much is lost by allowing the state to defer tending to its RDF nest egg. The goal of the program is long-term stability. Deferral increases the chances that RDF funds will be inadequate if the next crisis arrives soon, but our aim is not truly the next crisis but rather all the crises that will follow. The grant maker will have to enforce the state’s promise, but that will have to be done annually for any RDF subsidy scheme once payments have begun.

The Save More Tomorrow Plan also creates additional flexibility in the forms of the subsidies the federal government can offer. The promise of future performance can be bought with any combination of unrestricted or RDF-matching grants, both of which could be either paid immediately or deferred until actual deposits are made. We expect that immediate, unrestricted grants would be especially cost effective in this setting because of the timing mismatch between the official’s use of the money (now) and costs (later). Further, by allowing jurisdictions to choose

174. THALER & SUNSTEIN, *supra* note 19, at 115.

175. Benartzi & Thaler, *supra* note 175, at 100–01. We note, though, that Benartzi and Thaler do not discuss whether the effect they observe is due to precommitment, or if instead higher savings are simply the result of forcing employees to think about retirement. Cf. John Ameriks, Andrew Caplin & John Leahy, *Wealth Accumulation and the Propensity to Plan*, 118 Q.J. ECON. 1007 (2003) (finding that discussing retirement increased household savings).

176. Of course, bond ratings will only likely improve immediately if the state’s commitment to make future payments is credible. We will address that question momentarily.

177. Cf. Thomas Merrill & David M. Schizer, *Energy Policy for an Economic Downturn: A Proposed Petroleum Fuel Price Stabilization Plan*, 27 YALE J. ON REG. 1, 28–29 (2010) (suggesting that government’s precommitment to future energy tax would make that tax more politically palatable).

their subsidy the federal government can again sort among those of different time discounts, and with four different instruments rather than only two, the grant maker can tune even more carefully to eliminate excess payments.

Allowing for payments in advance of performance does add an enforcement wrinkle. Once the federal funder has invested in the RDF contract, the states will have an opportunity to “hold up” the federal government, either renegeing entirely on their commitment to save or bargaining for more favorable terms.¹⁷⁸ A common remedy for this hold-up problem in contract law is to give the party that must await performance the power to impose fairly draconian costs on the counterparty if they fail to perform.¹⁷⁹ In this case, depending on the structure of the enforcement mechanism, it could be adequate to allow the federal government to penalize the state in an amount approximating the amount the state is obliged to save, rather than clawing back the full amount of any subsidies to date. For example, the subsidy agreement could provide that nonperformance will be penalized through reduced federal contributions for other valuable, discretionary state programs, such as highway dollars. As long as the expected penalty amount would cost future legislators as much as the net cost of savings—the present cost minus discounted future benefit—they will have incentives to comply with their commitment.

3. Competitive Rankings

Finally, competitive rankings by a neutral evaluator may be a cost-effective alternative to cash payments for rewarding officials. As we noted earlier, one reason officials may fail to internalize the future benefits of fiscal prudence is that their constituents cannot easily observe and reward such behavior.¹⁸⁰ Further, if voters cannot easily verify the trustworthiness of their officials, they might rationally prefer tax cuts to savings during booms. If most public spending is going to be wasted by self-serving officials in any event, the optimal strategy might well be to simply minimize taxes.¹⁸¹ Thus, providing some assurances of official responsibility is important to the incentives of both officials and voters.

Many officials might claim to be saving prudently, but talk is cheap.¹⁸² No individual voter would rationally try to verify such a claim, unless she had endless free time and a real passion for studying fiscal volatility and the minutiae of the

178. See Jean Tirole, *Incomplete Contracts: Where Do We Stand?*, 67 *ECONOMETRICA* 741, 749–73 (1999) (reviewing literature on opportunities for party to “hold up” contractual counter-parties).

179. See Steven Shavell, *Contractual Holdup and Legal Intervention*, 36 *J. LEGAL STUD.* 325, 334–48 (2007). There is also a large amount of economics literature exploring other solutions. See, e.g., Yeon-Koo Che & Donald B. Hausch, *Cooperative Investments and the Value of Contracting*, 89 *AM. ECON. REV.* 125 (1999); Abraham L. Wickelgren, *The Limitations of Buyer-Option Contracts in Solving the Holdup Problem*, 23 *J.L. ECON. & ORG.* 127 (2007).

180. See *supra* text accompanying notes 86–92.

181. See Alesina et al., *supra* note 85, at 1032–33.

182. See Joseph Farrell & Matthew Rabin, *Cheap Talk*, 10 *J. ECON. PERSP.*, Summer 1996, at 103, 105–17 (discussing instances in which claims are likely to be credible, and noting that costless claims, if believed, would benefit one side to the detriment of the other).

state's budget.¹⁸³ Credible verification arrives only long afterwards, when the state's budget either crumbles under the pressure of recessions—or survives.

Federal officials could overcome this information deficit by rating the performance of local officials.¹⁸⁴ To give voters a sense of whether their own officials' performance is above or below average, and to spur inter-jurisdictional competition, the ratings should actually be rankings: each jurisdiction, and perhaps each official, could be ranked according to the prudence of their RDF decisions.¹⁸⁵ Evidence suggests that voters do use the fiscal performance of neighboring jurisdictions, where available, to judge their own officials, so this mechanism would not be a novelty; it would simply provide better, and more credible, comparative data.¹⁸⁶

To be sure, the optimal amount of RDF savings will vary from jurisdiction to jurisdiction. Any scoring system would have to take into account a state's actual savings needs before judging whether officials have made progress toward those targets. More generally, different groups of citizens may have differing risk preferences, a factor that is hard to capture with any single index. Dorf and Sabel have proposed to deal with this problem (albeit not in the fiscal context specifically) through a system of "rolling benchmarking," in which localities and citizens can participate in the design of the evaluation system, and they can fine-tune it over time to produce results most useful to their decisions.¹⁸⁷ Even if this sort of mechanism is not fully effective, we think a certain degree of "nationalization" of the rankings is useful. States do not take account of externalities in determining how much risk is appropriate; if the rankings are a tool for achieving efficient levels of savings, they should at least partly reflect national welfare, not simply state's subjective preferences.

IV. WITHDRAWAL MECHANISMS

As we mentioned earlier, studies show that states not only struggle to deposit enough money into their RDFs, but also tend to withdraw funds before true crises.

183. See Robert J. Barro & David B. Gordon, *Rules, Discretion and Reputation in a Model of Monetary Policy*, 12 J. MONETARY ECON. 101 (1983) (developing the argument that officials cannot commit credibly to long-term fiscal policy). For example, we note that even your authors, who are confessedly giant geeks, have never attempted to study whether their own officials are making adequate RDF contributions.

184. Cf. Saul Levmore, *Precommitment Politics*, 82 VA. L. REV. 567, 585–91 (1996) (suggesting "third-party enforcement" as a solution to low credibility of political promises).

185. We owe this mechanism first to Professors Dorf and Sabel, Michael C. Dorf & Charles F. Sabel, *A Constitution of Democratic Experimentalism*, 98 COLUM. L. REV. 267, 319–23 (1998), and also to Heather Gerken's notion of electoral-fairness rankings, HEATHER K. GERKEN, *THE DEMOCRACY INDEX: WHY OUR ELECTION SYSTEM IS FAILING AND HOW TO FIX IT* 108–31 (2009).

186. Timothy Besley & Anne Case, *Incumbent Behavior: Vote-Seeking, Tax-Setting, and Yardstick Competition*, 85 AM. ECON. REV. 25, 41 (1995). However, this evidence is not consistently supported across all data. Timothy Besley & Anne Case, *Political Institutions and Policy Choices: Evidence from the United States*, 41 J. ECON. LITERATURE 7, 55–56 (2003) [hereinafter Besley & Case, *Policy Choices*].

187. See Dorf & Sabel, *supra* note 199, at 318–20.

Again, early withdrawals are a predictable result of present bias: once the piggy bank is packed, the temptation to crack it open is strong.¹⁸⁸ Accordingly, an effective federal program must not only get money into an RDF but also keep it safely there until the time is right. We leave for the work of others the task of deciding when exactly are the ideal times to release RDF funds.¹⁸⁹ Instead, we focus our attention on the problem of getting officials to implement whatever optimal spending patterns experts identify. This Part sketches some possibilities. First, though, we explain why we reject a solution currently in use by some states.

A. Mandatory Replenishment

One tool that several states already use to maintain RDF balances is a mandatory “replenishment” rule. Mandatory replenishment, as the name implies, obliges the legislature to repay any funds withdrawn from an RDF, usually over a one- to three-year period after withdrawal.¹⁹⁰ The federal unemployment insurance (UI) financing system works similarly: states pay for the UI benefits they provide to their own workers, but they can borrow from a federal pool of money if they run out.¹⁹¹ However, states must pay back their loans within nine months to avoid interest charges and within two years to escape federal penalty taxes on state employers.¹⁹² Given the familiarity of the repayment mechanism, it might be a natural possibility for preserving RDF funds. We think to the contrary, though, that experience with replenishment rules and UI federal loans shows that the systems perform poorly.

First, immediate repayment undermines the countercyclical goals of RDFs and UI programs. As the recent recession demonstrates, a state that is hit hard enough to need extra funds in one year will often be no better off the next.¹⁹³ In the past decade, states that have borrowed from the federal UI fund have had to cut benefits and raise local taxes to avoid UI penalty taxes, often while still in the throes of

188. See Wagner & Elder, *supra* note 62, at 445 (“[T]he realization of a budget surplus also carries with it pressure from constituents and interest groups to increase expenditures or reduce taxes.”).

189. There is a tradeoff inherent in any decision to spend funds to ease a current recession. Each dollar spent also potentially reduces funds available for a future recession, in which government spending might be even more vital. See Zahradnik & Johnson, *supra* note 5, at 2–4, 10 (suggesting how states should deal with this tradeoff). This is an exercise in dynamic intertemporal optimization, which economists have studied in other contexts. See AVINASH K. DIXIT, *OPTIMIZATION IN ECONOMIC THEORY* (2d ed. 1990).

190. ELIZABETH MCNICHOL & KWAME BOADI, CTR. ON BUDGET & POLICY PRIORITIES, WHY AND HOW STATES SHOULD STRENGTHEN THEIR RAINY DAY FUNDS: RECESSION HIGHLIGHTED IMPORTANCE OF FUNDS AND NEED FOR IMPROVEMENTS 15 (2011), available at <http://www.cbpp.org/files/2-3-11sfp.pdf>.

191. U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 102, at 7–8.

192. Nat’l Emp’t Law Project, *supra* note 104, at 1.

193. IRIS J. LAV & MICHAEL LEACHMAN, CTR. ON BUDGET & POLICY PRIORITIES, TO AVOID LOOMING TAX INCREASES FOR EMPLOYERS AND LIKELY BENEFIT CUTS FOR UNEMPLOYED WORKERS, MORATORIUM ON STATE INTEREST PAYMENTS TO FEDERAL UI TRUST FUND NEEDS TO BE EXTENDED 5 (2010), available at <http://www.cbpp.org/cms/index.cfm?fa=view&id=3179>.

recession.¹⁹⁴ Forcing states to make mandatory RDF replenishment payments while still struggling to meet other basic obligations does not make sense.¹⁹⁵

Second, and relatedly, replenishment rules reduce the efficacy of RDFs by reducing states' willingness to spend during recessions.¹⁹⁶ For a state facing a funding gap that spans two fiscal years, an RDF with a quick replenishment rule is the equivalent of shoveling snow from one side of the driveway to the other: the drift is just as deep, but the shoveler is tired. That is, the state incurs transaction costs without gaining any meaningful income-smoothing benefits.

Both these problems can be mitigated if the repayment problem is stretched or deferred until a time when the state's budget is on a firmer footing. In that case there is not much difference between a repayment obligation and a more general incentive to contribute to the RDF. So the central weakness of UI repayment and mandatory replenishment is that they lack the flexibility to allow states to contribute only when contributions make fiscal sense.

B. An IRA for States?

Timing is also a significant challenge for another possible withdrawal rule modeled on existing programs. Individual savers who take advantage of government incentives to contribute to retirement funds typically must pay a penalty, usually 10% of the withdrawn funds, if they withdraw before they reach age fifty-nine and a half.¹⁹⁷ The familiarity of the IRA mechanism is useful, since we have significant data on how individuals respond to its incentive structure. Accordingly, one tool for maintaining RDF balances might be to define periods of fiscal need and to penalize withdrawals from the fund outside of those periods.¹⁹⁸

The familiarity of the IRA model is the good news; the bad news is that the data suggest that many households treat their IRAs like a checking account. Early withdrawals from IRAs are fairly substantial.¹⁹⁹ That should not be surprising: a present-biased household will discount the cost of making the extra withdrawal, because the household expects to spend the money remaining in the account in the future.²⁰⁰ We should expect, then, that a tax on "early" spending, however defined,

194. *Id.* at 4.

195. See U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 102, at 24; Mattoon, *supra* note 15, at 7.

196. See ROBERT ZAHRADNIK, CTR. ON BUDGET & POLICY PRIORITIES, RAINY DAY FUNDS: OPPORTUNITIES FOR REFORM 2 (2005) (stating that replenishment rules discourage states from using their RDF funds).

197. Internal Revenue Service, *supra* note 167, at 52.

198. See Stark, *supra* note 6, at 418–19.

199. Barbara A. Butrica, Sheila R. Zedlewski & Philip Issa, *Understanding Early Withdrawals from Retirement Accounts* 2, 30 (Urban Inst. Ret. Policy Program, Discussion Paper No. 10-02, 2010) (reporting that 3% of IRA assets, or \$11 billion, was withdrawn early in 2005); Gene Amromin & Paul Smith, *What Explains Early Withdrawals from Retirement Accounts? Evidence from a Panel of Taxpayers*, 56 NAT'L TAX J. 595, 601 (2003) (reporting \$9 billion in early withdrawals in 1996).

200. Cf. Stefano DellaVigna & M. Daniele Paserman, *Job Search and Impatience*, 23 J. LAB. ECON. 527, 529 (2005) (finding that impatient unemployed workers invest less effort to acquire new source of income).

would be unlikely to deter present-biased jurisdictions from drawing down their RDF.²⁰¹

It might be possible to design around the gross-up problem, although the fungibility of money creates significant challenges. For example, states could be prohibited from paying any penalty out of RDF funds. But the state could borrow to cover the cost or pay it out of funds that had been ticketed for infrastructure or pension contributions, all of which would allow it to trade short-term gain for long-term cost.²⁰² Prior federal attempts to prevent these kinds of offsetting arrangements, often known as “maintenance of effort” clauses, have generally been viewed as failures.²⁰³

On the other hand, a federal penalty might be effective as a signaling device to voters, akin to the competitive rankings we described earlier. It would, after all, amount to an independent judgment that the state’s officials were squandering the state’s savings. If officials are largely to blame for states’ present-bias, this signal could chasten those officials by giving credence to their political rivals. As we have sketched, it is difficult for politicians to claim credibly that they are more fiscally responsible than their opposition, but that would be rather less true if one side’s claims have the imprimatur of a neutral third party (assuming the federal official could herself be seen as genuinely disinterested). Alternately, if voters are the problem, it is possible that government suggestions about responsible savings

201. Cf. Len E. Burman, Norma B. Coe, Michael Dworsky & William G. Gale, *Effects of Public Policy on the Disposition of Pre-Retirement Lump-Sum Distributions: Rational and Behavioral Influence* 2, 23–24 (CentER, Discussion Paper No. 2008-94, 2008) (attributing penalizable withdrawals to impatience and salience effects). On the other hand, as Thaler argues, households may be less inclined to spend IRA funds because they do not think of them as available for spending. Richard H. Thaler, *Psychology & Savings Policy*, 84 AM. ECON. REV. PAPERS & PROC. 186, 189–90 (1994).

To the extent that the penalty tax is effective in reducing withdrawals by IRA holders, its operation may owe as much to psychology as finance. Withdrawal triggers certain burdensome recordkeeping, such as the need to compute and report the additional tax. Some individuals may avoid withdrawal in order to put off the need to comply with the corresponding administrative burden. Cf. Oren Bar-Gill, *The Law, Economics, and Psychology of Sub-Prime Mortgage Contracts*, 94 CORNELL L. REV. 1073, 1119 (2009) (arguing that low-income households make financial decisions based on size of up-front transaction costs). But this kind of procrastination behavior does not affect officials as directly, since they can simply delegate most burdens to others.

202. Although increased borrowing, if large enough, would add to the costs of other debt-financed projects, reducing but not eliminating the short-term gains.

203. E.g., Alexander Cowell, Dennis McCarty & Albert Woodward, *Impact of Federal Substance Abuse Block Grants on State Substance Abuse Spending: Literature and Data Review*, 6 J. MENTAL HEALTH POL’Y & ECON. 173, 177 (2003); Hills, *supra* note 118 at 936 n.407. But see Karen Jacobson & Thomas G. McGuire, *Federal Block Grants and State Spending: The Alcohol, Drug Abuse, and Mental Health Block Grant and State Agency Behavior*, 21 J. HEALTH POLITICS, POL’Y & L. 751, 766 (1996) (finding evidence that increased enforcement of MOE clauses increased state spending). Cowell et al. critique the Jacobson & McGuire study as having omitted several variables, Cowell et al., *supra*, at 934, and indeed it hard not to notice that Jacobson & McGuire simply assume that nothing else transpires during the time period when they assert enforcement efforts increase.

behavior could “nudge” voters in the right direction; that is one interpretation of Thaler’s findings on programs that by default channel workers into retirement savings programs.²⁰⁴

As with incentives to save, the penalty could also be more effective if it is aimed at interest groups, rather than the public as a whole. Here again the UI federal finance system is a possible precedent. States can set their own UI rules, but they are subject to some federal guidelines from which they rarely diverge.²⁰⁵ Given the strong incentives of most state officials to diverge from their rivals, that uniformity is surprising.²⁰⁶ Surprising, that is, unless one knows that failure to satisfy federal standards triggers a tax on all state employers equal to about 5% of employee wages.²⁰⁷ It is highly likely that the threat of angry political blowback from their business communities has compelled state officials to toe the federal line.²⁰⁸

An RDF penalty system could be designed similarly to the UI system, such as by collecting the penalty through reduced federal tax deductions for the state’s corporations. That would leverage the disproportionate political power of mobile businesses. Since a corporation could presumably avoid a penalty by leaving any state that had incurred one, the threat of exit by those corporations would put heavy pressure on officials not to incur the penalty in the first place.²⁰⁹

C. Federal Control

Taking the IRA model one step further, another policy option would be for state funds to be deposited into an account that would be controlled by federal officials. States could request payouts, but any withdrawal would have to be approved by the federal superintendent. We see several tradeoffs in this approach.

Most obviously, granting control to federal officials could largely remove spending decisions from any state-level pathologies. We say “could” because the design of the federal program will determine the extent of its political

204. Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism is Not an Oxymoron*, 70 U. CHI. L. REV. 1159, 1181 (2003).

205. See U.S. House of Representatives, 2000 Green Book, Ways & Means Committee Prints No. 106-14, at 279–80 (2000) (noting that all states were in compliance with federal requirements).

206. See Brian Galle, *Federal Grants, State Decisions*, 88 B.U. L. REV. 875, 912–19 (2008) (describing state official incentives to resist homogenizing federal grants); Robert Tannenwald, Christopher J. O’Leary & Wei-Jang Huang, *New Ways of Evaluating State Unemployment Insurance*, NEW ENG. ECON. REV., March, 1999, at 15, 16 (reporting that “concerns about economic competitiveness” affect state UI policy).

207. U.S. House of Representatives, *supra* note 219, at 280.

208. Cf. *Charles C. Steward Mach. Co. v. Davis*, 301 U.S. 548, 585–89 (1937) (rejecting argument that penalty tax on employers in non-compliant states unconstitutionally coerced states to accede to federal system, but acknowledging that it provided states with “motive” to accept). That political economy insight was almost certainly in the minds of the UI program designers. See EDWIN E. WITTE, *THE DEVELOPMENT OF THE SOCIAL SECURITY ACT 128* (1963) (reporting Pres. Roosevelt’s explanation that the tax structure would encourage states to enact their own unemployment insurance systems).

209. See Frankel, *supra* note 38, at 197–202 (measuring mobility of firms in response to local tax rates).

independence. Members of Congress will typically reflect at least in part the present bias of their electorate or local officials, both of whom are important sources of political support.²¹⁰ If anything, Congress is more likely to be present-biased with respect to an RDF than local officials: by delivering an RDF payout, a member can claim immediate political rewards, but she has no control over future RDF funds and so likely places little value on them.²¹¹ And nationwide fiscal stability is a public good, so no individual member has incentives to account significantly for it.²¹² Congress can in turn influence federal agencies through oversight and confirmation hearings, budget-setting, and other similar tools.²¹³

In these respects, the problem of congressional oversight of state budgets closely resembles the political economy of congressional management of national fiscal and monetary policy. As is well known, the design of the Federal Reserve system responds to the potential present-bias of Congress by putting much of the detail of macroeconomic policy in the hands of bureaucrats with long terms in office and self-sustaining budgets.²¹⁴ This political insulation frees bureaucrats to pursue their institutional mission over a long time horizon.²¹⁵ A simple solution to the present-bias problem in RDF management, then, might be to simply assign the task of disbursing money to the Federal Reserve.

As critics of the Fed point out, though, political insulation also has its costs.²¹⁶ Obviously, insulation is likely to reduce an agency's information about popular

210. On the influence of constituent preferences on official behavior, see, e.g., Alan D. Monroe, *Public Opinion and Public Policy, 1980–1993*, 62 PUB. OPINION Q. 6, 7–25 (1998); Benjamin J. Page & Robert Y. Shapiro, *Effect of Public Opinion on Policy*, 77 AM. POLI. SCI. REV. 175, 176–90 (1983). For discussion of the state-official influence question, see Brian Galle, *The Politics of Federalism: Self-Interest or Safeguards? Evidence from Congressional Control of State Taxation 5–7* (Jan. 14, 2011) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1759510.

211. Cf. Gyung-Ho Jeong, Gary J. Miller & Andrew C. Sobel, *Political Compromise and Bureaucratic Structure: The Political Origins of the Federal Reserve System*, 25 J.L. ECON. & ORG. 472, 477 (2009) (“The political agent . . . may actually prefer less economic growth and an assured reelection to better economic prospects and loss of power.”).

212. Cf. Barry R. Weingast, Kenneth A. Shepsle & Christopher Johnsen, *The Political Economy of Benefits and Costs: A Neoclassical Approach to Distributive Politics*, 89 J. POL. ECON. 642, 656 (1981) (arguing that budgetary impact of individual spending decisions is an externality for each individual legislator).

213. Jacob E. Gersen, *Designing Agencies: Public Choice and Public Law*, in RESEARCH HANDBOOK ON PUBLIC CHOICE AND PUBLIC LAW 333, 336–38 (Daniel A. Farber & Anne Joseph O’Connell eds., 2010); Mathew D. McCubbins, Roger G. Noll & Barry R. Weingast, *Administrative Procedures as Instruments of Political Control*, 3 J.L. ECON. & ORG. 243, 246 (1987).

214. Rachel E. Barkow, *Insulating Agencies: Avoiding Capture Through Institutional Design*, 89 TEX. L. REV. 15, 21 (2010); Lisa Schultz Bressman & Robert B. Thompson, *The Future of Agency Independence*, 63 VAND. L. REV. 599, 613–14 (2010). For an argument that this outcome was something of a happy accident, see Jeong et al., *supra* note 225, at 478–94.

215. Alberto Alesina & Lawrence H. Summers, *Central Bank Independence and Macroeconomic Performance*, 25 J. MONEY, CREDIT & BANKING 151, 151–62 (1993).

216. See Chris Brummer, *How International Financial Law Works (and How it Doesn’t)*, 99 GEO. L.J. 257, 307 (2011) (noting claims of skeptics that Fed is unaccountable to public);

preferences; only the most motivated groups will actively reach out to agency personnel.²¹⁷ As we have explained, optimal state savings would in part reflect local preferences for spending and risk, meaning that if the Fed has inaccurate information some states might actually be compelled to save more than would be optimal, even taking externalities into account.²¹⁸ In contrast, the IRA model at least allows states to decide when the local benefits of withdrawal might exceed any penalty amount, offering an avenue for the input of local preferences.

A federal-control option might also be more costly than others. One reason voters and officials may be reluctant to contribute to RDFs is because they fear they will be unable to access the funds when they want or need them.²¹⁹ A stringent RDF withdrawal mechanism might then require a larger incentive payment to states to induce them to contribute in the first place. On the other hand, it is also theoretically possible that federal control could lower costs by convincing voters that their savings will not be wasted by a subsequent coalition.

D. Federal Enforcement of State Plans

Yet a third possibility could be modeled on existing methods for regulating clean air and water. The Clean Air Act and Clean Water Act allow states to develop their own plans for meeting certain pollution-reducing targets.²²⁰ The federal EPA must approve plans, and states that fail to submit a satisfactory plan are subject to direct regulation by EPA.²²¹

The existing literature thoroughly explores the costs and benefits of the state-plan approach. By allowing states to take the first steps towards a federal goal, the plan reveals some of the state-specific information held by local officials, and it allows for innovation and flexibility based on that information.²²² At the same time, state officials gain somewhat more power to lobby their way around strict application of the federal standards. Because the success of the program depends in part on states' contributions, the states gain some hold-up power over the federal partner.²²³ The complexity of the cooperative system may also make citizen participation more difficult and officials potentially less accountable.²²⁴

see also Besley & Case, *Policy Choice*, *supra* note 200, at 52.

217. Cary Coglianese, *Citizen Participation in Rulemaking: Past, Present, and Future*, 55 DUKE L.J. 943, 949–50, 965 (2006).

218. Given the degree of undersavings in the current system, though, it might be fair to say, as our mother would have: “You should have that problem.”

219. *Cf.* Wagner & Sobel, *supra* note 63, at 183 (noting that officials may prefer weak RDF rules because that arrangement increases their own autonomy).

220. 42 U.S.C. § 7410 (2006).

221. *Id.* § 7410(c), (c)(1).

222. Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570, 617, 620–21 & n.188 (1995).

223. John P. Dwyer, *The Practice of Federalism Under the Clean Air Act*, 54 MD. L. REV. 1183, 1201–06 (1995); *see also* Bradley C. Karkkainen, *Information-Forcing Environmental Regulation*, 33 FLA. ST. U. L. REV. 861, 887 (2006) (noting that states can use their control of information to game federal processes).

224. The Clean Air Act responds to this problem by making state inclusion of a wide variety of perspectives a prerequisite for plan approval. Dorf & Sabel, *supra* note 199, at 433–34 (citing 42 U.S.C. § 7405(a)(2)).

E. A Note on Triggers

For any of these options, policy makers will also have to choose how to decide when RDF withdrawals should be permitted. In general, the choice is between formulas and discretion: should money flow automatically when certain data indicators reach pre-determined levels, or should officials decide when to disburse funds? Our view is that, in this setting, formulae are preferable to administrative discretion, but formulae of this kind are largely untested in the United States.

We think formulae are more promising in the abstract because of the importance of timing to counter-cyclical spending. Discretionary outlays would better capture all the nuances of a decision to release funds, such as the size of the current recession relative to future possible recessions, the state's spending needs and risk preferences, and so on. But because of the very complexity of such decisions, and U.S. law requirements for reasoned decisions in the administrative context, we should not expect such decisions to be swift.²²⁵ Further, a lengthy deliberation creates opportunities for rent seeking by federal officials who control or influence the process, meaning that RDF determinations may be used as pork.²²⁶ These scleroses of the money flow not only reduce its efficiency but also might jeopardize its political sustainability, as the experience with the 2009 stimulus suggests.

In contrast, if funds are released according to formula, there is relatively less opportunity for delay, hold-ups, or pork.²²⁷ For instance, RDF funds might be released to a state when the state's revenues have dropped by a significant percentage from a sustainable baseline, or when per capita income or unemployment fluctuates sharply.²²⁸ Some of these numbers could be gamed by states, though, and others are collected only with some significant lag.²²⁹ Unemployment numbers are gathered pretty swiftly, and so are appealing for that reason,²³⁰ but unemployment itself is a "lagging indicator" that only imperfectly captures the status of a state economy.²³¹ A recent Federal Reserve study proposed

225. Richard J. Pierce, Jr., *The Role of the Judiciary in Implementing an Agency Theory of Government*, 64 N.Y.U. L. REV. 1239, 1264 (1989).

226. See Cheryl D. Block, *Overt and Covert Bailouts: Developing a Public Bailout Policy*, 67 IND. L.J. 951, 992–93 (1992) (making this point about government assistance to failing firms). For a review of this phenomenon in major U.S. stimulus spending in the last three decades, see Richard J. Mattoon, Vanessa Haleco-Meyer, & Taft Foster, *Improving the Impact of Federal Aid to the States*, FED. RES. CHI. ECON. PERSP., 3Q/2010, at 66, 67–70.

227. *Id.* at 70.

228. *Id.*; Courtney Burke, *Medicaid and State Budgets: Clearing Storm, Foggy Forecast*, 11 (Nat'l Health Policy Forum, Issue Brief No. 824, 2007).

229. See Robert C. Vogel & Robert P. Trost, *The Response of State Government Receipts to Economic Fluctuations and the Allocation of Counter-Cyclical Revenue Sharing Grants*, 61 REV. ECON. & STAT. 389, 399 (1979) (noting that some triggers give states incentives to manipulate their tax base); Teresa Ter-Minassian, *Decentralization and Macroeconomic Management* 11 (IMF, Working Paper No. WP/97/155, 1997).

230. Vic Miller & Andy Schneider, *The Medicaid Matching Formula: Policy Considerations and Options for Modification* 29 (AARP Public Policy Institute, Working Paper # 2004-09, 2004).

231. Mattoon et al., *supra* note 240, at 72.

instead to use a synthetic measure combining a number of different state features.²³²

Our worry with any kind of formulary trigger, whether unemployment or some other, is that they are largely untested at the federal level for use in combating recessions. State experience with formulary access to RDF funds suggests that using formulas alone might not be flexible enough to deal with varying state needs.²³³ Federal revenue sharing in the 1970's used an unemployment-rate trigger but with a severely flawed design that makes generalizing from its results difficult.²³⁴ There are only a handful of federal programs that use any kind of automatic trigger now, and none of them are designed to function well as a counter-cyclical tool. Federal education dollars vary based on local spending figures and the number of students living in poverty.²³⁵ The latter figure derives partly from the U.S. Census, which even when supplemented with annual updates obviously involves a huge lag time between actual poverty figures and increased federal dollars.²³⁶ Medicaid funding is based on a complex formula that in part depends on a three-year rolling average of a state's percentage of households living in poverty.²³⁷ It presents similar lag issues.²³⁸ Evidence suggests that Medicaid as currently structured does little to smooth revenues across states.²³⁹

* * *

Overall, then, there is no easy answer to the design problems faced by RDF supporters. Each option has strengths and weaknesses. Further empirical work, and perhaps policy experimentation, is needed in order to help decide which trade-offs are the most appealing.

CONCLUSION

Our goal here has been to offer a set of policy options to help address the challenges of state budget stability over the business cycle. The analysis has suggested that several alternative policy options deserve consideration as a means of providing increased federal support for state budget stabilization funds. Of course, a skeptical reader might reasonably question whether the federal government has the political will to undertake any of the reforms we propose. We

232. *Id.* at 76.

233. See Mattoon, *supra* note 15, at 7–8.

234. Federal aid was targeted to states whose seasonally-adjusted unemployment rate had exceeded 6% two quarters earlier. The long lag time meant that aid was denied to states in the throes of recessions in favor of states that had already recovered. Vogel & Trost, *supra* note 243, at 389–90. Further, because the trigger was based on an absolute level of unemployment, rather than a change from baseline, states that were actually growing relative to their earlier trend could collect counter-cyclical payments. Mattoon et al., *supra* note 240, at 68.

235. Wilbert van der Klaauw, *Breaking the Link Between Poverty and Low Student Achievement: An Evaluation of Title I*, 142 J. ECONOMETRICS 731, 733 (2008).

236. Gordon, *supra* note 144, at 1777–78.

237. Miller & Schneider, *supra* note 244, at 8–9.

238. Burke, *supra* note 242, at 11.

239. Stark, *supra* note 61, at 991–94.

claim no special insight into Congressional politics or the legislative process, but we do note that rainy day funds expose no obvious partisan rifts. At one time or another, RDFs have enjoyed the support of both parties. In our view, RDFs represent a “good government” solution that should appeal across the ideological spectrum. While an RDF does permit higher government spending during recessions, a well-designed fund also reduces spending at other times. Excess funds are channeled into savings for recession fighting, rather than being used to grow the size of a government, which many conservative economists believe would be a one-way trip.²⁴⁰

Whatever the U.S. political scene, our hope is that the analysis provided here may also be useful in other federations. The European Union, like the United States, has struggled during the recent recession with the problem of procyclical budget crises in states that can no longer print their own money.²⁴¹ We have focused on U.S. institutions, but much of the analysis can be readily translated to the European context. Divergent fiscal and labor policy preferences frustrate consensus at the Europe-wide level over how to head off budget crashes,²⁴² which suggests to us that a community-wide policy that encourages subnational budget stability would be a very useful option. Some recent commentators have suggested creating a Europe-wide savings fund,²⁴³ but as we noted in our discussion of an earlier U.S. RDF proposal, such a shared fund faces serious common-pool problems.²⁴⁴ Thus, our suggestions here should be of interest to EU policy makers, as well.

In short, we think it vital, and politically plausible, at least to begin a conversation about stabilizing subnational finances. We doubt that we have said all that could be said on the subject. For example, we acknowledge that another approach to the same topic might focus more on the possibility that the federal government should seek to credibly promise not to assist states that find themselves in need of bailouts, or perhaps might condition such assistance on the states’ adoption of a satisfactory rainy day fund. That is a subject for the future. In the meanwhile, we hope our work here will spark research and responses from lawyers, economists, and policy makers alike.

240. See Wolkoff, *supra* note 45, at 59 (explaining that mandatory savings rules remove discretion from government-maximizing officials). On the argument that expansions of government are self-sustaining, see GEOFFREY BRENNAN & JAMES BUCHANAN, *THE POWER TO TAX: ANALYTICAL FOUNDATIONS OF A FISCAL CONSTITUTION* 163–68 (2006) [1980].

241. Zsolt Darvas, *Fiscal Federalism in Crisis: Lessons for Europe from the U.S.* 14–15 (Inst. of Econ., Discussion Paper No. MT-DP-2010/21, 2010), available at <http://econ.core.hu/file/download/mtdp/MTDP1021.pdf>.

242. Paul De Grauwe, *Crisis in the Eurozone and How to Deal With It*, CEPS Policy Brief No. 204, at 3–4, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1604453.

243. Daniel Gros & Thomas Mayer, *Towards a Euro(pean) Monetary Fund*, CEPS Policy Brief No. 202, at 2, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1615478.

244. Like Mattoon, Gros & Mayer propose to mitigate this problem by requiring larger contributions by nations with riskier policies. *Id.* at 3.