

Risky Returns: Accounting for Risk in the Federal Budget

DAVID KAMIN*

There has been a growing consensus among academics, analysts, and policymakers that the official federal budget estimates should reflect the “cost of risk”—the amount that the private market would demand to bear risk. The result would be to add tens, if not hundreds, of billions of dollars in annual costs to the federal budget and, in combination with the budget enforcement laws now in place, make it much more difficult for the federal government to create or expand programs that involve risk—ranging from student lending to home mortgage guarantees to, potentially, broad social insurance programs like unemployment insurance. This Article is the first academic analysis to reject this consensus and argue that including the cost of risk would improperly skew budget estimates. In addressing this issue, this Article explores the purpose of budgeting and concludes that official budget measures are best used as a gauge of the federal government’s fiscal position and not as a means of capturing broader social effects. Including the cost of risk in the official budget estimates confuses cost-benefit analysis with budgeting and would generate incoherence in the official budget measures that would leave them doing little well at all.

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INTRODUCTION

With the financial system in crisis and credit markets running dry, Congress stepped in and established the Troubled Asset Relief Program (TARP) in the fall of 2008.¹ TARP was a novel program that helped halt the financial crisis in substantial part by shifting risk from the financial sector to the federal government. Financial markets faced not only losses but also uncertainty as to how large those losses might be; TARP shifted that uncertainty to the government. In writing the TARP law, Congress took an unusual step; it directed the budget estimators to include in their cost estimates not just the expected losses to the government but also how much the private sector would demand to bear that uncertainty, or in other words, the cost of market risk.² This risk adjustment roughly doubled the initial estimate of the cost of TARP, adding about \$150 billion to the spring 2009 estimate.³

This treatment of TARP is exemplary of a broader trend among many budget experts and policy makers. There has been a growing consensus that the cost of risk should be incorporated in the budget, especially when it comes to federal credit programs—adding to the budget estimates what the private market would demand to bear risk.⁴ (Supporters have termed this method “fair value accounting”—though, as this Article explains, it is in fact anything but fair.) The idea is to make clear the “true cost” of risky programs and activities to the federal taxpayer. Doing so is supported by the Congressional Budget Office (CBO),⁵ many economists,⁶ a

1. Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343, 122 Stat. 3765 (enacting the Troubled Asset Relief Program).

2. *Id.* § 123, 122 Stat. at 3790–91 (“[T]he cost of troubled assets and guarantees of troubled assets shall be calculated by adjusting the discount rate . . . for market risks.”).

3. *See infra* Part IV.E.

4. For a general description of how risk would be incorporated in estimates of federal credit programs, see CONG. BUDGET OFFICE, FAIR-VALUE ACCOUNTING FOR FEDERAL CREDIT PROGRAMS (2012). As described there, this approach incorporates what the private market would demand to bear risk by “produc[ing] estimates of the cost of providing credit that either correspond to or approximate the market price of that credit.” *Id.* at 8. Or, put somewhat differently, “instead of using Treasury rates to discount . . . cash flows, fair-value estimates employ discounting methods that are consistent with the risk of the loan or loan guarantee.” *Id.*

5. Most recently, CBO released a paper devoted entirely to making the case for incorporating the cost of risk into its budget estimates. *Id.* at 2 (“In the view of the Congressional Budget Office (CBO), adopting a fair-value approach would provide a more comprehensive way to measure the costs of federal credit programs and would permit more level comparisons between those costs and the costs of other forms of federal assistance.”). CBO has been building the case for such accounting for a number of years. *See, e.g.*, CONG. BUDGET OFFICE, ACCOUNTING FOR FHA’S SINGLE-FAMILY MORTGAGE INSURANCE PROGRAM

major bipartisan fiscal commission,⁷ and the House of Representatives as passed in recent legislation.⁸ This Article is the first academic analysis to diverge from this consensus, and, as it circulated as an unpublished manuscript in recent months, it helped lay the intellectual groundwork for a set of new policy papers and other commentary that have questioned the idea of counting the cost of risk in federal budgeting.⁹

ON A FAIR-VALUE BASIS 4 (2011) [hereinafter CONG. BUDGET OFFICE, FHA REPORT], available at http://www.cbo.gov/ftpdocs/120xx/doc12054/05-18-FHA_Letter.pdf (“Using fair-value (or risk-adjusted) estimates is an alternative approach that more fully incorporates the cost to the government of the risk inherent in its credit transactions.”); CONG. BUDGET OFFICE, LETTER TO THE HONORABLE JUDD GREGG 3 (2010) [hereinafter CONG. BUDGET OFFICE, STUDENT LOAN LETTER], available at http://www.cbo.gov/ftpdocs/113xx/doc11343/03-15-Student_Loan_Letter.pdf (“Fair-value estimates provide a more comprehensive measure of the cost of loan and loan guarantee programs because those estimates include administrative costs and the cost of risk.”); CONG. BUDGET OFFICE, ESTIMATING THE VALUE OF SUBSIDIES FOR FEDERAL LOANS AND LOAN GUARANTEES 3 (2004) [hereinafter CONG. BUDGET OFFICE, CREDIT SUBSIDY REPORT], available at <http://www.cbo.gov/ftpdocs/57xx/doc5751/08-19-CreditSubsidies.pdf> (“Market risk is a cost to the government. . . . Using Treasury rates to discount expected cash flows neglects the cost of market risk and results in the systematic understatement of costs for both direct and guaranteed loans. Using risk-adjusted discount rates, which include the cost of market risk, would correct that understatement and improve the comparability of budgetary costs for credit and other programs.”).

6. See, e.g., Deborah Lucas, *Introduction to MEASURING AND MANAGING FEDERAL FINANCIAL RISK* 1, 2 (Deborah Lucas ed., 2010) (“A fundamental theme running through this volume is that market prices, or ‘fair value’ estimates, are the best measure of the opportunity cost to society of government expenditures and that federal obligations should therefore be evaluated using them. Most economists accept the premise . . .”).

7. PEW-PETERSON COMM’N ON BUDGET REFORM, GETTING BACK IN THE BLACK 29 (2010) (“Fair-value accounting would make clear that the federal government cannot invest in risky assets more cheaply nor earn a higher rate of return than do private firms or individuals.”).

8. See H.R. Con. Res. 112, 112th Cong. § 507 (2012) (requiring the CBO to supply risk-adjusted estimates of credit programs upon request and allowing the House Budget Committee Chairman to use those estimates for purposes of budget rules and enforcement); Budget and Accounting Transparency Act of 2012, H.R. 3581, 112th Cong. tit. 1 (2012) (requiring risk-adjusted estimates of federal credit programs).

9. See, e.g., JIM HORNEY, RICHARD KOGAN & PAUL VAN DE WATER, CTR. ON BUDGET & POLICY PRIORITIES, HOUSE BILL WOULD ARTIFICIALLY INFLATE COSTS OF FEDERAL CREDIT PROGRAMS 5 n.9 (2012), available at <http://www.cbpp.org/files/1-23-12bud4.pdf> (noting that they were indebted to this article for setting out “arguments against including nonbudgetary costs of credit programs in the federal budget”); JOHN GRIFFITH, CTR. FOR AM. PROGRESS, AN UNFAIR VALUE FOR TAXPAYERS: “FAIR VALUE” BUDGETING IS A DANGEROUS GAME TO PLAY WITH FEDERAL LOANS AND GUARANTEES 4 n.11 (2012), available at http://www.americanprogress.org/issues/2012/02/pdf/fair_value.pdf (citing to this Article as the source of many of its arguments against risk adjustment for federal credit programs); Letter from Robert Reischauer, President of the Urban Inst., to Christopher Van Hollen, Ranking Member, House Comm. on the Budget (Jan. 23, 2012) (adopting many of the arguments in this Article including the difference between budgeting and cost-benefit analysis).

At issue is whether the federal budget should reflect tens, if not hundreds, of billions of dollars in additional annual costs,¹⁰ which would significantly change our apparent fiscal course. In combination with federal budget rules, it would also make it more difficult, and perhaps impossible, for the federal government to create or expand programs that involve risk—programs like student loans,¹¹ mortgages guaranteed by the Federal Housing Administration,¹² and many others. That is because, under federal budget rules, the risk-adjusted costs of expanding these programs would have to be paid for with either additional spending cuts or tax increases.¹³

This Article explains why the emerging consensus in support of risk adjustment in the budget is wrong. Risk adjustment would be a significant barrier to federal action where that action involves risk, and this is not an appropriate barrier. It confuses cost-benefit analysis with budgeting and mistakes the true purpose of budget estimates and what the budget can do well—namely, to serve as a measure of the federal government’s fiscal position.

There are several claims put forward to support risk adjustment. I identify four key ones:¹⁴

1. The “fiscal position” claim—that risk adjustment is needed to correctly state the true budgetary cost to the federal government.

10. See *infra* Part IV for examples of the changes in the cost estimates for select programs and activities.

11. See CONG. BUDGET OFFICE, STUDENT LOAN LETTER, *supra* note 5, at 6 tbl.1 (showing that, without a risk adjustment, the student loan program under the President’s proposal would save \$87 billion from 2010–20 but, with a risk adjustment, would cost \$118 billion).

12. See CONG. BUDGET OFFICE, FHA REPORT, *supra* note 5, at 2 (finding that, without a risk adjustment, the FHA program is projected to save \$4.4 billion in 2012 but with a risk adjustment, is projected to cost \$3.5 billion in 2012).

13. For mandatory programs (like the student loan program) and taxes, Pay-as-You-Go (PAYGO) requires that any program expansions or tax cuts be fully paid for by either offsetting cuts in mandatory spending programs or increases in taxes. PAYGO is written into statute—implementing automatic cut backs in certain mandatory programs if a debit remains on the “PAYGO scorecard” at the end of a congressional session. See Statutory Pay-as-You-Go Act of 2010, Pub. L. No. 111-139, 124 Stat. 8. PAYGO is also written into Senate rules—generating a point-of-order if violated. See S. Con. Res. 21, 110th Cong. § 201 (2008). The House has its own version that covers mandatory spending only (“CUTGO”). See H. Res. 5, 112th Cong. § 2(d)(1) (2011). For a program like student loans, this would mean a risk adjustment would make it more difficult to expand the program (since a greater cost would be booked on the “scorecard”), but the existing program could continue unchanged.

For discretionary programs (programs like the FHA home loan guarantees, subject to annual appropriation), there are now overall annual caps set in statute through 2021 under the Budget Control Act of 2011. Pub. L. No. 112-25, tit. 1, §§ 101–105, 125 Stat. 240, 241–47 (codified at 2 U.S.C. §§ 645, 900–902, 904). This means that, for a program like FHA home loan guarantees, risk adjustment would also make any expansions more difficult—even if the caps were adjusted upward to reflect the existing risk in federal credit programs.

14. See *infra* Part I.C.

2. The “resource allocation” claim—that a central purpose of the budget is to allow trade-offs between different uses of resources and that risk adjustment is needed so that policymakers recognize the true costs of their actions.
3. The “no arbitrage” claim—that the federal government should not be shown to make money by borrowing at the essentially risk-free rate available to the federal government and then investing in risky activities that pay back a risk premium.
4. The “no free lunch” claim—that, by taking on risky activities, policymakers cannot reduce or eliminate risk but rather can only shift it from one part of the population to another. There is no free lunch to be had, and so risky activities should cost the federal government just as much as private market actors.

This Article responds in detail to each of these claims. The main thrust of that response is as follows. A budget is a Swiss army knife of sorts, used in multiple ways.¹⁵ However, this Article argues that the overriding purpose of the budget is as a means of measuring and controlling the federal government’s fiscal position—the position of the federal government relative to its intertemporal budget constraint. This idea is a simple one. The federal government has to pay its bills, and the budget should show the degree to which we must adjust current policies to achieve that and how incremental policies affect our ability to do so.¹⁶ Measuring the fiscal position and the effects of policies on that position goes to the core of much of the current budget debate, is important as an economic matter to avoid a loss of market confidence, is relevant to political transparency and accountability, is compatible with our existing budget rules, and is something that can be done well by budget metrics.

Gauging the government’s fiscal position requires measuring what I call the “fiscal effect” of policies. This is the expected effect of policies on the financial inflows and outflows of the federal government. And, when the federal government takes on risk, the amount that the private market would demand to bear that risk is not a fiscal effect. Rather, it is a transfer of risk from one part of the population to another (or, potentially, a reduction in total risk). Counting this risk shift as a fiscal cost to the government creates a phantom cost where none exists. Doing so is

15. Thanks to Dan Shaviro for this analogy. Or, as Allen Schick has put it, “The budget has multiple measures because it has multiple uses.” ALLEN SCHICK, *THE FEDERAL BUDGET: POLITICS, POLICY, PROCESS* 47 (2d ed. 2000).

16. More technically, the federal government faces a budget constraint such that the net present value of the government’s future stream of revenues must equal the net present value of future government consumption plus the current value of government debt. If the government were to violate this “budget constraint,” the government would essentially have defaulted on its debt, taxing resources away from lenders in order to meet its needs. See Alan J. Auerbach, Jagadeesh Gokhale & Laurence J. Kotlikoff, *Generational Accounting: A Meaningful Way to Evaluate Fiscal Policy*, *J. ECON. PERSP.*, Winter 1994, at 73, 75 (describing government’s intertemporal budget constraint).

particularly odd in combination with our budget rules. Under rules meant to prevent policies from worsening the fiscal position, policymakers would be required to pay for the cost of risk—by either cutting spending or raising taxes. Policymakers would essentially be enacting financing for a nonexistent fiscal cost.

This is not to deny that uncertainty is relevant to the fiscal position. Uncertainty increases the probability that policymakers will have to make further adjustments once actual results become available—and, in itself, could undermine market confidence in our fiscal course. However, this type of uncertainty comes not just from the government bearing economic risk, but from other sources as well, such as uncertainty as to how to accurately model the effects of policies. More generally, the budget offices should either qualitatively or quantitatively report their relative confidence in budget estimates. The answer, though, is not a risk adjustment, which adds an arbitrary cost for certain types of uncertainty in the federal books and causes the estimates shown in the budget to differ from the best guess of the actual outcome.

This is also not to say that the fiscal position is all that matters. To the contrary, policymaking should, to the extent possible, take into account the full costs and benefits of policies; that is how resource allocation should be done. And, where possible, the budget offices and agencies should supply policymakers with information about these broader social effects, including the welfare effects of the government bearing risk. However, budgeting is a different exercise than cost-benefit analysis. It is an exercise in making sure that policies, whether justified or not, are financed and that the government is on a sustainable fiscal course.

In sum, risk adjustment puts a thumb on the scale against government action—of taking on risk—by adding in one nonfiscal effect to the federal books. It does this without adding any of the benefits, including the possible benefits from the federal government bearing risk. So, even as risk adjustment would leave the federal budget as a poor gauge of the effect of policies on the fiscal position, it does a poor job of presenting the full benefits and costs that policymakers should consider in evaluating policies. As a result, it would leave budget measures doing little well at all.

This Article proceeds as follows. Part I reviews the concept of risk and describes the justifications that have been offered for including risk adjustment in the federal budget. Part II argues that the overriding purpose of budget metrics is to control and measure the federal government's fiscal position and contrasts that with the alternative of assisting in resource allocation. Part III revisits the justifications for risk adjustment in light of this purpose and finds that risk adjustment is inconsistent with accurately assessing the federal government's fiscal position—and, in fact, would result in incoherent budget measures. Finally, as a way to illustrate the consequences of my approach, Part IV applies these lessons to budgeting for five different areas: (1) federal credit programs; (2) capital gains receipts; (3) the National Railroad Retirement Investment Trust; (4) Social Security; and (5) TARP.

I. REFLECTING THE COST OF RISK IN THE FEDERAL BUDGET

A. Risk Aversion and Undiversifiable Risk

The idea that risk is costly is an old and core concept of economic theory. Since Daniel Bernoulli first formalized the theory of risk aversion, economists and social scientists have developed a thick literature exploring how and why people dislike risk—and how risk can be redistributed and reduced.¹⁷ This section briefly reviews the basic theory.

In short, people are risk averse because of their decreasing marginal utility of income.¹⁸ As a general matter, people value the first dollar of income more than they value the next dollar of income and so on. Because of that, losing a dollar will cost people more than gaining a dollar will benefit them in terms of welfare (or “utility”). This asymmetry means that there is a cost associated with uncertain outcomes. If there are two deals with the same expected monetary value (\$100) but one produces the outcome with certainty and the other could result in either a higher or lower result (50% chance of \$150 and 50% chance of \$50), then the second, uncertain deal will generally be worth less to a person than the first, certain deal.

This conclusion—that the uncertain outcome is worth less than the certain one—is grounded in preferences. And, there are circumstances in which preferences change and in which people prefer to be subjected to risk (gambling is a key

17. See DANIEL BERNOULLI, EXPOSITION OF A NEW THEORY ON THE MEASUREMENT OF RISK (Louise Sommer trans., Gregg Press 1967) (1738) (exploring why the value of a risky transaction depends not only on the expected monetary value of the outcome but also on “one’s specific financial circumstances” and, thus, the marginal value of money). Bernoulli’s theory underlies modern portfolio theory—the theory discussing how people should optimally choose and diversify among risky investments to maximize utility. This theory was first laid out by Harry Markowitz. See generally HARRY M. MARKOWITZ, PORTFOLIO SELECTION: EFFICIENT DIVERSIFICATION OF INVESTMENTS (1959) (introducing modern portfolio theory).

18. As Bernoulli put it, “The determination of the *value* of an item must not be based on the *price*, but rather on the *utility* it yields. . . . [T]here is no doubt that a gain of one thousand ducats is more significant to a pauper than to a rich man though both gain the same amount.” BERNOULLI, *supra* note 17, at 24 (emphasis in original). At the time, Bernoulli specifically theorized that the marginal utility of money fell in proportion to income—or, as he put it, “any increase in wealth, no matter how insignificant, will always result in an increase in utility which is inversely proportionate to the quantity of goods already possessed.” *Id.* at 25 (emphasis omitted). Bernoulli’s theory seems broadly consistent with the modern empirical evidence. See, e.g., HM TREASURY, THE GREEN BOOK: APPRAISAL AND EVALUATION IN CENTRAL GOVERNMENT 93 (2003), available at http://www.hm-treasury.gov.uk/d/green_book_complete.pdf (concluding that, in British context, “the empirical evidence suggests that . . . the utility of a marginal pound is inversely proportional to the income of the recipient”); R. Layard, G. Mayraz & S. Nickell, *The Marginal Utility of Income* (Ctr. for Econ. Performance, Discussion Paper No. 784, 2007), available at <http://cep.lse.ac.uk/pubs/download/dp0784.pdf> (using survey evidence from over fifty countries to broadly confirm hypothesis that marginal utility of income is inversely proportional to income).

example). However, these situations are exceptions to the rule; as a general matter, people are risk averse and will demand compensation for facing uncertainty.¹⁹

Risk is not immutable. It can be reduced through diversification. In particular, combining uncertain positions, if the outcomes are less than perfectly correlated, reduces overall uncertainty for the average return. It is the law of large numbers at work. As more and more uncertain—but not perfectly correlated—outcomes are combined, variance of the average outcome falls to a point. And, under certain circumstances (outcomes are uncorrelated and the variance of no single outcome is too large relative to the others), variance in the average outcome approaches zero as more outcomes are combined—and such diversification can essentially eliminate risk across a portfolio.²⁰ This is why, if markets are efficient, “diversifiable risk” should be eliminated.

However, undiversifiable risk would remain, even if markets were efficient. In these cases, uncertain outcomes are either correlated with one another, or the variance of one outcome is too large relative to the others; as a result, combining the outcomes cannot eliminate risk.²¹ Economic downturns and booms are often cited as examples. In these cases, returns across investments will fall and rise together, and combining them does not eliminate uncertainty (this is why undiversifiable risk is frequently referred to as “market risk”²²). A highly diversified stock portfolio will still fall when the economy enters recession (or rise in a boom), since the returns on the many different stocks held are related to each other. When it comes to undiversifiable risk, it is not a question of eliminating or reducing it—but, instead, of who bears it.²³

Those who bear undiversifiable risk generally demand compensation, referred to as a “risk premium,” for doing so, reflecting the cost of risk.²⁴ For example, stocks tend to pay higher rates of return than relatively risk-free government securities

19. For a review exploring the exceptions to diminishing marginal utility of income and risk aversion, see generally Sarah B. Lawsky, *On the Edge: Declining Marginal Utility and Tax Policy*, 95 MINN. L. REV. 904 (2011). Based on such behaviors as gambling, Lawsky concludes that “while some evidence supports declining marginal utility, there is also evidence that some people have increasing marginal utility over at least some range of income.” *Id.* at 951. To the extent that people do not demand compensation for risk, then risk adjustment—based on market prices—would have little effect on budget measures. However, that is generally not the case. Markets do demand compensation for risk, and risk adjustment, as a result, has a substantial effect on budget measures. Part IV explores risk adjustment in specific programs, showing the magnitude of the effect.

20. See MARKOWITZ, *supra* note 17, at 102–15 (describing how diversification can eliminate risk and the circumstances under which such diversification will fail to do so).

21. See *id.*

22. See, e.g., CONG. BUDGET OFFICE, CREDIT SUBSIDY REPORT, *supra* note 5, at 4 (“Market risk arises from the volatility of the economy and from associated changes in the value of aggregate wealth.”).

23. See, e.g., *id.* at 5 (“[M]arket risk cannot be eliminated by diversification because it results from an aggregate change in asset values. . . . At best, a government guarantee could shift the market risk from one group (lenders) to another (taxpayers and other government stakeholders).”).

24. E.g., Henning Bohn, *Comment*, in MEASURING AND MANAGING FEDERAL FINANCIAL RISK, *supra* note 6, at 54, 59 (defining the risk premium).

because stocks are subject to undiversifiable risk for which investors demand compensation (though there may be other factors as well creating a gap between the two rates of return).²⁵

B. How Risk is Measured in the Federal Budget Today

The federal government faces risk across the budget and on “both sides” of the ledger. Capital gains tax receipts rise and fall with the stock market. Loans made by the federal government may or may not be paid back depending on overall economic conditions. The cost of unemployment insurance rises and falls with the overall unemployment rate. The list could go on. However, federal budget estimates, for the most part, do not take into account a “cost of risk”—the amount that the private market would demand to bear such uncertainty because private market participants give greater weight to bad outcomes than good ones. Rather, budget estimates tend to reflect central estimates that equally weight good and bad outcomes.²⁶

For example, CBO describes how its budget estimates use an “expected value” to summarize fiscal effect of risky transactions in the case of many types of uncertain events:

Using the probabilistic approach, the analyst estimates the expected value of a proposal’s budgetary effect—that is, the weighted average of the effects associated with all possible sets of circumstances, taking account of their respective probabilities. Hence, the approach is also known as expected-value estimating. In principle, using weights equal to the probabilities of the various outcomes can yield budget estimates that are unbiased: if the assumptions of a particular analysis are accurate, then the estimate equals the average of the costs that would be

25. There is considerable debate whether the whole gap between the average return on equities and that on government securities reflects payment for undiversifiable risk or other factors as well. Rajnish Mehra and Edward Prescott famously concluded that the size of the differential presents a puzzle that cannot be explained by risk aversion alone and may result from market inefficiency or other factors. For a review of this puzzle and the literature responding to it, see Rajnish Mehra & Edward C. Prescott, *The Equity Premium in Retrospect*, in 1 HANDBOOK OF THE ECONOMICS OF FINANCE 889 (George M. Constantinides et al. eds., 2003).

26. CBO and other budget offices often use an “expected value” as the central estimate. See *infra* note 27 and accompanying text. However, there is not a uniform approach to calculating central estimates for budget purposes. In other cases, analysts will calculate the median—the midpoint of the distribution, with a fifty percent chance that the result will be higher or lower than that. Other estimates may represent the mode—the most frequent outcome. However, in any case—absent risk adjustment—budget analysts generally do not give greater weight to worse outcomes than they do better outcomes in calculating these central estimates, which is at the core of risk adjustment. And, based on past experience, CBO finds that its total budget estimates are, in fact, close to the center of the distribution of budget outcomes and not biased one way or the other. See CONG. BUDGET OFFICE, THE UNCERTAINTY OF BUDGET PROJECTIONS: A DISCUSSION OF DATA AND METHODS 9 (2007) (“[T]he average of past deviations for each horizon is not statistically significantly different from zero.”).

observed if the proposal could be implemented over and over again, as if in a cosmic laboratory, with each case differing only in the way the uncertain factors turn out.²⁷

Thus, the expected value reflects an equal weighting of bad and good fiscal outcomes—that is, the weight depends only on the probability of the outcome. Take, for example, a program that has a 50% chance of costing \$100 and a 50% chance of costing nothing. The federal budget estimate will, using the expected value, show that as costing \$50 (the sum of 50% times \$100 plus 50% times zero). This does not incorporate the cost of risk—the additional amount private market participants would demand to bear that risk (say, an additional \$10) because they would give greater weight to the bad outcome (the \$100 cost) than the good outcome (the zero cost).

Such uncertainty in federal government transactions can translate into risk for the American people. To the extent that the risk taken on by the federal government is undiversifiable—and does not average out across the portfolio of the federal government or the American people—then it creates uncertainty as to how much resources people will have at their disposal as a result of either government spending or taxation. To the extent that a financial risk turns out well for the federal government, this means that future spending can be higher or tax levels lower, and the opposite is true if the financial risk turns out badly. The resulting uncertainty is costly to a risk-averse population, and the private market would demand to be compensated for that risk if asked voluntarily to bear it.²⁸

27. See CONG. BUDGET OFFICE, ESTIMATING THE COSTS OF ONE-SIDED BETS: HOW CBO ANALYZES PROPOSALS WITH ASYMMETRIC UNCERTAINTIES 6 (1999), available at <http://www.cbo.gov/ftpdocs/15xx/doc1589/onesided.pdf>. See also CONG. BUDGET OFFICE, QUANTIFYING UNCERTAINTY IN THE ANALYSIS OF LONG-TERM SOCIAL SECURITY PROJECTIONS (2005), available at <http://www.cbo.gov/ftpdocs/68xx/doc6873/11-16-MonteCarlo.pdf> (describing how CBO uses Monte Carlo analysis to calculate the uncertainty around its expected value estimates of Social Security); CONG. BUDGET OFFICE, CBO'S ESTIMATE OF COST OF THE ADMINISTRATION'S PROPOSAL TO AUTHORIZE FEDERAL FINANCIAL ASSISTANCE FOR THE GOVERNMENT-SPONSORED ENTERPRISES FOR HOUSING 1 (2008), available at <http://www.cbo.gov/ftpdocs/95xx/doc9574/07-22-GSEs.pdf> (providing an expected value estimate of the budgetary cost of financial support for Fannie Mae, Freddie Mac, and the Federal Home Loan Banks).

28. See CONG. BUDGET OFFICE, CREDIT SUBSIDY REPORT, *supra* note 5, at 4 (“When the government assumes credit risk, that risk is passed on to government stakeholders [R]isk is shifted to taxpayers and beneficiaries of government programs, who are, in essence, equity holders in the government’s financial activities.”). Note that, to the extent the government takes on diversifiable risk, that risk should, essentially, be eliminated as the federal government spreads it across the population as a whole—and there should not be a cost associated with it to taxpayers or program beneficiaries. See Kenneth J. Arrow & Robert C. Lind, *Uncertainty and the Evaluation of Public Investment Decisions*, 60 AM. ECON. REV. 364, 365–66 (1970) (demonstrating “that if the returns from any particular investment are independent of other components of national income, then the present value of this investment equals the sum of expected returns discounted by a rate appropriate for investments yielding certain returns”).

While most of the federal budget does not take into account the cost of risk, there are exceptions, creating inconsistency across different programs. Take, for example, the National Railroad Retirement Investment Trust: the funds in the Trust are invested in private securities, and the budget offices discount for the cost of risk in projecting returns.²⁹ And, as already mentioned, Congress mandated that the Office of Management and Budget (OMB) and CBO take into account the cost of risk in estimating the cost of the TARP.³⁰

In these exceptions, risk itself is scored as a cost to the federal budget. To take the stylized example above: under a risk adjustment, the \$10 risk premium demanded by the private markets would score as a cost to the federal budget. The program, with a 50% chance of costing \$100 and a 50% chance of costing nothing, would be estimated to cost \$60.

In short, the current treatment of risk in the federal budget is not entirely consistent. Most programs are scored using central estimates that do not weight good outcomes any differently than bad outcomes, but the budget effect of a few programs are scored taking into account a cost of risk.

C. Why Risk Adjust—Four Claims

In recent years, there has been a growing consensus among economists, budget experts, and policymakers that the federal budget should incorporate the cost of risk in estimating the cost of federal programs or at least in estimating the cost of federal credit programs. Under this view, the federal budget should not reflect the expected value (or other unbiased central estimate) of a program or activity but rather what the private market would demand in total compensation for financing that program or activity.

The bipartisan Pew-Peterson report on budget reform sums up this perspective:

[T]he budget should use fair-market values in calculating costs for financial guarantees, insurance, direct loans, loan guarantees, and programs that invest in risky financial assets. Fair-value accounting would make clear that the federal government cannot invest in risky assets more cheaply nor earn a higher rate of return than do private firms or individuals. Ultimately, taxpayers bear all the costs of investing, and this fact should be explicitly reflected in the budget.³¹

29. See *infra* Part IV.C.

30. See *infra* Part IV.E. There is no particular logic separating the relatively few exceptions—programs in which the official budget estimates now take into account the cost of risk—and those that do not. In some cases, these exceptions arose at the direction of Congress (as with TARP) and, in others (such as with the National Railroad Retirement Investment Trust), it is the choice of the budget offices. Other exceptions include certain funds committed to the International Monetary Fund (with the risk adjustment at the direction of Congress) and CBO's estimates for the ongoing cost of operations for Fannie Mae and Freddie Mac (with the risk adjustment done at CBO's discretion). See CONG. BUDGET OFFICE, *supra* note 4, at 11 (describing how CBO takes into account the cost of risk for certain IMF funds, as well as operations of Fannie Mae and Freddie Mac).

31. PEW-PETERSON COMM'N ON BUDGET REFORM, *supra* note 7, at 29.

Some of the leading proponents of this view come from the influential CBO.³² And, economists more broadly—most prominently, Deborah Lucas of MIT (and formerly of CBO)—have strongly supported the concept.³³ Further, some of the leading public finance economists, such as Peter Diamond and Peter Orszag, have called for risk adjustment in the context of the Social Security trust fund and its investments.³⁴

Policymakers—particularly Republicans opposed to government intervention—have taken notice. In 2012, Republicans twice successfully pushed the House of Representatives to approve legislation that would introduce risk adjustment into the official budget estimates of federal credit programs used for purposes of enforcing budget rules,³⁵ though the Senate did not agree.

The reasons given for changing the budget treatment of risk are various. The following sections review four key claims that have been offered as justifications for incorporating risk in federal budget estimates.

1. Fiscal Position Claim

This claim maintains that the current approach—of not doing a risk adjustment—fails to accurately depict the effect of these programs on the federal government's fiscal position (the “fiscal position” claim). From this perspective, the current treatment understates fiscal costs to the federal government. Programs—like student loans or mortgage guarantees through the Federal Housing Administration—that are currently shown to reduce the deficit may, in fact, be doing the opposite.³⁶ Commentators and policymakers frequently imply that, when the federal government bears market risk, this worsens its fiscal position (but without stating clearly how this represents a fiscal cost to the government).

To take a few examples: Donald Marron, former acting director of CBO and now director of the Urban-Brookings Tax Policy Center, writes that the current approach “likely overstates the value of the loans and loan guarantees that the

32. *See supra* note 5.

33. As Lucas puts it: “[M]arket prices, or ‘fair value’ estimates, are the best measure of the opportunity cost to society of government expenditures and that federal obligations should therefore be evaluated using them. Most economists accept the premise” Lucas, *supra* note 6, at 2. *See also* Coleman Bazelon & Kent Smetters, *Discounting Inside the Washington D.C. Beltway*, J. ECON. PERSP., Fall 1999, at 213, 216 (“In sum, there is little evidence supporting the argument that government should price risks at less than the private market.”).

34. PETER A. DIAMOND & PETER R. ORSZAG, *SAVING SOCIAL SECURITY: A BALANCED APPROACH* 42 (2004) (“The vast majority of economists would argue that, in reporting the projections [of Social Security investing in private securities], at least some adjustment should be made for th[e] increased risk”).

35. *See supra* note 8.

36. These programs are shown to reduce the deficit under current measures since the federal government can finance itself at a near risk-free rate (the rate charged on Treasury securities) and charge the students and homeowners a higher rate than that—in part, charging the risk premium that the private market would demand. Even if the federal government does not charge the full risk premium, this creates an arbitrage opportunity. *See infra* notes 126–29 and accompanying text.

Federal Government offers and thus understates the budgetary cost of providing that financing. That understatement could be corrected, however, if the [government] instead used risk-adjusted discount rates.³⁷ Similarly, Deborah Lucas and Marvin Phaup have described the current scoring system as encouraging Congress to increase spending financed by the appearance of “illusory resources” to the federal government.³⁸ And, in this vein, the committee report on the last House budget resolution argues that the savings CBO officially estimated from expanding the federal government’s direct student lending (in place of private lending guaranteed by the federal government) were overstated because of the failure to take risk into account. For that reason, the committee report concludes that the spending those savings had paid for—expanded income-based repayment and a major community college initiatives, among others—should be repealed, presumably as a matter of fiscal discipline.³⁹

2. Resource Allocation Claim

A second reason given for changing the budgetary treatment of risk is to improve resource allocation decisions (the “resource allocation” claim). As Lucas and Phaup have written, the failure to take into account the cost of risk “makes federal credit and some insurance programs appear to cost less than their market value, thereby favoring such assistance over alternatives that are accounted for at market prices.”⁴⁰

In this view, a central purpose of the budget is to allow “trade-offs to be made among competing uses of resources.”⁴¹ Congress must choose whether to invest an additional dollar in education, for example, at the expense of other spending—and if it does so, whether that spending should be in the form of a grant, loan, or loan guarantee. The budget is an allocative tool and is “used to make comparisons between different types of expenditures.”⁴² To make comparisons meaningful, Lucas and Phaup argue that “budget accounting aims to price alternative expenditures in consistent units of cost.”⁴³

37. Donald B. Marron, *Measuring and Managing Federal Financial Risk: A View from the Hill*, in MEASURING AND MANAGING FEDERAL FINANCIAL RISK, *supra* note 6, at 21, 27 (footnote omitted).

38. Deborah Lucas & Marvin Phaup, *The Cost of Risk to the Government and Its Implications for Federal Budgeting*, in MEASURING AND MANAGING FEDERAL FINANCIAL RISK, *supra* note 6, at 29, 40 (describing how when the Railroad Retirement Investment Trust was invested in private securities, CBO and OMB agreed to risk-adjust the returns to avoid encouraging “increased spending from illusory resources”).

39. H.R. Rep. No. 112-421, at 89 (2012) (“[T]he Congressional Budget Office provided estimates showing that projected future savings from a government takeover of all Federal student loans decreased dramatically when ‘market risk’ was taken into account. . . . Unfortunately, [the Student Aid and Fiscal Responsibility Act of 2009] used the higher non-adjusted savings projection to subsidize the new health care law and to increase spending on several education programs.”).

40. Lucas & Phaup, *supra* note 38, at 29.

41. *Id.* at 40.

42. *Id.* at 30.

43. *Id.*

According to this line of argument, the government generally purchases goods and services at market prices. When the government purchases from the private sector—whether for military hardware or the services of the federal workforce—that is reflective of a market price. As a result, the argument goes that to put risk on an equal footing, the market price of risk should be quantified.⁴⁴

As Lucas and Phaup conclude, “the budget process affects resource allocation primarily by allowing policymakers to weigh the costs of alternative means of satisfying fairly specific goals For these types of decisions, it is easy to find examples . . . where risk adjustment reduces distortions in cost comparisons.”⁴⁵

3. No Arbitrage Claim

A third reason given for incorporating risk adjustment in the federal budget is to eliminate the appearance of arbitrage opportunities for the federal government, when in fact, no net economic gain may be generated (the “no arbitrage” claim). In particular, the federal government can borrow at a near risk-free rate. There is then an opportunity for the federal government to appear to “make money” by investing in activities that pay a risk premium. As Lucas and Phaup write, “the appearance of an arbitrage opportunity from selling Treasury securities and buying risky securities would reward increased risk-taking and perhaps encourage increased spending from illusory resources.”⁴⁶ Or, as the economists Peter Diamond and Peter Orszag have said in the context of Social Security, investing the trust fund in equities “may make sense, but they should not be presented as a free lunch”⁴⁷ with an opportunity for arbitrage.

Underlying this claim is, in part, the concern that if government budgeting reflected a potential arbitrage gain from investing federal resources in private markets, this could encourage policymakers to intervene in inappropriate ways. By increasing the “hurdle rate” for policymakers—the rate of return that investments must pay back in order to appear to “make money” for the government—policymakers may be dissuaded.

4. No Free Lunch Claim

Implicit in each of the claims above is a necessary assertion. It is that the federal government’s risk bearing does not, as Diamond and Orszag put it, create a free

44. *Id.* at 40. CBO makes a similar point, arguing that “accounting for credit on a basis that is equivalent to that for other federal programs . . . would be better accomplished if the cost of extending federal credit was assessed at market prices.” CONG. BUDGET OFFICE, *supra* note 4, at 5.

45. Lucas & Phaup, *supra* note 38, at 41.

46. *Id.* at 39–40. CBO also makes this argument, noting with concern that, under current accounting methods, the purchase of a loan at its market price would show a budgetary gain (and the sale of such a loan would show a budgetary loss). CONG. BUDGET OFFICE, *supra* note 4, at 8.

47. DIAMOND & ORSZAG, *supra* note 34, at 42.

lunch.⁴⁸ In more technical parlance, the claim is that the federal government cannot more efficiently bear risk than the private market.

If the federal government were correcting a market failure and could more efficiently bear risk than the private markets, then the amount demanded by the private market to bear risk would not in any relevant way reflect the cost when borne by the government. Or, as Lucas and Phaup put it, while arguing that this is not the case: “If government investment more effectively diversifies risk than does the private sector, using a market discount rate that includes compensation for diversifiable risk would result in systematic undervaluation of government investments.”⁴⁹

In sum, if there were a free lunch to claim by the federal government bearing risk—with the federal government essentially stepping in to fix some form of market failure—then this undermines all of the other claims supporting risk adjustment. Market prices would not in any meaningful way reflect the cost of government activity.

II. THE FEDERAL BUDGET AND WHAT IT SHOULD MEASURE

Assessing these justifications for risk adjustment requires asking why we budget in the first place. This Part argues that there is a core function for official budget measures. In particular, the overriding purpose should be as a means of measuring and controlling the federal government’s fiscal position—that is, the position of the federal government relative to its budget constraint. As a result, the budget should measure the fiscal effects of policies rather than their social effects. This Part explores and rejects the alternative of using the budget measures primarily as a tool for allocating resources and describes why doing so would lead to the budget measures doing little well at all.⁵⁰

48. *Id.*

49. Lucas & Phaup, *supra* note 38, at 33.

50. This Part focuses on two possible purposes for the official budget measures—(1) measuring the fiscal position or (2) aiding in resource allocation. These are the purposes most often mentioned in the context of risk adjustment. However, while these are leading candidates, they are not the only ones; there are other reasons to look at the budget.

For example, budget measures can also be used to gauge the effect of government policy on macroeconomic stability (aggregate demand) or on intergenerational equity. *See, e.g.,* REPORT OF THE PRESIDENT’S COMM’N ON BUDGET CONCEPTS 12 (1967) (describing how measuring the effect of government policy on aggregate demand as being one of two key purposes of the budget—the other being resource allocation); Laurence Ball & N. Gregory Mankiw, *What Do Budget Deficits Do?*, in BUDGET DEFICITS AND DEBT: ISSUES AND OPTIONS 95, 108 (Fed. Reserve Bank of Kansas City ed., 1995) (discussing how budget deficits can redistribute resources across generations). But, while these are important—and sometimes critical issues—no official budget metric has ever been seriously contemplated that can directly measure these effects. Rather, the budget—so long as it captures fiscal effect—provides a good analytical starting place for determining effects on aggregate demand and intergenerational equity.

Take the macroeconomic effect of budget policies: this depends not only on its deficit effect but also on many other factors. As one set of economists has written, the degree of expansionary or contractionary effect also depends on “the degree of capacity utilization,

A. What Is the Budget?

Before discussing the reasons to budget, this section briefly addresses a definitional issue—of what this Article means by the “federal budget.”

In discussing the federal budget, this Article means the official estimates produced by both CBO and OMB that project spending, taxes, the deficit, and other relevant fiscal metrics. Both offices regularly produce reports projecting these figures over the “budget window” (now generally a ten-year period),⁵¹ and once per

the effect on the private sector of how a deficit (or surplus) is financed, the stance of monetary policy, the structure of marginal expenditure and revenue, and other such factors.” PETER S. HELLER, RICHARD D. HAAS & ASHAN S. MANSUR, A REVIEW OF THE FISCAL IMPULSE MEASURE 4 (1986). In fact, the effects on aggregate demand of a tax cut and direct government purchase of goods are quite different, but budget measures, in any form we have contemplated, do not capture that difference. See CONG. BUDGET OFFICE, POLICIES FOR INCREASING ECONOMIC GROWTH AND EMPLOYMENT IN 2010 AND 2011 18 tbl.1 (2010), available at <http://www.cbo.gov/ftpdocs/108xx/doc10803/01-14-Employment.pdf> (showing how select stimulus policies affect short-run GDP per dollar spent). With that said, in assessing the macroeconomic effects of budget policy, the direct fiscal effect is often the place at which analysts start. See HELLER ET AL., *supra*, at 2–9 (describing how measure of IMF’s measure “fiscal impetus” is based on changes in the deficit).

Intergenerational equity is similar. This concerns itself with the degree to which budget policy redistributes resources across generations. Scholars have developed a system to try to capture that in the form of “generational accounting,” which divides the benefits of spending and the burden of taxes across generations. See generally Auerbach et al., *supra* note 16 (explaining idea of generational accounting). As a first approximation, it is the fiscal effect of policies that should inform the judgments of intergenerational equity since this suggests the degree to which government activities today will produce borrowing that will burden future generations. However, this is only an approximation since it matters not just how much the federal government is borrowing but also for what purpose the government is doing so. Investments—such as in infrastructure or education—benefit future generations and in a way that current consumption does not. The official budget measures should not be the place to try to make these distinctions, but, instead, can provide a starting place for the analysis.

51. CBO generally reports these estimates three times per year—twice per year (generally, in January and August) under a “current law” baseline while providing policy alternatives, see, e.g., CONG. BUDGET OFFICE, BUDGET AND ECONOMIC OUTLOOK: FISCAL YEARS 2012 TO 2022 (2012), available at http://www.cbo.gov/sites/default/files/cbofiles/attachments/01-31-2012_Outlook.pdf; CONG. BUDGET OFFICE, AN UPDATE TO THE BUDGET AND ECONOMIC OUTLOOK: FISCAL YEARS 2012 TO 2022 (2012) [hereinafter CONG. BUDGET OFFICE, SUMMER UPDATE], available at http://www.cbo.gov/sites/default/files/cbofiles/attachments/08-22-2012-Update_to_Outlook.pdf, and once per year as a reestimate of the President’s Budget. See, e.g., CONG. BUDGET OFFICE, AN ANALYSIS OF THE PRESIDENT’S 2013 BUDGET (2012), available at <http://www.cbo.gov/sites/default/files/cbofiles/attachments/03-16-APB1.pdf>. OMB generally reports these estimates at the beginning of the year in the President’s Budget and then, again, in July or August in an update of the budget estimates. See, e.g., OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, FISCAL YEAR 2013 BUDGET OF THE U.S. GOVERNMENT 203–46 (2012), available at <http://www.whitehouse.gov/sites/default/files/omb/budget/fy2013/assets/budget.pdf>; OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, FISCAL YEAR 2013 MID-SESSION REVIEW BUDGET OF THE U.S. GOVERNMENT 21–61 (2012), available at <http://www.whitehouse.gov/sites/>

year each office also produces a long-term analysis of the federal budget, which covers up to seventy-five years.⁵² In referring to the budget, this Article also means the Trustees' reports on sustainability of Medicare and Social Security—each produced once per year by the Medicare and Social Security actuaries.⁵³

Finally, in addition to these analyses of the budget overall, I use the term “federal budget” to refer to the discrete costs estimates that CBO, the Joint Committee on Taxation (JCT), and sometimes OMB produce for individual pieces of legislation.⁵⁴ These estimates are used both in the public dialogue and for purposes of budget rules that constrain new spending and tax cuts.

B. The Federal Budget and the Government's Budget Constraint

This Article argues that the main purpose of these budget measures is to gauge the federal government's fiscal position. This section explores why measuring the fiscal position represents an important function, and, in particular, how the budget constraint currently stands at the core of the budget debates, why it matters in policymaking, and how it underlies many of the current budget rules.

Like other fiscal entities, the federal government faces a budget constraint. The idea is a simple one—the federal government has to pay its bills. Or, more technically: “[T]he government's intertemporal budget constraint at each date requires that the subsequent net tax payments of current and future generations be sufficient, in present value, to cover the present value of future government consumption, as well as pay off the government's initial net indebtedness (net of initial government assets).”⁵⁵ This is an iron law of budgeting. To the extent obligations and receipts are projected to differ, the government will have to adjust.⁵⁶ This law of budgeting also has another important implication—an increase

default/files/omb/budget/fy2013/assets/13msr.pdf.

52. See, e.g., CONG. BUDGET OFFICE, THE 2012 LONG-TERM BUDGET OUTLOOK (2012) [hereinafter CONG. BUDGET OFFICE, LONG-TERM BUDGET OUTLOOK], available at http://cbo.gov/sites/default/files/cbofiles/attachments/06-05-Long-Term_Budget_Outlook.pdf; OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, FISCAL YEAR 2013 ANALYTICAL PERSPECTIVES BUDGET OF THE U.S. GOVERNMENT 57–66 (2012), available at <http://www.whitehouse.gov/sites/default/files/omb/budget/fy2013/assets/spec.pdf>.

53. See, e.g., BD. OF TRUSTEES OF THE FED. OLD AGE AND SURVIVORS INS. AND FED. DISABILITY INS. TRUST FUNDS, 2012 ANNUAL REPORT (2012) [hereinafter 2012 SOCIAL SECURITY TRUSTEES REPORT], available at <http://www.ssa.gov/oact/tr/2012/tr2012.pdf>; BD. OF TRUSTEES OF THE FED. HOSPITAL INS. AND FED. SUPPLEMENTARY MED. INS. TRUST FUNDS, 2012 ANNUAL REPORT (2012), available at <https://www.cms.gov/ReportsTrustFunds/downloads/tr2012.pdf>.

54. For examples of CBO cost estimates, see *Cost Estimates Search*, CONG. BUDGET OFFICE, <http://www.cbo.gov/cost-estimates/search?filters=all%3A1>.

55. Auerbach et al., *supra* note 16, at 75. This does not mean that the federal government must “pay down” its entire debt. Rather, it means that the net present value of the debt must approach zero over the infinite horizon. Or, as Auerbach and others put it, “the only requirement is that the debt be serviced through payments by existing and future generations”—which is the mathematically equivalent statement. *Id.*

56. If the government fails to meet this budget constraint, it would mean that the government would have to default on its obligations. However, even this is consistent with

in spending or a decrease in receipts must be offset in the future by either lower spending or higher taxes than would otherwise exist.⁵⁷

The federal government's budget constraint is at the core of much of the budget debate. Projections show current federal policies as inconsistent with the budget constraint because projected obligations significantly exceed projected receipts.⁵⁸ The federal budget is on an unsustainable course, and, like all things that are unsustainable, there will inevitably be a correction, with new policies enacted to close the gap. The question is how that correction will happen and when.

Answering that question has become a preeminent issue in budget policy. It is the question addressed by the numerous fiscal commissions that have issued recommendations for reforms.⁵⁹ It is the question that brought Washington to a standstill and near default in the lead up to the debt limit vote in the summer of 2011—ending with enactment of the Budget Control Act that imposed new caps on annual appropriations and empowered a new joint committee in Congress to recommend additional deficit reduction measures by the end of 2011 that would be guaranteed an up or down vote in both houses of Congress.⁶⁰ It is the question that Washington again faces with the failure of that joint committee and with large automatic spending cutbacks and tax increases scheduled to go into effect at the beginning of 2013 (known popularly as “the fiscal cliff” or “Taxmageddon”).⁶¹ And it was this question of fiscal sustainability—and whether the U.S. political

the idea of the budget constraint. Default is a way of reducing obligations—even if one that is radical and disruptive.

57. Or, more technically, a spending increase or tax cut now must, in net present value, be financed by a future spending cut or tax increase.

58. For instance, CBO estimates that the seventy-five-year “fiscal gap”—the required increase in taxes or decrease in spending needed to stabilize the debt as a share of the economy—stands at 8.7% of GDP. CONG. BUDGET OFFICE, LONG-TERM BUDGET OUTLOOK, *supra* note 52, at 21 tbl.1-3. While there is little doubt that the country does face a long-term fiscal shortfall, there is reason to think that CBO's estimate is overstated and that recent policies (such as health care reform and discretionary caps) may have significantly reduced the long-term imbalance. *See generally* David Kamin, *Are We There Yet? On a Path to Closing America's Long-Run Deficit*, 137 TAX NOTES 53 (2012).

59. *See, e.g.*, BIPARTISAN POLICY CTR. DEBT REDUCTION TASK FORCE, RESTORING AMERICA'S FUTURE 13 (2010), available at <http://bipartisanpolicy.org/sites/default/files/BPC%20FINAL%20REPORT%20FOR%20PRINTER%2002%2028%2011.pdf> (“At some point, without a change in policy, the federal government's out-of-control borrowing will have to stop. The only question is whether policymakers address the debt problem now in a deliberative and thoughtful manner, or whether they will be forced to do so by a sudden economic crisis.”); NAT'L COMM'N ON FISCAL RESPONSIBILITY AND REFORM, THE MOMENT OF TRUTH 10–11 (2010), available at http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/TheMomentofTruth12_1_2010.pdf (“Our nation is on an unsustainable fiscal path. . . . Continued inaction is not a viable option, and not an acceptable course for a responsible government.”).

60. *See* Budget Control Act of 2011, Pub. L. No. 112-25, 125 Stat. 240.

61. For a description of the automatic cutbacks and tax increases scheduled to go into effect at the beginning of 2013, see generally CONG. BUDGET OFFICE, ECONOMIC EFFECTS OF REDUCING THE FISCAL RESTRAINT THAT IS SCHEDULED TO OCCUR IN 2013 (2012), available at http://www.cbo.gov/sites/default/files/cbofiles/attachments/FiscalRestraint_0.pdf.

system had the wherewithal to rationally address it—that led Standard & Poor’s to downgrade its rating on U.S. debt for the first time in history.⁶²

The rhetoric around fiscal sustainability can be overheated. Contrary to the claims of many commentators, we do not face any immediate debt crisis, and credit markets have so far shown confidence in the ability of the federal government to correct the fiscal path.⁶³

However, there is still good reason for a focus on and concern with fiscal sustainability. Adjustments to our fiscal trajectory will have to be made. Doing so sooner will make the adjustments smaller and will also allow for gradual phase-ins, giving taxpayers and beneficiaries time to adjust their own behavior to the new reality. Furthermore, even if credit markets remain calm now, they may not forever, and the longer we remain on an unsustainable fiscal course, the greater the chance of an adverse and potentially sudden reaction in the credit markets—a reaction that could cause substantial harm to the economy.⁶⁴

There is also a question of political transparency and responsibility when it comes to discrete, new policies. As noted, the iron law of the budget constraint means that increases in spending or decreases in taxes must be matched over time with commensurate spending cuts or tax increases. First, this implies that, to the extent “unpaid for” policies—policies that generate new federal liabilities and no matching savings—are enacted today, there is effectively an “untold story” and a lack of transparency to those policies in that they will require currently unknown tax increases or spending cuts to finance them. In recent years, good examples are

62. STANDARD & POOR’S, UNITED STATES OF AMERICA LONG-TERM RATING LOWERED TO ‘AA+’ ON POLITICAL RISKS AND RISING DEBT BURDEN; OUTLOOK NEGATIVE 2 (2011) (“The downgrade reflects our opinion that the fiscal consolidation plan that Congress and the Administration recently agreed to falls short of what, in our view, would be necessary to stabilize the government’s medium-term debt dynamics. More broadly, the downgrade reflects our view that the effectiveness, stability, and predictability of American policymaking and political institutions have weakened at a time of ongoing fiscal and economic challenges to a degree more than we envisioned . . .”).

63. For example, as of this time, interest rates on Treasury debt are among the lowest on record. For a historical comparison, see *Selected Interest Rates*, BOARD OF GOVERNORS OF THE FED. RESERVE SYS., <http://www.federalreserve.gov/releases/h15/data.htm>. Interest rates are a key indicator of current market expectations, reflecting both the expected risk of default on the debt and the risk that the government would try to print money to inflate its way out of the debt problem. In light of these interest rates, the economist Paul Krugman has been particularly vocal in deriding the idea that the United States faces an immediate fiscal crisis. See, e.g., Paul Krugman, Op-Ed., *Fears and Failures*, N.Y. TIMES, May 6, 2011, at A27.

64. See, e.g., ROBERT E. RUBIN, PETER R. ORSZAG, & ALLEN SINAI, SUSTAINED BUDGET DEFICITS: LONGER-RUN U.S. ECONOMIC PERFORMANCE AND THE RISK OF FINANCIAL AND FISCAL DISARRAY 1 (2004), available at http://www.brookings.edu/~media/Files/rc/papers/2004/0105budgetdeficit_orszag/20040105.pdf (“Substantial ongoing deficits may severely and adversely affect expectations and confidence, which in turn can generate a self-reinforcing negative cycle among the underlying fiscal deficit, financial markets, and the real economy.”); see also CONG. BUDGET OFFICE, FEDERAL DEBT AND THE RISK OF A FISCAL CRISIS (2010), available at http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/116xx/doc11659/07-27_debt_fiscalcrisis_brief.pdf.

the 2001 and 2003 tax cuts. These tax cuts were enacted, and have been continued, without financing. And, as a result, there is a lack of transparency as to who will benefit from them and pay for them over time. The tax cuts themselves essentially tell only half the story—in that they have to eventually be matched either with a commensurate tax increase or spending cuts that supporters never enacted or specified.⁶⁵ Second, this means that enacting unpaid-for policies today will make it all the more difficult to fit the federal government within its budget constraint in the future, and increases the probability of our sparking a fiscal crisis. As a result, doing so can be defined as an act of political irresponsibility.

Not surprisingly, the importance of the budget constraint is reflected in current budget rules. Take two examples:

Pay-As-You-Go (PAYGO) is a budget rule first enacted under the Budget Enforcement Act of 1990 (BEA).⁶⁶ It requires that new tax cuts or mandatory spending increases be fully paid for—with automatic cuts to certain spending programs if that target is not met. Although the major provisions of the BEA expired in 2002, PAYGO was later reinstated as a part of the congressional rules⁶⁷ and then, in statute, in 2010.⁶⁸ PAYGO is essentially a “do no harm” principle when it comes to the budget constraint—however far we are from meeting the current budget constraint, new policies should not make that worse by requiring larger policy adjustments in the future.

When it comes to annual appropriations that are not governed by PAYGO, the Budget Control Act of 2011 imposed new discretionary caps as a “down payment” on deficit reduction (also following in the model created by the BEA). Those caps require small nominal cuts relative to 2010 for 2012 and 2013, and then hold the growth in annual appropriations beneath inflation through 2021.⁶⁹ The purpose of these caps is to help restore fiscal sustainability.⁷⁰

The prominence of the budget constraint in the public debate, its importance as a substantive matter, and its underlying the current budget rules are all reasons that the budget metrics should focus on the federal government’s fiscal position. The next section explores what the budget metrics should, as a result, try to measure.

65. See generally William G. Gale, Peter R. Orszag & Isaac Shapiro, *Distribution of the 2001 and 2003 Tax Cuts and Their Financing*, 103 TAX NOTES 1539 (2004) (“The central goal of this analysis is to correct the misimpression that these tax cuts make everyone better off. We estimate not only who benefits directly and immediately from the recent tax cuts but also who benefits and who loses *once the financing of the tax cuts is considered.*”) (emphasis in original).

66. Budget Enforcement Act of 1990, Pub. L. No. 101-508, 104 Stat. 1388-573.

67. See S. Con. Res. 21, 110th Cong. § 201 (2008) (establishing Senate PAYGO rule and point-of-order if violated).

68. See Statutory Pay-As-You-Go Act of 2010, Pub. L. No. 111-139, 124 Stat. 8 (enacting statutory PAYGO).

69. See Budget Control Act of 2011, Pub. L. No. 112-25, tit. 1, §§ 101–105, 125 Stat. 240, 241–47 (codified at 2 U.S.C. §§ 645, 900–02, 904).

70. See, e.g., WHITE HOUSE, FACT SHEET: BIPARTISAN DEBT DEAL: A WIN FOR THE ECONOMY AND BUDGET DISCIPLINE (2011), available at <http://www.whitehouse.gov/the-press-office/2011/07/31/fact-sheet-bipartisan-debt-deal-win-economy-and-budget-discipline> (“Locks in a down payment on significant deficit reduction, with savings from both domestic and Pentagon spending . . .”).

C. Measuring Fiscal Effect

For budget metrics to reflect where the federal government stands relative to the budget constraint, they must capture the “fiscal effect” of government action—an effect to be distinguished from the “social effect.” This distinction is key. As explained in the next Part, it drives the conclusion that federal budget estimates should not include a risk adjustment and that the “fiscal position claim” (that risk worsens the fiscal position of the federal government and should be reflected as such) is confused.

By fiscal effect, this Article means the costs and receipts to the government as a fiscal entity. A fiscal cost is one that must be financed by government receipts. A receipt is the opposite—an inflow that can be used to finance costs. These are costs and receipts that are directly relevant to the government’s budget constraint and reflected on one side of the ledger or the other (as a liability or as income).

The fiscal effects of government action must be distinguished from social effects. Social effects are broader costs and benefits to society and represent either a gain or loss in social resources (measured in terms of welfare), which is different from the financial inflows or outflows of the federal government.

Take most government receipts. They are income to the federal government, but they are not income to society—nor are they a net cost to society, since the receipts are still available to purchase goods of social value. They are a transfer to the government. This transfer can and often does generate a social cost. In particular, taxes—by distorting behavior—can produce costs for taxpayers and the economy that exceed the amount of revenue transferred to the federal government (an inefficiency widely known as “deadweight loss”).⁷¹ Certain taxes (often called Pigouvian taxes) can also produce net social gain if they correct an externality and align market prices with the actual social cost and benefit of an activity.⁷² These social effects—which are separate and distinct from the fiscal effect on the federal government—should not be reflected in federal budget estimates if they are to be an accurate reflection of where the federal government stands relative to its budget constraint.

When it comes to government spending, the amount we spend can sometimes reflect the social cost of the activity—but it often does not. Moreover, it rarely reflects social benefit. Take the cost of building an aircraft carrier. What the government spends on the aircraft carrier is essentially what society spends on the aircraft carrier in terms of social resources consumed, though, of course, the benefit of the aircraft carrier is not taken into account. So, in this case, the social cost—the amount of social resources expended on building the aircraft carrier—is approximated by fiscal cost to the federal government.

In other cases, though, this is not true. Environmental regulation is a good example. Putting aside the social benefit, the amount that the government spends on environmental regulation is low relative to the social cost of such regulation. The government pays only for the administration of the regulatory regime (i.e., the

71. For an overview of the theory of dead weight loss and taxes, see, for example, HARVEY S. ROSEN, *PUBLIC FINANCE* 284–307 (5th ed. 1999).

72. *See id.* at 93–95.

budget for the Environmental Protection Agency) but does not pay the cost of adhering to the regulations themselves.⁷³

Irrespective of whether government spending represents the true social cost, that spending is the amount the federal government will have to finance to stay within its budget constraint. The government will have to finance the amount it pays for the aircraft carrier, and it will have to finance the additional appropriation to the Environmental Protection Agency—but not the broader social effects of regulation. To the extent the goal of budgeting is to reflect the federal government's position relative to its budget constraint, the budget must reflect this fiscal effect and not the social effect.

Note that a decision to measure fiscal effects in the budget does not resolve a number of important issues of measurement. In particular, there remains an open debate about the relevant time span for measuring fiscal costs and receipts in the federal budget. Most budget estimates are now done over a ten-year budget window, using cash accounting for most transactions (with credit transactions—loans and loan guarantees—being the exception and done on a present value basis). Many experts have pointed out the flaws in cash accounting done over a limited budget window. In particular, the ten-year window may not be representative of the effect of policies on the budget or the trajectory of the budget overall (for example, the effects of gradual expansions or cuts of entitlement programs). And, in assessing the fiscal position of the federal government, there is no good reason to draw an arbitrary line in the sand at the ten-year mark—completely discounting the effects thereafter.⁷⁴

However, this Article does not need to resolve all issues of measurement, including the issue of the proper time horizon for budgeting. The point this Article has made—and the point that will lead to the conclusion that budget estimates should not include a risk adjustment—is that: (1) the primary purpose of the budget should be as a means to control and measure the government's position relative to its budget constraint; and (2) as a result, the budget should reflect the fiscal effect, and not the social effect, of policies. Exactly how best to measure the fiscal effect—and, in particular, the best time horizon to use—does not change the idea

73. As Richard Revesz and Michael Livermore write: “[B]udgets and tax burdens do not capture the economic costs imposed by governmental regulation. It is harder to discern these economic costs because they are borne by individuals and private firms rather than directly by the government.” RICHARD L. REVESZ & MICHAEL A. LIVERMORE, *RETAKING RATIONALITY: HOW COST-BENEFIT ANALYSIS CAN BETTER PROTECT THE ENVIRONMENT AND OUR HEALTH* 13 (2008).

74. For example, Alan Auerbach explores the optimal budget window. As he says, “[A] budget window that is too short permits the shifting of costs beyond the window's endpoint, but a budget window that is too long includes future years for which current legislation is essentially meaningless, and allows the shifting of fiscal burdens to those whom budget rules aim to protect.” Alan J. Auerbach, *Budget Windows, Sunsets, and Fiscal Control*, 90 J. PUB. ECON. 87, 88 (2006). That leads Auerbach to conclude that the optimal budget would not have an arbitrary window but would discount future years more than would otherwise be the case using the government discount rate. *See id.*; *see also* DANIEL N. SHAVIRO, *TAXES, SPENDING, AND THE U.S. GOVERNMENT'S MARCH TOWARD BANKRUPTCY* 8 (2007) (“Short-term measures for long-term issues are inherently a recipe for mischief. They have encouraged budgetary game-playing for decades . . .”).

that the budget should be primarily concerned with the fiscal effect of policies, however measured.

D. Resource Allocation as an Alternative

As suggested by the second claim supporting risk adjustment (the “resource allocation” claim), the budget could alternatively be thought of as a decision-making tool for policymakers in allocating social resources, rather than as a means of controlling the fiscal position. Proponents of this view believe that budgetary cost should measure something akin to “social cost.” However, this is not an appropriate or effective purpose for our official budget measures. As this section explains, doing so can lead to perverse results when combined with the current budget rules and process. In addition, trying to create a comprehensive measure of a project’s social costs ignores a key lesson from scholarship on cost-benefit analysis—that separating costs from benefits is an inherently problematic exercise.

Aiding in resource allocation has long been cited as a key purpose of the budget. As the 1967 President’s Commission on Budget Concepts wrote, “[T]he budget must serve . . . as an aid in decisions about . . . the efficient allocation of resources among competing claims.”⁷⁵ Indeed, policymakers frequently make trade-offs among activities, deciding which to undertake within a fixed budget constraint. An example of this is in the annual appropriation process. The appropriations committee is given a “budget authority” target—an amount of resources it is allowed to expend. This is then divided among the appropriations subcommittees, and each subcommittee is then assigned the task of funding the activities under its jurisdiction within the budgetary resources it is assigned. Trade-offs are then made.⁷⁶

In making these decisions, scholars like Lucas and Phaup argue that the government should use a consistent metric to facilitate resource allocation. In their words, “budget accounting aims to price alternative expenditures in consistent units of cost”⁷⁷—with Lucas and Phaup defining those consistent units of cost in terms of “market prices.”⁷⁸ This concept of “market price” is meant to reflect what the private market would have to pay for the same activities, essentially reflecting the full amount of social resources devoted to it. They term this to be the “principle of consistency.”⁷⁹

However, trying to assign consistent units of cost—that do not align with the actual fiscal effect on the federal government—misunderstands the purpose of these budget targets and the trade-offs made within them. These budget targets are defined relative to the government’s budget constraint. Discretionary

75. REPORT OF THE PRESIDENT’S COMM’N ON BUDGET CONCEPTS, *supra* note 50, at 12. The Commission identified this as one of two main purposes of the budget. The second is macroeconomic stabilization. While important, that too should not serve as the core and motivating purpose of the budget measures, as discussed in note 50.

76. *See generally* SCHICK, *supra* note 15, at 186–240 (providing an overview of the appropriations process).

77. Lucas & Phaup, *supra* note 38, at 30.

78. *Id.* at 40.

79. *Id.*

appropriations are capped as a way of hitting overall fiscal targets. For discretionary appropriations, this was made clear under the recent Budget Control Act in which the debate over discretionary funding levels was explicitly defined in terms of fiscal sustainability. The PAYGO principle, which requires new tax cuts or entitlement expansions to be fully “paid for,” is also defined relative to the federal government’s budget constraint.⁸⁰

It is incoherent to define trade-offs within these budget constraints in terms of social costs rather than fiscal costs. To take an example—if the federal government sets up a new entitlement program that has a fiscal cost to the federal government of \$100 but that imposes an additional \$20 of burden on the private sector through regulatory requirements, it makes little sense to put the additional \$20 cost on the federal government’s books. The market price, as defined by Lucas and Phaup (i.e., what it would cost a private actor to purchase the same set of benefits) is \$120. Reflecting the market price in the budget estimates, however, would mean that, according to PAYGO rules, \$120 of financing would have to be enacted at the same time to offset the cost of the program. That is a perverse result. It would essentially mean that because the federal government imposed \$20 of cost on private entities, it would have to raise \$20 of taxes on someone else to “pay for” a cost not borne by the federal government at all.

Lucas and Phaup, in part, recognize this complication. However, they write that it is one that should not be resolved through the “budget process” but, instead, through a separate “political process.” In their words, “[b]roader trade-offs, . . . such as whether to raise taxes or leave more debt to future generations[,] are decided primarily through the political process, not the budget process.”⁸¹ However, while Lucas and Phaup identify the problem—that using market prices means the budget cannot serve as an accurate measure of the government’s fiscal position—this answer that the political system will solve it is not satisfactory.

There is not a political process separate from the budget process for making the macro decisions on overall levels of taxes and spending. The budget process is the means through which the political system acts. Annually, through the congressional budget resolution, Congress sets targets for discretionary appropriations, entitlements, revenues, deficits, and debt, with policymakers then evaluating the resulting fiscal path.⁸² And, as noted, Congress also acts through other mechanisms to control the federal government’s fiscal position—that, again, involve the budget process. The Budget Control Act sets ten-year discretionary caps; PAYGO requires that tax cuts or entitlement expansions be paid for.⁸³ In sum, macro-budget decisions are made and enforced through budget rules and the budget process.

For those macro-budget decisions to be meaningful, discrete budget policies must be evaluated in a way that is consistent with them. So, while the evaluation of an individual policy—whether it be education loans, capital gains revenues, or a

80. See *supra* notes 66–70 and accompanying text (discussing the Budget Control Act and PAYGO).

81. Lucas & Phaup, *supra* note 38, at 41.

82. See SCHICK, *supra* note 15, at 105–38 (providing an overview of the congressional budget process and the budget resolution).

83. See *supra* notes 66–70 and accompanying text (discussing the Budget Control Act and PAYGO).

financial bailout—may seem distant from macro-budget decisions, those macro-budget decisions can only be given effect if the constituent parts are measured in a way that reflects the effect on the federal fiscal position. In other words, topline budget numbers are the sum of the many different parts, and they are meaningless, or at least skewed, unless those constituent parts reflect the fiscal effect on the federal government.

Perhaps budget rules could be adjusted to avoid these perverse results. However, even if it were possible to adjust the rules—and it would certainly be difficult—the idea of including nonfiscal costs as a way of improving resource allocation is more fundamentally flawed. It does not appreciate the limits of budgeting or key lessons of scholarship on cost-benefit analysis.

The fundamental concern of commentators like Lucas and Phaup is that policymakers, by focusing on fiscal cost alone, will ignore the broader social costs—and therefore make ill-informed policy choices. They essentially argue for turning the budget books into one side of the ledger of a full cost-benefit analysis so that the costs of policies are considered on an “apples-to-apples” basis.

However, even as this would disconnect the budget from measuring the fiscal position, it would leave policymakers with incomplete—and perhaps useless—information for deciding on resource allocation. That is because resource allocation should depend on both costs *and* benefits—not just costs alone. Just because two policies have the same social cost does not mean that they have the same benefit, and policymakers should incorporate that information into their policymaking. Furthermore, separating costs from benefits—and assigning these separate ledgers any meaning—is, in itself, a wrong-headed proposition. This is a core lesson from scholarship on cost-benefit analysis. As the economist Harvey Rosen writes, “benefits can always be counted as ‘negative costs’ and vice versa.”⁸⁴ This leads to the conclusion that “no rule should be sensitive to the classification of a project effect as a cost rather than a benefit, and *vice versa*”⁸⁵—since the categories are easily manipulated.

To be sure, policy tradeoffs should be made based on a cost-benefit analysis that fully incorporates social costs and benefits. That would take into account elements like deadweight loss and distributional effects. And, if the policy worsens the fiscal position, cost-benefit analysis should consider the attendant negative consequences (such as increasing the probability of a fiscal crisis).⁸⁶ However, there is a fundamental difference between budgeting and cost-benefit analysis. The two are related but should not be confused.⁸⁷

For some it is possible that including social costs in federal budget estimates is not meant as a way to level the playing field in resource allocation, but rather to skew it. It becomes a thumb on the scale against government action in certain areas and, perhaps, toward lower overall spending levels. That is because it would look

84. ROSEN, *supra* note 71, at 230.

85. DAVID PEARCE, GILES ATKINSON & SUSANA MOURATO, *COST-BENEFIT ANALYSIS AND THE ENVIRONMENT* 70 (2006) (emphasis in original).

86. *See supra* notes 56–65 and accompanying text (discussing importance of fiscal position).

87. For an extensive discussion and justification of cost-benefit analysis in policymaking, see generally REVESZ & LIVERMORE, *supra* note 73.

harder to expand or continue federal programs in a way that appears fiscally responsible according to these measures. However, this is using the federal budget metrics to paint a false fiscal picture in order to influence the policy debate. Policy decisions should be made based on an accurate assessment of effects on the federal fiscal position as measured in the budget—and, separate from that, the broader social costs and benefits of policies.

In sum, asking the budget to serve as an unbiased metric for policymakers to engage in resource allocation—conveying a consistent metric of social cost—is asking too much, and, by asking too much, it can result in budget measures that do little well at all. To be clear—information beyond the fiscal effect of policies should be provided to policymakers. The fact that the stylized policy discussed above imposes \$20 of burden on the private sector is relevant, and something policymakers should know, as well as the potential benefits. But, the budget should accurately and consistently capture the fiscal effect of policies. Policymakers should appreciate the budget for this purpose but also recognize its limitations.

III. REVISITING THE CLAIMS SUPPORTING RISK ADJUSTMENT

In the previous Part, this Article concludes that the principal purpose of the budget is to measure and control the federal government's fiscal position. This Part applies that lesson to the question at hand—how the federal budget should account for risk. In particular, in light of Part II, this Part revisits the four key claims supporting risk adjustment: (1) the fiscal position claim; (2) the resource allocation claim; (3) the no arbitrage claim; and (4) the no free lunch claim.

A. Fiscal Position Claim

If this claim were true—that risk worsens the federal government's fiscal position—then the cost of risk should be reflected in the federal budget. However, the cost of risk is not a fiscal effect. Rather, to the extent risk on the federal books generates a cost, that cost is a welfare cost to certain members of society—generally to the benefit of others.

1. How Risk Does Not Affect the Fiscal Position

As discussed, risk is costly because of people's preferences. In particular, the marginal utility of income generally falls as income rises. This is why the market demands compensation for facing risk versus having a certain outcome—and assuming that risk cannot be eliminated via diversification. This is compensation in exchange for an expected loss in utility rather than an expected financial loss.⁸⁸

As such, it is wrong to say—as the fiscal position claim does—that, by not including a risk adjustment, the federal government “understates the budgetary cost”⁸⁹ or reflects “illusory resources.”⁹⁰ The cost of risk is not an expected “fiscal

88. *See supra* Part I.A.

89. *Contra* Marron, *supra* note 37, at 27 (asserting that current measures of risk “understate[] the budgetary cost”).

effect” on the federal budget, but instead, a welfare effect on society that does not impact the federal government’s budget constraint.

Returning to the stylized example from earlier in this Article—assume there is a new program that has a 50% chance of costing \$100 and a 50% chance of costing nothing, and further assume that this risk is undiversifiable. Then, compare this to a program that with certainty would cost \$50. First, the expected fiscal effect for both—the “risky” and “certain” program—is \$50. That is the expected amount by which the federal government would have to raise taxes or cut spending in order to finance the program. Second, the expected effect on taxpayers’ welfare is different for these two programs. Since they tend to be risk averse, taxpayers would expect the uncertain program to cost them more in terms of *welfare* than the certain one. Assume that taxpayers, if given the choice between the two, would demand at least an additional \$10 in compensation to finance the cost of the risky program instead of the certain one.

However, that additional amount demanded—the \$10—is not a fiscal effect on the federal budget. Taxpayers do not have a choice and cannot in fact demand that amount from the public fisc. As a result, it is not a measure of the program’s effect relative to the government’s budget constraint. And, this \$10 is unrelated to why we worry about unpaid for fiscal policies—both the lack of transparency (not knowing how the unpaid for policies would be financed) and the lack of responsibility (increasing the risk of default).

Instead, it is a social cost—an expected reduction in welfare associated with the risky program as compared to the certain program. It is, thus, akin to the many non-fiscal effects created by federal activities but not captured in the federal budget—whether it be the private sector burden of complying with regulation or deadweight loss from taxes or otherwise. And, as concluded in Part II, social costs—which do not have fiscal effects—should not be reflected in the federal budget measures.

The point is driven home by the fact that this cost—of \$10—may, in fact, not be so much a social cost as a social transfer. In particular, as described in Part I, when it comes to undiversifiable risk in the economy, it is not a question of eliminating or reducing it—but, instead, a question of who bears it. The fact that the program above costs \$0 in one case but \$100 in another should reflect the government taking on an undiversifiable risk that would otherwise be borne by others in the economy. In fact, this should be the case unless the federal government is choosing to create undiversifiable risk that did not exist before.

For example, this program might be a financial insurance system that kicks in only in severe recessions and backstops bank deposits. In this case, the \$10 cost of risk may simply have been redistributed from one set of people (those holding bank deposits) to another (taxpayers or beneficiaries of programs that may be cut to finance the cost of the insurance program). In fact, the two groups might be overlapping (risk out of one pocket and into the other).

For now, the key point—and the point that should be decisive in deciding whether to reflect risk in the federal budget—is that the cost of risk does not create a fiscal effect and so should not be reflected in the federal budget.

90. *Contra* Lucas & Phaup, *supra* note 38, at 40 (describing how when the National Railroad Retirement Investment Trust was invested in private securities, CBO and OMB agreed to risk-adjust the returns to avoid encouraging “increased spending from illusory resources”).

2. How Risk Does Affect the Fiscal Position

With that said, risk does have an effect on the federal government's fiscal position—in that it can generate greater uncertainty in the budget estimates (or, in more technical terms, greater variance around the expected value). To put it differently, while risk does not have an effect on the expected value, it does have an effect on the range of outcomes.

Take the example again from above. The risky program and the certain program have the same “expected” fiscal effect in that both are expected to cost \$50. However, despite having the same expected effect, there is no actual state of the world in which they have the same effect. In state-of-the-world one, the risky program costs nothing, and in state-of-the-world two, it costs \$100; however, in both states of the world, the certain program costs \$50.

To put this in terms of the budget constraint, if Congress at the front end enacted financing of \$50 to pay for the program, that would be sure to exactly match the financing need of the certain program. However, that is not the case for the risky program. There is a 50% chance that Congress would have to enact \$50 of additional financing (either in the form of new taxes or spending cuts) and a 50% chance the enacted financing would exceed the cost—allowing \$50 of additional spending increases or tax cuts than would otherwise be the case (since the financing would have exceeded the amount needed).

However, uncertainty in budget estimates is endemic. It derives not only from risk in the economy but also from model risk as well. Budget models are imperfect. Even with fixed macroeconomic factors, models will not capture the effects of budget policy with anywhere near certitude (leading to so-called “technical revisions” of budget policy).⁹¹ This is especially true for large-scale reforms where we do not have experience with the microeconomic effects or where there are limits on the data available.⁹² For example, to increase revenues, policymakers could (1) simply increase tax rates or (2) entirely reform the tax system—lowering rates and getting rid of tax expenditures or replacing the income tax with an alternative system altogether—while targeting that higher level of revenue. With regard to budget estimates, the amount of revenue produced by option one is far more certain than the amount of revenue produced by option two, though both would have the same expected value.

91. CBO defines technical revisions as “revisions that do not stem from legislation or changes in economic assumptions.” CONG. BUDGET OFFICE, SUMMER UPDATE, *supra* note 51, at 52. And, they can be large. To take one example, over a six-month span (from March 2012 to August 2012), CBO's technical revisions resulted in a net decrease of \$300 billion in the projected deficits from 2013–2022. *Id.* In short, purely technical revisions had significant effect—even over this short span of time.

92. In the context of health reform, for example, Doug Elmendorf, CBO director, wrote: “Certainly, the budgetary impact of broad changes in the nations [sic] health care and health insurance systems is very uncertain. . . . [W]e believe that CBOs [sic] estimates of the net savings that would result from the legislation have a roughly equal chance of turning out to be too high or too low.” Doug Elmendorf, *Uncertainty in Estimates for Health Care Legislation, Director's Blog*, CONG. BUDGET OFFICE (Mar. 19, 2010), <http://www.cbo.gov/publication/25048>.

The relative uncertainty of budget estimates is relevant to policymaking. Uncertainty increases the probability that policymakers will have to make further adjustments once actual results become available—which is by no means a decisive factor but does generate a cost for our political and policymaking system, which has limited capacity. Furthermore, to the extent policymakers are trying to instill confidence that they have made adjustments that put the federal government within or closer to its budget constraint, such uncertainty about the actual effect of policies may decrease confidence that policymakers have in fact done so.

Policymakers should more often consider the relative uncertainty of the budget estimates available. In the context of major overhauls—whether in health reform, tax reform, or otherwise—the question of uncertainty is perhaps too rarely discussed.⁹³ For example, CBO could systematically report its relative uncertainty with regard to the estimates of policies—possibly with three or four qualitative categories by which to rank the certainty of estimates. (Preferably, CBO might actually give a confidence interval around its estimates—though that is probably asking too much based on the available information.)

However, uncertainty should not bias the estimates used for the purposes of budget forecasts or budget rules. These should use the central estimate—giving equal weight to good and bad outcomes—of policies, and policymakers should judge for themselves the degree to which uncertainty in these budget estimates presents a problem.

What makes little sense at all is for estimators to adjust these budget figures in, essentially, ad hoc fashion by adding in a “cost” (or what really might be one side of a risk transfer) associated with undiversifiable risk. This adjustment gives no real reflection of the fiscal effect of the policies and would oddly apply to only certain types of uncertainty in the budget (that resulting from undiversifiable risk) as opposed to other types of uncertainty (such as the model being incomplete). As a result, to the extent it is a problem for budget estimates to be uncertain, “risk adjustment” is certainly the wrong solution.

B. Resource Allocation Claim

As already noted, the resource allocation claim describes risk adjustment as a way to improve policymakers’ decision making. This view sees measuring “fiscal effect” alone as too narrow—biasing policymakers toward activities, including those that take on risk, where the full cost to society is not reflected in the budget.⁹⁴ Part II explained why this approach is wrong as a general matter for budgeting and, just as it is wrong generally, it is wrong in the case of risk adjustment.

93. For example, in the official health reform estimate, uncertainty is mentioned only twice—and both in the context of the long-term estimates rather than the ten-year estimates, which were the focus of the cost estimate. *See* Letter from Douglas W. Elmendorf, Director, Cong. Budget Office, to Nancy Pelosi, Speaker of the House (Mar. 20, 2010), *available at* <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/113xx/doc11379/amendreconprop.pdf>. And, the Joint Committee on Taxation generally presents point estimates for tax changes without discussion of any kind.

94. *See supra* Part I.C.2.

Consider the example of student aid—which Lucas and Phaup offer as a prime example of how risk adjustment would improve resource allocation. The federal government has a choice as to how to deliver aid to students.⁹⁵ It can be done through subsidized loans or grants. For grants, the cost to taxpayers—and the monetary benefit to students—is captured in the actual grant amount, which is fully reflected in the federal budget. However, for loans, it is not. Rather, for loans, risk is shifted from the students to taxpayers. For instance, recent graduates face risk of recession affecting their job prospects. Loans, in part, shift that risk from the students to taxpayers since, in economic downturns, students will more often default on those obligations (essentially providing relief to the students and representing a burden to taxpayers).⁹⁶ Estimates of fiscal effect take into account the *expected* cost of default; however, they do not take into account the reduction in uncertainty to students and increase in uncertainty to taxpayers as students are provided partial insurance against economic downturns.⁹⁷ Those concerned with resource allocation argue that, absent risk adjustment, policymakers will be biased toward student loans since they can, essentially, get more bang per buck of budgetary cost—providing subsidies that are not reflected on the federal budget books.⁹⁸

However, the truth of the matter is that the loans do deliver more bang per buck of budgetary cost. What policymakers see—that they do not have to finance the risk shift, but do have to finance the expected financial loss on the loan portfolio—is, in fact, accurate. The loans deliver a benefit—a reduction in uncertainty to students—that does not change the expected increase in taxes or reduction in spending needed to finance the program. Should policymakers take into account the risk shift in their policymaking as they should other nonfiscal effects—such as unfunded liabilities, efficiency effects, and otherwise? Yes. But, should that be inaccurately captured as a cost on the federal books—requiring tax increases or spending cuts to offset? No.

To bring this into numerical relief—as of 2009, CBO estimated the difference between the cost estimate for the federal student loan portfolio with a risk adjustment and without a risk adjustment as more than \$200 billion over the eleven years from 2010–2020. Without a risk adjustment, student loans over the coming decade were estimated to *save* nearly \$90 billion (the savings come about from the federal government, in part, charging students for the insurance being provided by the taxpayer); however, with a risk adjustment, it was estimated to cost roughly

95. See Lucas & Phaup, *supra* note 38, at 41 (using student aid as an example where risk adjustment helps in resource allocation).

96. See CONG. BUDGET OFFICE, COST AND POLICY OPTIONS FOR FEDERAL STUDENT LOAN PROGRAMS IX (2010), available at <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/110xx/doc11043/03-25-studentloans.pdf> (noting that student loans shift undiversifiable risk to the government since “losses from defaults will be higher during periods of market stress, when resources are scarce and hence most valuable”).

97. See *id.*

98. See Lucas & Phaup, *supra* note 38, at 41 (“Cost considerations favor loans over more-targeted Pell grants, even though the latter are generally thought to be the more efficient policy.”).

\$120 billion.⁹⁹ And, incremental expansions of the loan program would come with a similar differential.

To use the risk-adjusted estimates for the cost of the existing student loan program or incremental expansions would distort policy. First, it would produce perverse results in combination with budget rules such as PAYGO. An expansion in student loans might require a tax increase to “pay for” the cost of risk—a cost already being shifted to the taxpayer. In a sense, taxpayers would have to pay for it twice. Second, it incorporates a cost (taxpayers’ loss in welfare from the greater uncertainty) without accounting for the attendant benefit (less uncertainty for students), oddly separating the negative welfare effects from the positive ones and biasing policy as a result.

It is certainly appropriate for CBO to also report its estimate of the value of the subsidy provided to students, along with the expected cost to the taxpayer in terms of welfare. In fact, that is what CBO has been doing recently, and its alternative estimates have drawn significant attention. However, the budget should not be the document that limits Congress’s ability to affect policies in ways that do not have a fiscal effect on the federal government. As this Article has described, this is not a role that it plays well.

C. No Arbitrage Claim

The no arbitrage claim concerns itself with the appearance of an arbitrage opportunity for policymakers. If policymakers choose to issue risk-free Treasury securities and use those funds to purchase risky investments that pay a higher return, budget measures, absent a risk adjustment, may show this as raising money for the federal government. The concern is that these resources are in some way an illusory free lunch, or that policymakers should, for some other reason, be faced with a higher hurdle rate (the rate at which an investment appears to make money).

To address the question of whether the resources are illusory requires returning to an earlier point. The cost of risk is not a fiscal effect. Rather, it is a welfare effect that does not impact the federal government’s budget constraint. Furthermore, if the federal government earns the risk premium that the private market would demand in exchange for investing in risky activities, that risk premium *does* have a fiscal effect. This premium is an inflow to federal government’s coffers—and is expected to allow the government to either cut taxes or increase spending more than it otherwise would.

To give an example—say the federal government chose to invest \$100 in equities for a period of ten years.¹⁰⁰ How should that be reflected in the budget? Assume that the investment is measured on an accrual basis.¹⁰¹ Consistent with the

99. See CONG. BUDGET OFFICE, STUDENT LOAN LETTER, *supra* note 5, at 6 tbl.1. Specifically, these savings and costs are those estimated by CBO under the President’s proposal to end guaranteed student lending and switch to direct lending. That proposal was adopted in the Health Care and Education Reconciliation Act of 2010. See Pub. L. No. 111-152, § 2201, 124 Stat. 1029, 1074 (terminating guaranteed lending program).

100. Lucas and Phaup use a similar example. Lucas & Phaup, *supra* note 38, at 51.

101. Investments in equities are not necessarily measured on an accrual basis in the federal budget. In fact, absent direction otherwise, investment in equities is measured on a

modern historical average, the general consensus is that a broad investment in equities would be expected to pay roughly 3.5 percentage points more than an investment in Treasury securities.¹⁰² From the perspective of the federal budget, the gain on the \$100 investment is about \$40 in net present value—that is the amount by which the federal government is expected to be able to either increase spending or cut taxes as a result of making that investment.¹⁰³

This arbitrage is a gain to the Treasury, and, in fact, can be thought of as a tax. The federal government has essentially purchased \$100 of stock in exchange for \$100 of Treasury bonds. Despite the fact equities are expected to provide a higher return, investors are willing to voluntarily trade off the two since the Treasury bonds come with lower risk. Of course, the risk has not necessarily been eliminated, but instead has been shifted. Taxpayers—potentially the same investors who essentially gave up equities in exchange for Treasury bonds—now face the risk that the investors had faced but with the compensation for that risk being collected by the federal fisc rather than by them directly. In this way, it is akin to a tax, with taxpayers bearing uncertainty for which they would demand compensation if this transaction were voluntary, and the federal government collecting the compensation that private market participants would have demanded.

Note that it is possible that this transaction affects the relative return on stocks and bonds and so could limit the gain from arbitrage. As CBO concludes, “[s]ome models predict that a large government investment in the stock market would raise the price of stocks and reduce the price of debt. As a consequence, interest rates on government and other debt would rise, and returns on stocks would fall.”¹⁰⁴

cash basis—and so can mislead as to the long-term effects on the federal budget, irrespective of whether there is a risk adjustment. *See* OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, CIRCULAR NO. A-11 § 113.1 (2012) (directing equity investment to be scored on a cash basis). This stands in contrast to treatment of loans and loan guarantees which are measured on a present-value basis under the Federal Credit Reform Act of 1990. *See generally* Pub. L. No. 101-508, tit. V, 104 Stat. 1388-610 (providing for treatment of loans and loan guarantees). That difference in treatment makes little sense.

102. *See* CONG. BUDGET OFFICE, HOW CBO PROJECTS THE REAL RATE OF INTEREST ON 10-YEAR TREASURY NOTES 8–9 (2007), available at http://www.cbo.gov/ftpdocs/88xx/doc8842/12-21-10-yr_rates.pdf (“According to the latest consensus among economists and participants in financial markets, the equity-risk premium, by that measure, will average about 3.4 percent over the years ahead. . . . An equity-risk premium on the order of 3.5 percent is about what would have been earned as of the end of 2006 by an investor who began investing in equities 45 years ago.”). The Social Security Administration’s Actuary also uses a differential of 3.5 percentage points. *See* Office of the Soc. Sec. Chief Actuary, *Provisions Affecting Trust Fund Investment in Marketable Securities*, SOC. SECURITY ADMIN. (Jan. 10, 2012), <http://www.ssa.gov/OACT/solvency/provisions/investequities.html>; *see also* Mehra & Prescott, *supra* note 25, at 928 (“[O]ver the long horizon the equity premium is likely to be similar to what it has been in the past and the returns to investment in equity will continue to substantially dominate that in T-bills for investors with a long planning horizon.”).

103. To approximate this, one can use the following calculation: $\$100 \times 1.035^{10} - \100 . This is the approximate compounded effect of a 3.5 percent difference in rates of return over a 10 year period of \$100.

104. CONG. BUDGET OFFICE, EVALUATING AND ACCOUNTING FOR FEDERAL INVESTMENT IN CORPORATE STOCKS AND OTHER PRIVATE SECURITIES 5 (2003), available at <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/40xx/doc4023/01-08-03-stocks.pdf> (describing

However, some experts argue otherwise—suggesting that investors would simply reallocate their portfolios among the investments to return stock returns and interest rates to the same long-term equilibrium levels.¹⁰⁵ This Article does not resolve this debate. How this debate is resolved *should* affect budget estimates, since this is a disagreement about the fiscal effect of government investment in the stock market. If it turns out that the government’s investing in the stock market would lower stock market returns and increase Treasury interest rates, then this decreases the budgetary gain from the arbitrage.

Note further that the arbitrage does not necessarily create more resources for society overall—though the question of whether there might be an efficiency gain is addressed in the next Part. It is expected to generate resources for the federal government to the same degree that a tax of \$40 would. And, just like the tax of \$40, this is expected to reduce the federal deficit. This reduction in the federal deficit has the same potential to increase national saving and investment and, thus, future resources as any other means of reducing the deficit—like a traditional cut in spending or increase in taxes.

Finally, it is possible that denying this arbitrage opportunity is an attempt to dissuade policymakers from intervening in the private markets—or, at least, to require any investment have a “hurdle rate” equal to what the private market would demand. However, while there may be many good reasons for policymakers not to intervene in the markets, a false picture of the federal budget should not be among them. The debate should at least be clear as to the pros and cons of such intervention rather than indicating, falsely, that the fiscal position could not be improved through arbitrage.

D. No Free Lunch Claim

The final claim is that there is no free lunch in having the government bear risk—that the market price of risk reflects the social cost of risk, irrespective of whether that risk is borne directly by private actors or the government.¹⁰⁶

This claim, even if true, is not sufficient to support risk adjustment in the budget. Rather, the claim is necessary to do so. The proposition underlies the three other claims discussed in this Part. If market prices failed to capture the social cost of the government bearing risk (due to a market failure)—and there were, as a result, a free lunch available—then this would leave little to support any argument for risk adjustment based on those market prices.

the Trust and the federal government’s responsibilities); *see also* Peter Diamond & John Geanakoplos, *Social Security Investment in Equities*, 93 AM. ECON. REV. 1047, 1066 (2003) (showing that “equity premium would fall after diversification” of the Social Security Trust Fund into equities).

105. *See, e.g.*, AM. ACAD. OF ACTUARIES, SOCIAL SECURITY REFORM: TRUST FUND INVESTMENTS 3 (2000) (“The non-governmental sector . . . reacts by reallocating its investments, reducing its ownership of equities and increasing its ownership of government debt, thus returning interest rates and equity yields to their original equilibrium levels. The result is no net change in interest rates, stock yields or total investment in the economy, only a shift in ownership among the different types of securities.”).

106. *See supra* Part I.C.4.

First, the no free lunch claim faces an empirical hurdle. There is a mystery as to why the federal government can finance itself at such a low rate relative to the private market; this is often referred to as the “equity premium” puzzle.¹⁰⁷ Economists agree that part of the differential reflects a difference in risk, with federal securities being relatively risk-free and with equities being subject to greater risk. However, the economists Rajnish Mehra and Edward Prescott famously concluded that the difference is much too large to be explained by risk aversion alone. This sparked a considerable amount of literature trying to solve the puzzle, including exploration of market imperfections and other factors. However, as Mehra and Prescott recently observed, “none have fully resolved the anomalies.”¹⁰⁸ When it comes to risk adjustment, the point to be taken away is that the general assumption in risk adjustment—that the full differential in returns between federal securities and risky assets is explained by rational risk aversion—is probably wrong, and it raises serious questions about using market prices to measure social cost in this context.¹⁰⁹ Markets may be irrational or broken.

Second, there is good reason to believe that the federal government may be able to bear risk more efficiently than the private markets by completing insurance markets that the private sector cannot. Perhaps most importantly, the federal government may be able to diversify risk across generations—completing an insurance market that would exist if generations could actually strike deals with one another. As the economists Laurence Ball and Gregory Mankiw conclude:

[M]arkets must be incomplete, because a person cannot engage in risk-sharing trades with those who are not yet born. The risks associated with holding capital assets, for instance, can be shared with others alive at the same time, but they cannot be shared with future generations. As a result, the allocation of risk need not be efficient, and government policy may be able to make Pareto improvements.¹¹⁰

The intuition is that generations face large economic risks that are not fully correlated with one another. One generation may live through the Great Depression (or the current Great Recession); another may not. If all generations were alive at the same time, there would be a deal to be made, with generations at least partly insuring one another against variation in income. But, they are not, and this is where the government can step in. The government can essentially strike this deal by smoothing the path of consumption across generations by borrowing more in busts (to finance greater spending or less taxes) and the opposite in booms. The

107. See generally Mehra & Prescott, *supra* note 25 (reviewing the concept of the equity premium puzzle).

108. *Id.* at 911.

109. *Contra* Lucas & Phaup, *supra* note 38, at 33–34 (“[T]he observed equity premium is difficult to interpret as evidence for or against the efficiency of financial markets in sharing risk. Hence, we view this literature as silent on the question of whether market prices deviate from social values.”).

110. Laurence Ball & N. Gregory Mankiw, *Intergenerational Risk Sharing in the Spirit of Arrow, Debreu, and Rawls, with Applications to Social Security Design*, 115 J. POL. ECON. 523, 524 (2007).

government taking on risk that the private market cannot diversify (whether in the form of student loans, TARP, or otherwise) could be one way to accomplish this.¹¹¹

This is not to say that the government bearing risk necessarily improves efficiency. It could do the opposite. Rather than completing an insurance market, the government could undermine an existing one—by reallocating risk from those who had chosen to bear it (and so may be in a better position to do so) to those who chose not to *within* a given generation.

The point is that there *may* be a free lunch to be had in the government bearing risk. Even if this were not the case, risk adjustment should not be included in the federal budget—it remains a nonfiscal effect. However, the fact that a free lunch is possible further undermines the case for risk adjustment based on what the private market would demand to bear that risk. It is far too simplistic to assume that the market price of risk always reflects the social cost of risk when that risk is borne by the government.

E. No Risk Adjustment and an Alternative

In sum, the major claims underlying risk adjustment do not withstand scrutiny, in light of the main purpose of budget measures—which is to accurately track the position of the federal government relative to its budget constraint. The budget should capture a central estimate of *fiscal effects* on the budget, giving equal weight to good and bad outcomes, and CBO should report the uncertainties involved in making these estimates. To add in select nonfiscal effects essentially puts a thumb on the scale against government action, making that action look fiscally irresponsible to a degree it is not. There may be other reasons to not take action, but phantom costs that appear to make the fiscal situation appear worse than it is should not be among them.

Those who advocate for risk adjustment do, of course, have a point. The government can act in ways that impose costs and create benefits that are not necessarily captured in the federal budget and to which policymakers may therefore pay insufficient attention. There are ways to draw attention to these effects; supplemental CBO reports are among them. However, to the extent that there remains a belief that the effects of risk on welfare should be captured in the official budget estimates, the current approach is certainly the wrong one.

In particular, the current approach reflects only one side of the ledger. By taking on risk (and putting to the side the idea that government could decrease overall risk

111. Note that CBO takes a dim view of this perspective. CBO writes: “[Some argue] that the government’s ability to borrow and repay that borrowing with future taxes allows it to reduce market risk by spreading the risk among generations. However, borrowing does not increase total resources; rather, it redistributes existing resources from lenders to borrowers.” CONG. BUDGET OFFICE, CREDIT SUBSIDY REPORT, *supra* note 5, at 5. CBO’s response fails to rebut the point. By redistributing risk across generations, CBO is right that the government is not creating additional resources if those resources are measured simply in dollars and cents, putting to the side total welfare. Rather, it is shifting consumption across time—which it can do—as a way to smooth the consumption path and insure against market risk. This increases welfare since people are risk averse. The increase in welfare can be accomplished even if the amount of resources available measured in dollars and cents remains the same over time.

as a result), the government essentially affects a risk shift. Undiversifiable risk may be shifted from a specific population (a welfare benefit to that population) to another (a welfare cost to that population). Essentially, the federal government is taxing utility from one population to spend that utility on another part of the population. If this were to be monetized and captured in the federal budget, it should be reflected as a receipt *and* an outlay—rather than as an outlay alone, as is done under current versions of risk adjustment.

Come back to the stylized example of a program that has a 50% chance of costing \$100 and a 50% chance of costing nothing. As noted earlier, the program has the same expected fiscal effect as a program that is certain to cost \$50; however, its expected cost in terms of welfare is higher than the certain program. In monetized terms, it is \$10 higher—that is the cost of risk that is essentially taken from taxpayers in terms of their welfare (what could be characterized as a receipt). However, it is also a \$10 benefit given out to those who no longer face this undiversifiable risk (what could be characterized as an outlay). The result would be a program estimated to increase spending by \$60 and estimated to raise \$10 in receipts. The net effect would be the same as not including a risk adjustment in federal budget estimates—a program with a net cost of \$50. But, gross receipts and outlays would differ.¹¹² This is illustrated in Table 1.

Table 1			
Alternative to No Risk Adjustment: Monetizing the Risk Shift			
	Fiscal Effect	Risk Shift (Monetized Welfare Effect)	Total
Outlays	\$50	\$10	\$60
Receipts	\$0	\$10	\$10
Total	\$50	\$0	\$50

Note: The outlay represents the welfare transfer to beneficiaries of the risky program and the receipt represents the welfare taken in exchange from those financing the program.

112. In one article, Lucas and Phaup offer an unsatisfactory version of this alternative way of accounting for risk when it comes to federal credit programs. In particular, they recognize that, over time, “including a risk premium in subsidy cost produces a cost estimate that, on average, exceeds outlays for realized losses.” Deborah Lucas & Marvin Phaup, *Reforming Credit Reform*, PUB. BUDGET & FIN., Winter 2008, at 90, 105. So, although they call for a risk premium to be included in all discrete “program level” decisions, they would recommend essentially adjusting the budget figures to increase revenues over time as an offset—not one counted when actual programmatic decisions are made but, instead, counted after the fact and over the life of the credit program. By contrast, the alternative suggested in this Article would be to count both the “outlay” and “receipt” at the time the of the policy decision—with the two exactly netting against each other—so that policymakers understand the expected fiscal implications of their decisions.

None of this has direct fiscal effect. It is the contention of this Article that risk adjustment should not be included in the budget estimates. This would make for a clean differentiation of what creates a fiscal effect and what does not (even if the nonfiscal effects still may be relevant to policymaking). Nonetheless, for those who believe that a risk adjustment makes sense, there is no apparent logic for including this adjustment only on one side of the ledger. If anything is done, it should be shown as a receipt and an outlay, with no net fiscal effect at any point. The way risk adjustment is often done suggests a net fiscal cost that simply does not exist.

IV. EXAMPLES

This Part applies the lessons of the previous ones to a number of federal programs and policies—in particular, federal credit programs, capital gains receipts, the National Railroad Retirement Investment Trust, Social Security, and TARP. This Part is not meant to be comprehensive of all programs and policies that involve undiversifiable risk.¹¹³ Instead, it is meant to illustrate the importance of risk across the federal budget, the current lack of a consistent approach in budgeting, and the reasons for not risk adjusting, as this Article recommends.

A. Federal Credit Programs

Uncertainty exists in many parts of the budget. However, proponents of risk adjustment tend to focus on federal credit programs. As noted, in 2012, the House of Representatives has voted twice to include risk adjustment in estimates for federal credit programs.¹¹⁴ These are programs in which the federal government either makes loans directly itself or guarantees the loans of others.¹¹⁵ Federal credit programs are increasingly important, given rising volumes of both direct loans and loan guarantees,¹¹⁶ and risk adjusting would have a significant effect on budget estimates for them.

Scoring of federal credit programs is governed by the Federal Credit Reform Act of 1990 (FCRA).¹¹⁷ Under FCRA, federal credit programs are scored on a

113. The list of such programs and policies would be a very long one, as it includes any federal spending that rises as economic growth slows and any receipt that drops off in the same circumstances. This includes almost all federal receipts, including personal income tax receipts (in addition to capital gains receipts), corporate income tax receipts, and payroll taxes. On the spending side, programs subject to such economic risk include unemployment insurance, federal deposit insurance, Medicaid, the Supplemental Nutrition Assistance Program (previously known as Food Stamps), and programs for those with disabilities.

114. *See supra* note 8.

115. *See* Federal Credit Reform Act of 1990, Pub.L. No. 101-508, § 502, 104 Stat. 1388-610 (codified at 2 U.S.C. § 661(a) (2006)) (defining direct loan and loan guarantee for purposes of the Credit Reform Act).

116. OFFICE OF MGMT. & BUDGET, *supra* note 52, at 400 chart 23-1 (showing rapid rise in direct loans and loan guarantees in recent years and projection going forward). For a discussion of the importance of and economic theory surrounding credit programs, see generally William G. Gale, *Economic Effects of Federal Credit Programs*, 81 AM. ECON. REV. 133 (1991).

117. 104 Stat. 1388-610.

“present value” basis—which represents the value of current and future cash flows from the program converted into current dollars taking into account the time value of money.¹¹⁸ In particular, FCRA defines the cost that is recorded in the federal budget (often known as the subsidy cost) as “the estimated long-term cost to the Government of a direct loan or loan guarantee, calculated on a net present value basis, excluding administrative costs.”¹¹⁹ (Administrative costs are recorded separately, on a cash basis, through the annual appropriations process.¹²⁰)

In making the calculation under FCRA, there are two key factors in calculating the “subsidy rate” (the subsidy cost per dollar of loan or loan guarantee). One is the federal financing rate—the rate at which the federal government can borrow. In particular, the net present value is calculated using the financing rate equal to the average interest rate on Treasury securities of similar maturity to the credit transaction.¹²¹ For direct loans from the federal government, the higher the interest rate at which the federal government can borrow, the more the program will cost (and the opposite is the case for loan guarantees). The other key factor is the expected cash flows from the relevant loan, which take into account the terms of the loan (such as the interest rate charged) and the probability of default on the loan. The more generous the terms and the higher the rate of default, the more the cost will be.¹²²

Importantly, the result of this calculation is the “expected value” of the cost to the federal government. Neither the cost of federal financing, which reflects a near risk-free rate of return, nor the cost of default reflects what the market would demand in exchange for bearing the uncertainty involved in these credit programs. In short, the treatment under FCRA is consistent with this Article’s conclusion that the federal budget should reflect the expected fiscal effect on the federal budget. And it does not include any measure of the shift in undiversifiable risk—to the extent there is any—between those who benefit from these programs and the taxpayers who finance them.

The recent calls for changing treatment of risk in the federal budget have focused almost exclusively on federal credit programs. In particular, many analysts and policymakers have suggested switching to “fair value accounting.” That accounting would “incorporate[] the cost to the government of the risk inherent in its credit transactions.”¹²³ As CBO explains, “The main conceptual difference between FCRA estimates and fair-value estimates is in the choice of discount rates.

118. Or, as CBO puts it, the “[net] [p]resent value is a single number that expresses a flow of current and future income (or payments) in terms of an equivalent lump sum received (or paid) today.” CONG. BUDGET OFFICE, FHA REPORT, *supra* note 5, at 2.

119. § 502(5)(A), 104 Stat. at 1388-610.

120. OFFICE OF MGMT. & BUDGET, *supra* note 101, at § 185.3 (describing how, for federal credit programs, “[a]dministrative expenses are almost always provided by annual appropriations acts and, therefore, are discretionary spending”).

121. § 502(5)(E), 104 Stat. at 1388-610 (“In estimating net present values, the discount rate shall be the average interest rate on marketable Treasury securities of similar maturity to the direct loan or loan guarantee for which the estimate is being made.”).

122. For a similar description of how credit estimates now work under FCRA, see HORNEY ET. AL., *supra* note 9, at 2–3 (giving an overview of FCRA).

123. CONG. BUDGET OFFICE, FHA REPORT, *supra* note 5, at 4.

Instead of using Treasury rates to discount future cash flows, fair-value estimates employ rates that are consistent with the risk of a specific credit obligation.”¹²⁴

The difference for federal budget costs would be large—on the order of tens of billions of additional costs per year reflected in spending (and, as a result, the deficit) for the existing credit programs, while also making significantly more expensive any incremental expansion of these programs. To give a sense for the magnitude of the programs as they currently exist: in volume, federal direct loans stood at more than \$800 billion at the end of 2011, and guaranteed loans stood at more than \$2 trillion—with an estimated subsidy cost of \$116 billion on that existing portfolio.¹²⁵

CBO recently published an “illustrative” estimate of the effect of using a risk adjustment in calculating the costs of federal credit programs. CBO found that the risk adjustment would add \$56 billion to the cost of federal credit programs in 2013.¹²⁶ Or, to put it differently, with this adjustment, federal credit activities would go from saving \$45 billion per year in 2013 to costing \$11 billion.¹²⁷ To emphasize the point, this is the effect for only a single year.

If used in the “official” budget figures, these risk-adjusted estimates would fundamentally mislead policymakers to the expected fiscal effects of these programs and would severely constrain policymakers from expanding them due to phantom budgetary costs that are not expected to exist. And, if they are to be included in the federal budget (which this Article recommends against), there should be an offsetting increase in receipts of similar magnitude—reflecting the fact that even as these programs deliver a larger subsidy (in terms of insurance) than indicated by the fiscal effect, they “finance” that by shifting risk to taxpayers.

B. Capital Gains Receipts

While risk adjustment is widely discussed and advocated for federal credit programs, there is far less focus on the many other federal programs and activities that involve undiversifiable risk. A clear example of this is capital gains receipts. These receipts rise and fall along with the markets. The federal government essentially shares the risk of the activities in which taxpayers invest. To put this differently, capital gains taxes do not only reduce the expected return for investors. They also reduce the variance around that return, as the federal government bears part of the risk.

To give a sense for the swing in capital gains receipts experienced by the federal government: as of 2007, capital gains receipts stood at \$126 billion, or 0.9% of GDP. In 2010, with the collapse in the markets, they are estimated to have fallen to \$38 billion, or 0.3% of GDP. And CBO projects receipts to rise back to \$134 billion, or 0.7% of GDP, by 2015.¹²⁸ However, that projection is merely an

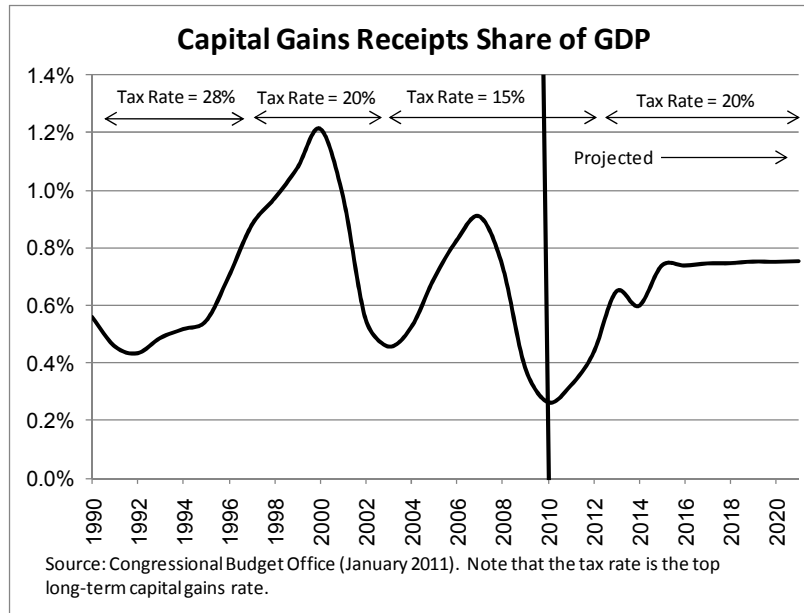
124. *Id.*

125. OFFICE OF MGMT. & BUDGET, *supra* note 52, at 401 tbl.23-2.

126. CONG. BUDGET OFFICE, FAIR-VALUE ESTIMATES OF THE COST OF FEDERAL CREDIT PROGRAMS IN 2013 5 tbl.1 (2012), *available at* <http://www.cbo.gov/sites/default/files/bofiles/attachments/06-28-FairValue.pdf>.

127. *Id.*

128. CONG. BUDGET OFFICE, THE BUDGET AND ECONOMIC OUTLOOK: FISCAL YEARS



expected value.¹²⁹ It is by no means certain. As the figure here shows, the projection of capital gains receipts is far less volatile than the actual receipts that precede them and represents midpoint of a large range.

A risk adjustment to capital gains receipts—consistent with the methodology used in fair value accounting—would involve converting the return on all capital investments subject to capital gains taxes to a risk-free rate (i.e., the rate of interest earned on Treasury bonds). The result would be a projection of substantially lower revenues.

2011 TO 2021, at 93 tbl.4-3 (2011) [hereinafter 2011 BUDGET AND ECONOMIC OUTLOOK], available at http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/120xx/doc12039/01-26_fy2011outlook.pdf. Figure 1 shows the swings in capital gains receipts over the last two decades and then contrasts this to the CBO projection through 2020. For capital gains receipts from 1990–1994, the source is Letter from Donald B. Marron, Acting Director, Cong. Budget Office, to Charles E. Grassley, Chairman, Committee on Finance 2 (Feb. 23, 2006), available at <http://www.cbo.gov/ftpdocs/70xx/doc7047/02-23-CapitalGains.pdf>. For 1995–2006, the source is CONG. BUDGET OFFICE, THE BUDGET AND ECONOMIC OUTLOOK: 2010 TO 2020, at 85 tbl.4-3 (2010). For 2007–2021, the source is CONG. BUDGET OFFICE, 2011 BUDGET AND ECONOMIC OUTLOOK, *supra*, at 93 tbl.4-3. CBO reports the capital gains receipts in nominal dollars; the figure shows these as a share GDP.

129. As CBO describes its methodology for projecting capital gains realizations and receipts:

CBO relies on its forecast of growth in economic output (gross domestic product, or GDP) and the historical tendency of gains to follow that growth. [An] equation is used to estimate the typical level of realizations relative to GDP, given the tax rate on gains (the lower the rate, the higher the ratio of gains to overall economic activity). Realizations from the most recent year are assumed to revert to that ratio steadily over the baseline period of 10 years.

Letter from Donald B. Marron to Charles E. Grassley, *supra* note 128, at 4.

Using simplified assumptions to get a sense for the magnitude, *a risk adjustment might reduce the value of capital gains receipts by roughly half going forward*—not only cutting the value of existing receipts but also the value of any increased capital gains taxes.¹³⁰ However, that is not the actual, expected fiscal effect, and to cut capital gains receipts in half would not accurately represent the federal government’s expected fiscal position. The current treatment is the right one for budgetary purposes.

C. National Railroad Retirement Investment Trust

The National Railroad Retirement Investment Trust (NRRIT) is an over \$20 billion trust fund invested in a combination of corporate stocks, bonds, and other assets.¹³¹ The NRRIT goes to pay for pension benefits for retired railway workers and is financed by assessments on employers and workers, as well as taxes paid on these pension benefits. Though management and workers negotiate the terms of the pension plan, these are enacted into law by Congress—and the federal government is liable for payment of the benefits irrespective of the adequacy of the funds in the trust fund to do so.¹³² Because of this, both the trust fund’s receipts and outlays are reported as part of the federal budget.¹³³

The trust fund, in itself, is a relatively small federal program. This Article uses it as an example not because of its fiscal significance but, instead, because of the significance of the method by which OMB and CBO project its gains. In particular, in 2001, Congress authorized the trust fund to invest in a diverse portfolio including corporate stock and bonds;¹³⁴ previous to this, balances in the system could only be invested in Treasury securities. The intention of this change was to increase the returns on the trust fund—and thereby ease the system’s budget constraint, allowing some combination of greater benefits to retirees and smaller assessments on workers and employers over time.¹³⁵ In authorizing that investment,

130. For this calculation, I make three key assumptions: First, I assume that the average holding period (weighted by the size of gain) for capital assets is about ten years. This assumption seems reasonable based on IRS data on holding periods. See Janette Wilson & Pearson Liddell, *Sales of Capital Assets Reported on Individual Tax Returns, 2007*, STAT. INCOME BULL., Winter 2010, at 76, 101 tbl.4a. Second, I assume that the risk-adjusted rate of return on capital assets would be equal to the ten-year Treasury note, and I assume a rate equal to CBO’s projected rate over the long term of 5.0%. CONG. BUDGET OFFICE, SUMMER UPDATE, *supra* note 51, at 56 tbl.B-1. Finally, I assume that capital assets on average earn 3.5 percentage points more than that (equal to the risk premium on the S&P 500). See *supra* note 102. I then calculate the percent change in capital gains—on a risk-adjusted basis—using the following equation: $((1.05)^{10}-1)/((1.085)^{10}-1) = 50$ percent.

131. For an overview of the Trust, see NAT’L R.R. RET. INV. TRUST: ANNUAL MANAGEMENT REPORT FOR FISCAL YEAR 2010 (2010), available at <http://www.irrb.gov/pdf/nrrit/reportFY2010.pdf>.

132. See CONG. BUDGET OFFICE, *supra* note 104, at 22 box 3.

133. *Id.*

134. Railroad Retirement and Survivors’ Improvement Act of 2001, Pub. L. No. 107-90, § 105, 115 Stat. 878, 882–87 (2001).

135. See CONG. BUDGET OFFICE, *supra* note 104, at 19 (“Anticipating higher returns from the new investment strategy, the legislation intends to lower financial burdens for railroad

Congress directed that the budget show no deficit effect from the purchase or sale of these assets other than the gain or loss from those transactions going forward.¹³⁶ This left CBO and OMB with a choice—how should they project the future gain on the investments?

CBO and OMB chose to project the NRRIT with a risk adjustment. In particular, they project that the NRRIT fund will earn only at the rate of interest on ten-year Treasury notes (a “riskless rate”), despite being invested in riskier assets.¹³⁷ OMB justifies this treatment as follows:

Over long periods, equities and private bonds are expected to earn a higher return on average than the Treasury rate, but that return is subject to greater uncertainty. Sound budgeting principles require that estimates of future trust fund balances reflect both the average return on investments, and the cost of risk associated with the uncertainty of that return. . . . Following through on this insight, the best way to project the rate of return on the Fund’s balances is probably to use a Treasury rate. As a result, the Budget treats equivalently NRRIT investments with equal economic value as measured by market prices, avoiding the appearance that the budget would be expected to benefit if the Government bought private sector assets.¹³⁸

In other words, CBO and OMB recognize the gain from the risk premium earned on the private sector investments only as it occurs, and they do not project the federal government as benefiting financially from the risk premium.

This method is in direct contrast to the treatment of capital gains receipts. There, as noted, the budget reflects the expected value of tax receipts—with those receipts, in part, reflecting a tax on the risk premium. Capital gains taxes essentially place the federal government as a co-investor in capital assets. Furthermore, the projected tax receipts do reflect the budget benefiting from having done so, as compared to taxing earnings made at only a Treasury rate of interest.

The approach taken to the NRRIT is the wrong one for purposes of the budget. The projections seek to avoid the appearance that the budget would benefit from investing in private sector assets, despite the fact that the budget is expected to be better off as a fiscal matter—just as it is better off for having taxed the risk premium on the return to capital assets. Thus, the current approach misleads as to the expected outcome for the trust fund and the budget.

This is not to suggest that the companies and workers contributing to the NRRIT are better off from this switch. To the degree that they bear the additional risk—and it is not borne by the taxpayer—they may be indifferent to this or having kept the surplus funds invested in Treasury securities, while raising contributions or decreasing benefits. One way they could contribute to the fund is by bearing more risk (as done here). The other way they could contribute to the fund is by directly

workers and employers and to provide larger pensions for retirees.”).

136. “[T]he purchase or sale of non-Federal assets (other than gains or losses from such transactions) by the National Railroad Retirement Investment Trust shall be treated as a means of financing.” Railroad Retirement and Survivors’ Improvement Act of 2001 § 105(c).

137. OFFICE OF MGMT. & BUDGET, *supra* note 52, at 141–42.

138. *Id.* at 142.

increasing their payments or decreasing their benefits. However, *both* actions are expected to improve the fiscal position of the NRRIT and the federal government. They are both contributions with fiscal effect.

D. Social Security

The Social Security Trust Fund (“Trust Fund”) and the treatment of its investments is essentially the NRRIT writ large. The Social Security Trust Fund is a more than \$2.5 trillion trust fund dedicated to financing Social Security benefits.¹³⁹ The balances have accrued as a form of partial prefunding—built up as dedicated payroll taxes and interest earnings on the Trust Fund have exceeded the Trust Fund’s outlays.¹⁴⁰ However, the system faces a long-term shortfall. Under the projections of the Social Security Trustees, the Trust Fund will begin declining after 2020 and exhaust in 2033, after which Social Security would not be able to pay full benefits.¹⁴¹ The seventy-five-year Social Security shortfall—the amount by which taxes are expected to have to be raised or benefits cut in order to close the shortfall over that period—stands at roughly 1% of GDP, according to the Trustees.¹⁴²

The Social Security Trust Fund is now, as required by law,¹⁴³ held in special issue Treasury securities, paying returns at the Treasury rate of interest. And there has been a long-running debate as to whether that trust fund’s investments should be diversified. While important, much of the substance of that debate—for example, whether as a normative matter Social Security beneficiaries would or would not benefit from facing more risk through the Social Security system (and earning an attendant risk premium)—go beyond the bounds of this Article.¹⁴⁴ This Article is concerned with how policymakers should budget for the Trust Fund, a source of significant disagreement.

In particular, the disagreement comes down to whether investing the trust fund balances in private securities should show up as an arbitrage gain to the Treasury

139. See 2012 SOCIAL SECURITY TRUSTEES REPORT, *supra* note 53, at 43 tbl.IV.A3 (showing trust fund balances).

140. There is a long-standing debate as to whether the Social Security Trust Fund is economically significant—and, in particular, whether this prefunding led Congress to run smaller deficits/larger surpluses than it would have otherwise or, alternatively, whether Congress “spent” these surpluses. See DIAMOND & ORSZAG, *supra* note 34, at 51–53 (describing debate). First, irrespective of how that question is answered, the Trust Fund remains legally significant since Social Security benefits can only be paid in full while the trust fund is solvent. Second, this debate is not directly relevant to this Article. Whether or not one believes the trust fund is economically significant, the government could still invest the funds currently held in the special issue Treasury bonds in the private market—and that would be significant, both to the Trust Fund and the unified budget as a whole.

141. 2012 SOCIAL SECURITY TRUSTEES REPORT, *supra* note 53, at 56–57.

142. *Id.* at 65 tbl.IV.B6.

143. 42 U.S.C. § 401(d) (2006).

144. See generally Diamond & Geanakoplos, *supra* note 104, at 1066 (exploring whether, as a normative matter, the Social Security Trust Fund should be invested in equities and concluding that it is “unlikely that workers are so risk averse that a [Social Security] portfolio completely invested in Treasury bonds is optimal”).

and the trust fund. To give a sense for magnitude, the Social Security Administration's Chief Actuary finds that investing 40% of the Trust Fund in marketable securities would close about one-quarter of the Social Security shortfall, or an amount equivalent to about 0.22% of GDP over the next seventy-five years.¹⁴⁵ In terms of today's GDP, that is the equivalent of an adjustment of over \$30 billion per year.¹⁴⁶ And investing more of the Trust Fund should produce commensurately greater returns in rough terms. This is an estimate of the *expected value* of the gains to the Treasury and the Trust Fund. It is not risk-adjusted. A proposal in this vein was supported by the Clinton Administration,¹⁴⁷ and, at the time, the Social Security Actuary evaluated the effects in terms of the expected value.¹⁴⁸

By contrast, a risk-adjusted estimate would show no gain to Social Security or the Treasury by investing in private securities. As the Social Security Chief Actuary reports, "Many analysts believe the higher expected return for equities should not be included in valuations because the tendency for higher average returns is compensation for the higher volatility in equities."¹⁴⁹ As noted, that is the view of the economists Peter Diamond and Peter Orszag. With regard to investing the Trust Fund in private securities, they write:

The vast majority of economists would argue that, in reporting the projections, at least some adjustment should be made for this increased risk The bottom line is that we think actuarial balance should be restored without counting the added return from stocks in the central estimate. . . . Such proposals [to invest in the stock market] may make sense, but they should not be presented as a free lunch.¹⁵⁰

However, the conclusion of this Article is that returns on risk should be included in Social Security Trust Fund projections as the central estimate. This is not to suggest that the returns are a free lunch. In fact, they are a form of tax or reduction

145. Specifically, the Social Security Actuary shows this as reducing the actuarial imbalance by 0.62% of taxable payroll. See Office of the Soc. Sec. Chief Actuary, *Proposed Provision: Invest 40 Percent of the Trust Funds in Equities (phased in 2012–2026), Assuming an Ultimate 6.4 Percent Real Rate of Return on Equities*, SOC. SECURITY ADMIN., available at http://www.ssa.gov/OACT/solvency/provisions/charts/chart_run642.pdf. Based on the ratio between taxable payroll and GDP, see 2012 SOCIAL SECURITY TRUSTEES REPORT, *supra* note 53, at 65 tbl.IV.B6, that is equivalent to 0.22% of GDP.

146. GDP now stands at over \$15 trillion on an annual basis. See *Table 1.1.5: Gross Domestic Product*, National Economic Accounts: Selected National Income and Product Account (NIPA) Tables, BUREAU ECON. ANALYSIS, available at <http://www.bea.gov/national/index.htm>. Current GDP multiplied by 0.22%, equals over \$30 billion.

147. See OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, BUDGET OF THE UNITED STATES GOVERNMENT: FISCAL YEAR 2000 41 (1999), available at <http://www.gpo.gov/fdsys/pkg/BUDGET-2000-BUD/pdf/BUDGET-2000-BUD.pdf> ("The Administration proposes tapping the power of private financial markets to increase the resources to pay for future Social Security benefits.").

148. See DIAMOND & ORSZAG, *supra* note 34, at 42.

149. Office of the Soc. Sec. Chief Actuary, *supra* note 102.

150. DIAMOND & ORSZAG, *supra* note 34, at 42.

in benefits. To the extent the risk is passed on to taxpayers, it means that they are made worse off, with the federal government (rather than the taxpayers) collecting the risk premium that they would demand in compensation if this were voluntary. This is how investing the Trust Fund in the stock market would function as a tax. To the extent the risk is passed on to beneficiaries, the effect is similar—the value of benefits to them will have fallen (now being riskier), and the government will be collecting the risk premium. This is how it is a form of benefit reduction. In short, lunch is not free, but there still is a lunch—and it is being collected by the federal government, which should be reflected in the fiscal position of the Social Security system and the government as a whole.

It is noteworthy that risk adjusting Social Security does not necessarily stop with discounting the effects of investing in the stock market. As the economists John Geanakoplos and Stephen Zeldes describe, Social Security benefits and receipts—as they now exist—could also be risk-adjusted.¹⁵¹ Benefits are subject to market risk since they are a function of wages during one's working years, which tend to rise and fall with the trends in the overall economy. And receipts—which are a function of payroll—are subject to market risk as well. *Both* could be discounted to reflect the fact that the market value of the benefits and receipts (the amount the private market would be willing to pay for either the stream of benefits or receipts) is less than the actual expected fiscal effect of those benefits and receipts. On net, Geanakolos and Zeldes conclude that these adjustments “reduce[] the [Social Security Administration] measures of imbalance in the system between 25% and 50%.”¹⁵² However, just as with risk adjustment of investments of the trust fund, such a discount should not be included in budget estimates. That discount may be a reflection of the expected welfare effect of benefits and receipts; however, they are not a reflection on the federal government's (or Social Security's) actual budget constraint.

With that said, there is strong reason for projections to show the effect of investing in the stock market on the uncertainty of the fiscal position. While it will be expected to improve solvency, investing in the stock market will have a far less certain effect on the solvency of the Social Security Trust Fund than either a direct increase in the payroll tax or reduction in benefits. That could be captured either qualitatively or quantitatively (in the confidence interval around the central estimate). In fact, CBO is now producing Social Security projections with estimates of the confidence of its projections and should be able to quantify the relative effects of reforms on certainty.¹⁵³

151. *See generally* John Geanakoplos & Stephen P. Zeldes, *The Market Value of Social Security* (Sept. 29, 2008) (unpublished manuscript), available at <http://www.nber.org/programs/ag/trc/08-11%20Geanakoplos,%20Zeldes%20FINAL.pdf> (laying out case for risk adjusting Social Security benefits and revenues).

152. *Id.* at 18.

153. *See, e.g.*, CONG. BUDGET OFFICE, CBO'S 2011 LONG-TERM PROJECTIONS FOR SOCIAL SECURITY: ADDITIONAL INFORMATION 12 exhibit 7 (2011), available at <http://www.cbo.gov/ftpdocs/123xx/doc12375/08-05-Long-TermSocialSecurityProjections.pdf> (showing CBO's projection of the trust fund over the next seventy-five years and giving an 80% confidence interval to account for the uncertainty).

This conclusion does not mean that the effects on either beneficiaries or taxpayers should be presented without a risk adjustment. That question—how the reform affects beneficiaries or taxpayers—differs from how it affects the solvency of the system or the fiscal position of the federal government. In particular, if it were clear that the risk of investing the trust fund in private securities would fall on beneficiaries (such as if the system were converted to private accounts invested in equities) and the question were asked whether beneficiaries were made better off, a risk adjustment would be in order. That question is addressing the actual welfare effect on beneficiaries as opposed to the effect on the federal deficit or Social Security solvency.

E. Troubled Asset Relief Program

With the economy spiraling into the Great Recession, Congress enacted the Troubled Asset Relief Program (TARP) as part of the Emergency Economic Stabilization Act of 2008 (EESA).¹⁵⁴ TARP gave the Treasury Secretary authority to purchase or insure troubled assets—allowing the Treasury Secretary to engage in up to \$700 billion in transactions at any one time.¹⁵⁵ After it became clear that the full authority was not needed, the authorized amount was lowered and capped at \$475 billion.¹⁵⁶

As part of the EESA, Congress directed how CBO and OMB should account for the budgetary cost of TARP. Congress specified that the cost estimates for TARP transactions should be done consistent with FCRA but with a significant amendment. In particular, Congress stated that the discount rate normally used for calculating the net present value should be adjusted for “market risks,” rather than using the “riskless” Treasury rates as is normally done under FCRA.¹⁵⁷ Congress had built in a risk adjustment. As stated by Senator Gregg, then ranking member of the Senate Budget Committee (and in the context of advocating for a similar adjustment for student loans): “By requiring an adjustment for market risk for the TARP program, Congress prevented certain credit activities from appearing to ‘make money’ or to cost less than they really do just because the Treasury can borrow funds at a lower interest rate than the private sector.”¹⁵⁸

The effect on the initial TARP cost estimates was significant. Take, for example, OMB’s estimate of the cost of TARP in spring 2009, published in the Fiscal Year

154. Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343, 122 Stat. 3765.

155. *Id.* § 115(a).

156. See Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 1302, 124 Stat. 1376, 2133 (2010) (capping TARP at \$475 billion).

157. Emergency Economic Stabilization Act of 2008 § 123(a)(1) (“[T]he cost of troubled assets and guarantees of troubled assets shall be calculated by adjusting the discount rate . . . for market risks.”).

158. Press Release, Budget Comm., Ranking Member, Senator Gregg: Adjusted for Mkt. Risk, President’s Student Loan Proposal Will Save a Lot Less Than Previously Thought (July 28, 2009), available at <http://web.archive.org/web/20110709172219/http://budget.senate.gov/repUBLICAN/pressarchive/2009/2009-07-28StudentLoan.pdf>.

2010 Budget. At the time, OMB estimated TARP to cost \$308 billion,¹⁵⁹ and CBO put the cost at \$356 billion¹⁶⁰—with both of these estimates reflecting a risk adjustment. These were the headline figures from both reports—the amount they showed TARP adding to the deficit and debt.

However, buried in the Analytical Perspectives to the President’s Budget at the time was a table giving a different estimate. The table showed the amount that TARP would add to the federal debt net of financial assets by the end of the decade. According to that table, by 2019, TARP would add \$232 billion to the debt—significantly less than \$308 billion.¹⁶¹ At first blush, this is decidedly odd. The \$308 billion cost was largely booked in 2009,¹⁶² and, under normal budget concepts, the amount this cost would add to the debt should grow over time, as interest accrues. Instead, OMB projected the cost as shrinking.

To put this differently, under normal budget concepts, an up-front cost of about \$160 billion in 2009 would have been projected to add \$230 billion to the debt by the end of 2019.¹⁶³ This \$160 billion is roughly apples to apples with the \$308 billion up-front cost reported by OMB. Why the difference between \$160 billion and \$308 billion? The answer appears to be the risk adjustment, essentially doubling the reported cost of TARP.

In short, the budget estimates for TARP were deeply misleading as to the actual expected effect on the federal budget. Net federal obligations had not risen \$308 billion at the beginning of this decade due to the financial bailout but, instead, had risen by roughly half that amount.

TARP is now expected to cost far less than this \$308 billion initial estimate; current estimates show the net cost to be well under \$100 billion.¹⁶⁴ And the unwinding of this risk adjustment is part of the reason why the cost estimate has fallen as much as it has. In particular, the risk adjustment in TARP has gradually been undone in the budget estimates.¹⁶⁵ As actual results have come in, the risk

159. OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, ANALYTICAL PERSPECTIVES BUDGET OF THE UNITED STATES GOVERNMENT: FISCAL YEAR 2010 66 tbl.7-2 (2009), available at <http://www.whitehouse.gov/sites/default/files/omb/budget/fy2010/assets/spec.pdf> (rounded to nearest billion).

160. As of January 2009, CBO estimated TARP to cost \$189 billion. CONG. BUDGET OFFICE, BUDGET AND ECONOMIC OUTLOOK: FISCAL YEARS 2009 TO 2019, 27 tbl.8 (2009), available at <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/99xx/doc9957/01-07-outlook.pdf>. In March 2009, CBO announced that it was raising its estimate by \$167 billion, bringing the total to \$356 billion. CONG. BUDGET OFFICE, A PRELIMINARY ANALYSIS OF THE PRESIDENT’S BUDGET AND AN UPDATE OF CBO’S BUDGET AND ECONOMIC OUTLOOK 8–9 (2009), available at <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/100xx/doc10014/03-20-presidentbudget.pdf>.

161. OFFICE OF MGMT. & BUDGET, *supra* note 159, at 67 tbl.7-4 (rounded to the nearest billion).

162. Roughly \$260 billion of the \$308 billion cost was booked in 2009. *Id.*

163. This is calculated using an average interest rate over the decade of 3.7% per year on additional debt. This is meant to mimic the interest rate being used by OMB at the time and is derived from the interest OMB reports on other policy changes.

164. See OFFICE OF MGMT. & BUDGET, *supra* note 52, at 46 tbl.4-1 (estimating the cost of TARP to be nearly \$68 billion); CONG. BUDGET OFFICE, SUMMER UPDATE, *supra* note 51, at 5 n.6 (estimating “that the budgetary cost of the TARP will ultimately total \$31 billion”).

165. See CONG. BUDGET OFFICE, REPORT ON THE TROUBLED ASSET RELIEF PROGRAM—MARCH

adjustment is removed (the justification being that there is no longer uncertainty)—and the estimates reflect the actual returns to the federal government (taking into account the federal financing rate). This further shows the perversity of risk adjustment in the budget. In a period of three years, a large upward adjustment in the cost of the TARP program has been largely removed—as expected when the original cost estimates were done and revealed in tables deep in the budget at the time.

And even if policymakers were looking to initially catalogue the true welfare effect of this program on the taxpayer—beyond the expected increase in taxes due to the program's cost—this risk adjustment fails to do so and in a way that is deeply misleading. It takes into account one nonfiscal effect—shifting certain risk from the financial institutions to the taxpayers—while ignoring the substantial benefits of TARP that accrued across the economy (and to many more than the financial institutions directly supported). In fact, TARP almost certainly reduced risk across the economy as the federal government stepped in to stem a market panic.

Quantifying these broader effects of TARP is difficult and requires conjecture. However, the economists Alan Blinder and Mark Zandi have made an attempt.¹⁶⁶ They find that extraordinary measures to support the financial system—TARP among the largest—had broad and large benefits. In their words, “By 2011, real GDP is almost \$800 billion (6%) higher because of the [financial-rescue policies], and the unemployment rate is almost 3 percentage points lower. By the second quarter of 2011 . . . the financial-rescue policies are credited with saving almost 5 million jobs.”¹⁶⁷ In other words, if we were to take into account the broader effects of TARP on the taxpayer, risk adjustment almost certainly goes in the wrong direction on net. It is wrong to tell the American taxpayers that the program cost them more than the fiscal effect on the federal government.

In sum, the EESA should have required scoring using traditional FCRA rules—calculating the expected fiscal effect on the federal budget. Additional analysis looking at broader effects may well be in order, but those effects should not be in the budget, and they should be considered more comprehensively.

CONCLUSION

Risk is endemic in the budget, as evidenced by the examples in Part IV. Changing how we budget for risk—discounting risky activity—could add tens, if not hundreds, of billions per year in budgetary costs and would serve as a significant barrier to new federal activity, making it more difficult to finance programs under current budget rules. Despite the growing consensus among economists, analysts, and certain policymakers that risk adjustment is an

2012 2 (2012), available at http://www.cbo.gov/sites/default/files/cbofiles/attachments/03-28-2012_TARP.pdf (describing how, for transactions that are complete, cash flows are converted to present value using the rate on Treasury securities while, for prospective transactions, CBO continues to apply a risk adjustment).

166. See generally ALAN S. BLINDER & MARK ZANDI, HOW THE GREAT RECESSION WAS BROUGHT TO AN END (2010), available at <http://www.economy.com/mark-zandi/documents/End-of-Great-Recession.pdf>.

167. *Id.* at 7.

appropriate way to reflect the true cost to the American people, that approach is the wrong one, as this Article has shown, and is much more misleading than it is enlightening.

The desire to reflect risk in the budget is understandable. By taking on risk, the federal government often is shifting risk from one part of the population (program beneficiaries) to another (taxpayers). To many analysts and policymakers, it seems appropriate for the budget to reflect the welfare loss that taxpayers may face from bearing additional risk. However, as this Article has described, their instinct reflects a fundamental misunderstanding of what the budget can and should effectively measure.

Put simply, budgeting is not cost-benefit analysis. Comprehensive cost-benefit analysis takes into account all costs and benefits *to society* of government actions. This includes welfare effects—like the effects of shifting risk from one part of the population to another (and which should appear as a cost to one part of the population and a benefit to another). By contrast, the budget is best used as a way to gauge the federal government’s fiscal position—the government’s position relative to its budget constraint. For this, what matters is the fiscal effect of government policies. The fact that taxpayers dislike uncertainty (and that program beneficiaries enjoy a reduction in risk) is not such a fiscal effect; this is, instead, a welfare effect.

The distinction between cost-benefit analysis and budgeting can seem self-evident in other contexts. When it comes to regulation, no one suggests that the budget should reflect the total costs (or benefits) to society—but only the cost to the government of enforcing that regulation. When it comes to taxation, no one suggests that federal tax receipts somehow reflect the negative efficiency effects of the tax code—but only the actual receipts that the federal government expects to receive. This same distinction that is self-evident in other areas of the budget should apply equally to budgeting in the face of risk.

In part, the consensus in support of risk adjustment may reflect a concern that the alternative—of the budget offices providing analysis of risk (and other nonfiscal effects) as supplemental information—may be insufficient to draw the attention of policymakers. As Michael Graetz observed some time ago in the context of tax policymaking, “Congress today seems to want tax policymaking to turn on simple numerical answers [P]olicymakers routinely eschew the difficulties of exercising judgment to strike an appropriate balance among ambiguous and often conflicting normative goals.”¹⁶⁸ To policymakers, precise budget numbers matter, and supplemental information—even if important—may matter a lot less. This problem is not isolated to risk. It encompasses all nonfiscal effects of policies; the broader social consequences should be relevant to policymaking but can receive far less attention than precise budget estimates. How to make this information relevant and usable to policymakers is an ongoing challenge.

However, the wrong way to address this challenge is to make the budget do everything at once—capture the fiscal position of the federal government even as it

168. Michael J. Graetz, *Paint-By-Numbers Tax Lawmaking*, 95 COLUM. L. REV. 609, 613 (1995).

reflects broader social effects. The result, as is the case with risk adjustment, is to leave the budget incoherent. Worse than that, the incoherence can bias policymaking. Risk adjustment puts one thumb on the scale—adding one phantom nonfiscal cost—without reflecting any of the attendant benefits. By confusing budgeting and cost-benefit analysis, risk adjustment undermines both and leads to budget metrics that measure little well at all.