

**THE LONG-TERM U.S. FISCAL GAP:  
IS THE MAIN PROBLEM GENERATIONAL INEQUITY?**

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I. INTRODUCTION

The United States is currently on an unsustainable long-term fiscal path. In the long run, everything must be paid for in one way or the other; there is no free lunch. Our current tax and spending policies, however, would fall vastly short over the long haul, under the best recent estimates,<sup>1</sup> of meeting this inexorable arithmetic requirement (the “intertemporal budget constraint” or no-free-lunch rule). This was true even before the 2008 financial crisis, which can be expected to leave the long-term picture considerably worse.

While our current attempted divergence from a sustainable path is just temporary – as the late economist Herbert Stein noted, “if something cannot go on forever, it will stop” – in the interim it excites much distress, in popular and academic if not political circles. The hard question, however, is what, if anything, is wrong – or most egregiously wrong – with our currently being on an unsustainable path, even granting that significant policy change will be necessary.

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<sup>1</sup> See Alan J. Auerbach, Jason Furman, and William G. Gale, Facing the Music: The Fiscal Outlook at the End of the Bush Administration, 119 Tax Notes 981 (June 2, 2008).

A large part of the impetus for disgust with our current fiscal path could be called aesthetic, although the label is unfair if we think of candor and realism in policymaking as more than merely aesthetic virtues. Consider the 2008 Presidential campaign. When, in the face of a long-term U.S. fiscal gap recently estimated at \$65.4 trillion,<sup>2</sup> Senator McCain proposed tax cuts that would have cost \$5.7 trillion over just ten years,<sup>3</sup> and his senior tax advisor said these tax cuts could be financed by eliminating “rifle shot” tax breaks that total only about \$30 billion per year,<sup>4</sup> it was clear that honesty in public policy debate had left the building. Senator McCain’s proposal, whether he knew it or not, unavoidably would have led to offsetting tax increases or spending cuts that he was unwilling to specify or even admit would be necessary. Moreover, while President Obama’s campaign proposals were not quite as far out in budgetary fantasyland as those of Senator McCain, they did not come close to adding up over the long run either.<sup>5</sup>

The problem is not just that candidates and their advisors lack candor, but that they face strong political incentives to be extremely, rather than just mildly, dishonest. The press, by adamantly refusing to draw distinctions between degrees of fiscal irresponsibility, creates an intellectual race to the bottom. As Obama economic advisor Jason Furman noted (before joining the Obama campaign), “there’s no incentive to

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<sup>2</sup> See Auerbach, Furman, and Gale, *supra*, at 988 (infinite horizon fiscal gap estimate under the Congressional Budget Office’s official baseline assumptions).

<sup>3</sup> See Leonard Burman, Scoring McCain’s Tax Proposals, available on-line at <http://taxvox.taxpolicycenter.org/blog/archives/2008/4/17/3644448.html>.

<sup>4</sup> See Ryan J. Donmoyer and Indira Lakshmanan, McCain’s \$3.3 Trillion Tax Cut, Budget Plan at Odds,” available on-line at [http://www.bloomberg.com/apps/news?pid=20601070&sid=a72L7\\_AJ5P9c&refer=home](http://www.bloomberg.com/apps/news?pid=20601070&sid=a72L7_AJ5P9c&refer=home).

<sup>5</sup> See Robertson Williams and Howard Gleckman, An Updated Analysis of the 2008 Presidential Candidates’ Tax Plans, available on-line at [http://www.taxpolicycenter.org/UploadedPDF/411750\\_updated\\_candidates\\_summary.pdf](http://www.taxpolicycenter.org/UploadedPDF/411750_updated_candidates_summary.pdf), suggesting that Senator Obama’s tax proposals, as described by campaign staff, would reduce federal revenues over a ten-year period by about \$2.9 trillion (as compared to \$4.2 trillion for Senator McCain), while his proposals as described in campaign speeches would lose about \$2.6 trillion (as compared to \$7 trillion for Senator McCain).

improve your policy, because unless it's absolutely perfect, which it can never be, you will be lumped in with the other [candidate's] policy and subject to equivalent criticism."<sup>6</sup> The end result is a level of public policy debate that insults the intelligence of any knowledgeable outside observer.

While the debasement of public discourse, and near impossibility of reasoned mainstream political debate about fiscal sustainability, seem unlikely to be good things, they do not necessarily prove that we actually face alarming long-term budgetary challenges. After all, things can be unedifying, as well as certain to have to change, without being actively dangerous. To support a crisis mentality concerning the inexorable ultimate path back to sustainability, one would have to specify what harm results when the fiscal gap keeps growing for years rather than being addressed more promptly.

This paper argues that the U.S. political system's ongoing failure to address the fiscal gap, and apparent insistence on continuing to worsen it, is indeed a grave policy problem, rather than merely an aesthetic failing. The chief harm, however, is not the one perhaps most frequently voiced – that of unfairly burdening future generations relative to current ones.<sup>7</sup> The pervasive uncertainties that undermine efforts to specify an optimal policy of inter-generational distribution make it hard to conclude with any confidence

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<sup>6</sup> Quoted in JoAnn M. Weiner, Advice from the Presidential Campaign Advisers, 119 Tax Notes 811 (May 26, 2008).

<sup>7</sup> Thus, the Concord Coalition, perhaps the most prominent public advocacy group calling for a return to fiscally sustainable budget policies, describes itself on its webpage as a "nationwide, grass roots organization advocating generationally responsible fiscal policy," and introduces its "Fiscal Wake-Up Call" by stating: "It is often said that our political system only responds to a crisis. If that turns out to be true, our children and grandchildren are in big trouble." Available at <http://www.concordcoalition.org/events/fiscal-wake-up/fiscal-wake-up-call.htm>.

that too many dollars are being shifted from them to us, rather than the right amount or too few.<sup>8</sup>

Instead, the chief reason for concern about the fiscal gap is one of efficiency, rather than distribution, and relates to the waste associated with waiting to correct an unsustainable fiscal course. The worst case scenario is explicit default on the national debt, or alternatively implicit default through hyper-inflation, in either case triggering (whether by occurrence or merely anticipation) a meltdown in global financial markets that could end up making the 2008 financial crisis look comparatively mild. However, this is just the far point along a continuum of bad consequences from delay. While the level of harm from postponing both (1) deciding how to address the fiscal gap, and (2) actually implementing steps to narrow it, could range from modest to great, considerable pessimism currently seems justified, for reasons grounded more in political economy than straight economics.

The rest of this paper proceeds as follows. Part II lays out the basics of our current fiscal situation, and discusses measures, such as the fiscal gap, debt-to-GDP ratio, and generational accounting, that shed light on particular aspects of it. Part III examines generational equity as implicated by our current set of fiscal policies. Part IV examines the allocative consequences of failing to address our current policies' unsustainability. In addition to discussing the risk of an acute fiscal crisis, I generalize from two distinct yet arguably parallel concepts in the economics literature, tax smoothing by the government<sup>9</sup>

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<sup>8</sup> For a similar argument, see Michael Doran, *Intergenerational Equity in Fiscal Policy Reform* (2007 draft).

<sup>9</sup> The concept of tax smoothing was introduced in Robert J. Barro, *On the Determination of the Public Debt*, 87 *J. Pub. Econ.* 940 (1979), although Barro emphasized the claim that it described actual, as opposed to merely optimal, budget policy.

and lifetime consumption smoothing by individuals,<sup>10</sup> to illuminate how a government optimally would respond, on both the tax and spending sides, to sustainability problems. Part V addresses the political economy aspects of failing to establish a sustainable fiscal policy. Part VI offers a brief conclusion.

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<sup>10</sup> See Franco Modigliani and Richard Brumberg, Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data, in K.K. Kurihara, ed., POST-KEYNESIAN ECONOMICS (1954).

## II. OVERVIEW OF THE LONG-TERM BUDGETARY SITUATION

### A. Deficits as a Measure

Even before the 2008 financial crisis hit, the U.S. federal budget deficit for 2009 was reasonably expected to be well over \$500 billion,<sup>11</sup> an amount that would rise by an additional \$250 billion if one ignored temporary surpluses in ostensibly self-financing government retirement programs such as Social Security and Medicare that face long-term fiscal shortfalls.<sup>12</sup> In the aftermath of the financial crisis, revised projections of the 2009 deficit suggested (as of late 2008) that it might rise as high as \$2 trillion, or 12.5 percent of gross domestic product (GDP) – more than twice its all-time record level relative to GDP.<sup>13</sup>

But do deficits matter, one may ask.<sup>14</sup> The answer is yes and no. Yes, they relate to a set of problems that matter, but no, deficits are not themselves a good measure for any of these problems.

Deficits are a bad measure, no matter what substantive underlying concern motivates examining them, because they rely on short-term attributes of government cash flow that lack fundamental economic significance. A given year's budget deficit could roughly be defined as the government's net cash flow for the year, disregarding flows of debt principal for arm's length consideration (such as on the purchase and retirement of

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<sup>11</sup> In July 2008, the Bush Administration forecast a 2009 deficit of \$482 billion, but this number (1) grossly under-estimated expected Iraq and Afghanistan war costs, (2) ignored recently enacted legislation reversing scheduled reductions in Medicare reimbursements of doctors, (3) ignored the costs of a massive housing bill that Congress had just enacted, and (4) used "rosy scenario" economic assumptions such as a sharp increase in the rate of economic growth. See Jonathan Weisman, "Record \$482 Billion '09 Deficit Forecast," Washington Post, July 29, 2008, page A-4.

<sup>12</sup> See Auerbach et al supra at 981, noting that the 2008 deficit would rise by \$250 billion (from \$367 billion to \$617 billion) if current surpluses in the above programs were ignored.

<sup>13</sup> See Matthew Benjamin, Cost of U.S. Crisis Action Grows, Along With U.S. Debt, Bloomberg News, October 10, 2008, available on-line at

<http://www.bloomberg.com/apps/news?pid=20601103&sid=aXCtv.lATO8I&refer=us#>.

<sup>14</sup> Indeed, this is the title of a book of mine on the subject. Daniel Shaviro, DO DEFICITS MATTER? (1997).

government bonds) as well as the printing or retirement of money. Two parts of this definition cause most of the problems: “for the year” and “debt principal.”

The present value of a dollar that the government pays out or gets on a given December 31 is only infinitesimally greater than that of a dollar that it pays out or gets the next day, on January 1. For purposes of measuring the earlier year’s budget deficit, however, they are treated as vastly different. In effect, all post-December 31 cash flows are infinitely discounted. This problem persists even if one measures five-year, ten-year, or for that matter seventy-five year deficits or surpluses.<sup>15</sup> Dollars that are almost the same are treated as radically different because they lie on opposite sides of an artificially designated boundary.

If all years were the same, this limitation might not matter. By definition, any change to this year’s deficit would be perfectly matched by identical changes to all other years’ deficits. The short-term measure would therefore be perfectly representative, albeit technically incomplete. Years differ, however, both because policymakers can play “smoke and mirrors” games shifting dollars between them, and because the world changes over time. Retirement programs such as Social Security and Medicare, by reason of their involving long-term commitments on which people are expected to rely, have magnified the importance of the latter problem. Now predictable demographic and other changes, such as the aging of the U.S. population and the rise in healthcare expenditure relative to GDP as technology makes new treatments possible, can enable us to tell that future years will bring rising budget deficits (all else equal), and thus that the short-term picture is affirmatively unrepresentative.

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<sup>15</sup> Long-term forecasts by the Social Security and Medicare Trustees use 75-year projection windows.

For debt principal, the line-drawing problem lies in the opposite direction. Disregarding the proceeds of selling a government bond makes sense, given the offsetting obligation to repay the principal plus interest. The problem is disregarding obligations that are merely implicit, such as the government's strong political commitment to pay future Social Security benefits to current workers, thereby potentially causing an obligation's explicitness to matter more for measurement purposes than it does for actual substantive purposes. As we will see, the strength of current policy commitments and the degree to which they are hard to change is a vitally important issue in assessing fiscal sustainability. No numerical measure based on counting cash flows (subject to a bright-line special rule for explicit debt) can get it entirely right even if the measure avoids deficits' unduly short-term focus.<sup>16</sup>

#### B. The Fiscal Gap

The fiscal gap or fiscal imbalance<sup>17</sup> is the amount, in present value terms, by which expected revenues under current policy fall short of expected outlays if projected outward to the infinite horizon (or some shorter period, such as 75 years).<sup>18</sup> To compute it, one must assume a given set of long-term demographic and economic trends, such as those projected by the Congressional Budget Office (CBO), and specify the appropriate

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<sup>16</sup> A further problem with the deficit as a measure, when used for certain common purposes such as measuring fiscal stimulus, is that it treats all current dollars the same, without regard to who gets or pays them and under what circumstances. Thus, giving \$10 billion to consumers has the same effect on the deficit, but not on fiscal stimulus, whether the recipients' marginal propensity to consume is low or high. Likewise, tax breaks for business are measured the same way whether or not they reward and thereby encourage stimulative new investment.

<sup>17</sup> In the literature, the fiscal gap differs from the fiscal imbalance for any period short of the infinite horizon, because the former treats a stable debt-to-GDP ratio as indefinitely sustainable while the latter includes even sustainable debt in the measure. See Auerbach, Furman, and Gale, *supra* at \_\_\_ concerning the fiscal gap; Jagadeesh Gokhale and Kent Smetters, *Fiscal and Generational Imbalances: An Update 3* (2005), concerning the fiscal imbalance. The two are equivalent over the infinite horizon, because paying interest on the debt forever (making it a perpetuity) is equivalent in present value terms to repaying it. Because the difference is so small, I will for convenience use the term "fiscal gap" but include even a sustainable debt level in the measure as under the fiscal imbalance.

<sup>18</sup> Also include current level of public debt & need to make interest payments.

discount rate for future cash flows. The computation also requires defining current policy, as applied to all future years that are within the forecasting period.

The CBO baseline for defining current policy generally relies on the law on the books for multi-year programs such as taxes and entitlements, and assumes that discretionary spending (such as that on the military, roads, and education) will grow only at the inflation rate – meaning that, while it stays fixed in real terms, it trends continually downward over time relative to GDP and population. (The CBO baseline does, however, assume the adoption of unspecified policy changes to slow the current rate of growth in healthcare spending.<sup>19</sup>) Analysts have questioned the baseline’s realism as a projection of current policymakers’ intentions, given scheduled legal changes (such as “sunsets” for tax cuts) that arguably are unlikely to be allowed to take effect, along with the possible unrealism of assuming that discretionary spending will be allowed to shrink per capita and relative to the economy. Existing studies have therefore used such adjustments as keeping particular spending categories fixed relative to GDP, or assuming that the dollar amounts in income tax rate brackets will grow with GDP, rather than just with inflation, so that the relative significance of lower rate brackets stays fixed rather than shrinking dramatically over time.

These issues can have a significant effect on the bottom line. The recent fiscal gap estimate of \$65.2 trillion under the CBO baseline rises to \$103.8 trillion if the baseline is adjusted to assume extension of expiring tax cuts, adjustments to contain the kudzu-like growth of the alternative minimum tax (AMT), and that discretionary spending rises to keep pace with population growth as well as inflation.<sup>20</sup>

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<sup>19</sup> Auerbach et al at 987.

<sup>20</sup> Auerbach et al at 988.

The fiscal gap provides less immediately salient, but arguably more meaningful, numbers if it is scaled to GDP over the infinite horizon (or shorter period), rather than being stated in aggregate dollar terms. Under this mode of presentation, the most recent estimates place it at 4.96 percent of GDP under the CBO baseline, or 7.87 percent under the adjusted baseline.<sup>21</sup> Given the intertemporal budget constraint, this indicates that, in order to make current policy sustainable through changes purely on the tax side, taxes would have to increase immediately by 7.87 percent of GDP (under the adjusted baseline). In other words, taxes for 2008 would have to increase by a staggering \$1.15 trillion<sup>22</sup> - keeping in mind that higher taxes<sup>22</sup> would tend to reduce business activity even if we were not in a recessionary stage of the business cycle – and then would have to keep pace permanently with rising GDP.

In terms of particular components of the current federal budget, the 7.87 percent shortfall “translates into a permanent reduction in noninterest spending of 31.9 percent, or a permanent increase in revenues of 45.8 percent, both calculated relative to their projected trajectories. Narrower means of closing the gap would be even more Draconian – a 72 percent increase in income taxes, for example, ... [or] eliminating all discretionary spending would not suffice.”<sup>23</sup>

Bad though this sounds, one should keep in mind that the needed changes are relative to *projected trajectories* for taxes and spending – not *current levels*. A large component of the fiscal gap results from the currently projected path for healthcare subsidies (through Medicare, Medicaid, and tax benefits for employer-provided insurance) and for Social Security. All of these are on a trajectory to grow much faster

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<sup>21</sup> Id.

<sup>22</sup> This number is based on projected 2008 GDP of \$14.6 trillion.

<sup>23</sup> Auerbach et al at 988.

than inflation, and for healthcare subsidies the projected growth rate (even with assumed policy changes to slow it) is much faster than that for the economy as a whole. If one were willing to start by limiting real growth in these programs, the further measures needed to eliminate the fiscal gap might not sound Draconian at all.

This point should make it clear that, while the fiscal gap – if the assumptions used in computing it are anywhere close to correct – irrefutably shows that currently projected policy will have to change drastically, it does not immediately establish much more than that. Standing alone, it is merely what I have called a “statement about statements,”<sup>24</sup> showing that the set of assumed policies used in computing it will not end up being actual policies. To understand the things we really want to know – for example, how grave a risk of fiscal crisis we face, or how wrenching the changes needed for sustainability would be – a lot more information is needed.

Considered as a measure, the fiscal gap provides much-needed corrections for both of the deficit’s central flaws, but each correction requires a warning label clarifying what the numbers do and do not mean. First, rather than effectively imposing an infinite discount rate with respect to future years’ cash flows, the fiscal gap appropriately counts such cash flows at their current-year present value. This comes at the cost, however, of collapsing the distinction between (1) cash flows that have actually and irreversibly occurred (for example, the hundreds of billions of dollars that have already been spent on the Iraq War) and (2) those that are merely projected to occur (such as spending on Medicare in the 2030s), and that might or might not be easy to change.

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<sup>24</sup> See Daniel N. Shaviro, TAXES, SPENDING, AND THE U.S. GOVERNMENT’S MARCH TOWARD BANKRUPTCY 86 (2007).

Second and relatedly, the fiscal gap avoids the deficit's arbitrary distinction between explicit commitments to repay debt and other commitments that are merely implicit (or otherwise highly likely to continue being favored when the time to make them comes). The fiscal gap avoids this overly sharp line-drawing, however, by treating all projected future cash flows the same, no matter where they might reasonably be deemed to fall on the continuum between ironclad commitments and mere expectations, hopes, or provisional plans. Degrees of pre-commitment are, of course, a type of "soft" information not easily incorporated into a "hard" numerical measure of fiscal policy, but this does not make them any less important.

C. Rising Debt-to-GDP Ratio

The fiscal gap shows that, if current U.S. budget policy remained in place, there eventually would be rising budget deficits, projected to continue rising indefinitely, and requiring ever rising public debt issuance. Obviously, this process has a limit. Only so much U.S. public debt can be sold, especially if capital markets discern the lack of any credible plan to finance it other than by issuing ever more debt.

In understanding how and when this might happen, however, the projected timing of the rise in debt relative to U.S. GDP is potentially of great interest, because of the light it sheds on when capital markets might be expected to respond. While rational actors are forward-looking and do not set arbitrary cutoff points in evaluating the future, the marginal investors that drive prices in capital markets need not be myopic in order to pay disproportionately more attention to the short-term than the long-term features of current policy (i.e., beyond simply discounting future expected cash flows to their present value).

The reasons are twofold. First, even if it were certain that policymakers would not voluntarily change course and that at some point there was likely to be a default, current bond prices and yields would not have to reflect this if people generally believed that bondholding was safe for now (and that others believed this as well). The basic phenomenon is that of a bubble market, in which an asset can long remain over-valued by reason of the greater fool theory. “Purchasing the asset at such high prices might be foolish, a rational bubble participant might reason, but if he can count on a greater fool tomorrow buying the asset [who in turn is counting on the next fool and so on indefinitely], he can still make money.”<sup>25</sup>

Second, current policy is not certain to continue being followed indefinitely, even in the absence of rising fiscal distress. The further in the future one is looking, the less may be one’s expectation (all else equal) that Congress feels a commitment or that a change in course would be politically difficult.

Thus, the projected path over time of the U.S. government’s public debt-to-GDP ratio may be quite important. This, in turn, depends on expected deficits, since each year’s deficit is roughly the new net amount that the government needs to borrow.<sup>26</sup> The federal government’s General Accounting Office (GAO) has examined this through two simulations, one based on the CBO baseline and the other making reasonable adjustments such as assuming that the expiring tax cuts will be extended and that discretionary spending will grow with the economy.<sup>27</sup> These estimates predate the 2008 financial

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<sup>25</sup> Kevin Hassett, *BUBBLEOLOGY: THE NEW SCIENCE OF STOCK MARKET WINNERS AND LOSERS* 74 (2002).

<sup>26</sup> The government can also finance budgetary shortfalls by printing money.

<sup>27</sup> Specifically, the GAO’s alternative simulation “assume[s] that (1) all expiring tax cuts will be extended through 2018 – and then revenues are brought to their historical level as a share of ... GDP plus expected revenue from deferred taxes – (2) discretionary spending grows with the economy, and (3) no structural changes are made to Social Security, Medicare, or Medicaid.” General Accounting Office, Statement of Gene L. Dodaro, Acting Comptroller General of the United States, Before the Subcommittee on Federal

crisis, and thus in retrospect were substantially over-optimistic over the short term, although conceivably the long-term projections may not need to change for the worse by all that much.

Table 1 offers a summary of key results concerning projected annual budget deficits from the baseline and alternative simulations, released prior to the 2008 financial crisis and thus showing a far rosier short-term fiscal picture than we now expect. While the deficit numbers, presented solely as percentages of contemporaneous GDP, are the GAO's own, I have added, for both sets of numbers, a dollar amount that is scaled to 2008 GDP, in the hope that this will make the magnitudes more salient. Actual future deficits would be considerably greater, since GDP is expected to grow, but those numbers (even if the GAO provided them, which it does not) might be intuitively misleading insofar as one failed to adjust properly for the projected increase in societal wealth.

TABLE 1: Annual Budget Deficits (Surpluses) as a % of GDP, and Scaled to 2008 GDP (in \$ Billions), Under GAO Baseline and Alternative Simulations<sup>28</sup>

YEAR	BASELINE SIMULATION		ALTERNATIVE SIMULATION	
	As % of GDP	Scaled to 2008	As % of GDP	Scaled to 2008
2008	1.5	214.5	1.8	257.4
2010	(1.5)	(214.5)	2.8	400.4
2015	(0.6)	(85.8)	4.1	586.3
2020	(0.6)	(85.8)	5.2	743.6
2025	1.1	157.3	7.5	1,072.5
2030	2.7	386.1	10.1	1,444.3
2035	4.4	629.2	12.9	1,844.7
2040	6.1	872.3	15.7	2,245.1
2045	7.8	1,115.4	18.6	2,659.8
2050	9.6	1,372.8	21.6	3,088.8
2055	11.5	1,644.5	24.8	3,546.4
2060	13.7	1,959.1	28.3	4,046.9
2065	16.0	2,288.0	32.0	4,576.0
2070	18.7	2,674.1	36.0	5,148.0
2075	21.4	3,060.2	40.1	5,734.3
2080	24.2	3,460.6	44.4	6,349.2

These simulations should help make it clear, in the event of any prior doubt, that the CBO baseline simulation, with its assumptions that the tax cuts will simply expire and that discretionary spending will radically shrink relative to the size of the economy, is not credible.<sup>29</sup> For example, even before the 2008 financial crisis, I knew of no one who actually believed that the U.S. would run sizeable budget surpluses from 2010 through 2020. This suggests that, when we turn from the projected path of budget deficits to that of the debt-to-GDP ratio, which I show in Table 2, the alternative simulation might offer a more meaningful picture of projected future policy.

<sup>28</sup> Source: Government Accounting Office, Long-Term Simulation Data, available on-line at <http://www.gao.gov/special.pubs/longterm/data.html>, which (as of September 2008) directs one to [http://www.gao.gov/special.pubs/longterm/42008\\_baselineext.pdf](http://www.gao.gov/special.pubs/longterm/42008_baselineext.pdf), and [http://www.gao.gov/special.pubs/longterm/42008\\_altsimulation.pdf](http://www.gao.gov/special.pubs/longterm/42008_altsimulation.pdf). 2008 GDP is assumed to be \$14.3 trillion.

<sup>29</sup> If discretionary spending grew solely at the inflation rate, and thus stayed fixed in real terms while the economy and population kept on growing, then by 2018 it would have shrunk by 21 percent relative to GDP and 14 percent in real per capita terms. Auerbach, Furman, and Gale, *supra*, at [4].

TABLE 2: Public Debt as a % of GDP  
Under GAO Baseline and Alternative Simulations<sup>30</sup>

Year	Baseline	Alternative
2008	36.8	37.1
2010	36.5	38.7
2015	28.0	47.1
2020	19.6	60.8
2025	18.2	80.7
2030	24.7	109.2
2035	38.2	145.6
2040	57.2	188.4
2045	80.4	236.6
2050	107.6	290.1
2055	138.6	348.5
2060	173.8	412.0
2065	213.0	480.3
2070	256.7	553.8
2075	304.3	632.0
2080	356.0	714.8

To put this in perspective, the all-time U.S. high debt-to-GDP ratio was 109 percent, right at the end of World War II<sup>31</sup> – at which point it was clear to the world that, with peacetime rapidly approaching, annual budget deficits and thus new debt issuances were about to plunge. Under the alternative simulation, we would pass this historical benchmark in 2030, but under the very different circumstance of its continuing to rise rapidly if current policy was being maintained. The debt-to-GDP ratio would then double again by 2042 and yet again by 2062. (The 2008 financial crisis may well move up all of these dates by a couple of years.)

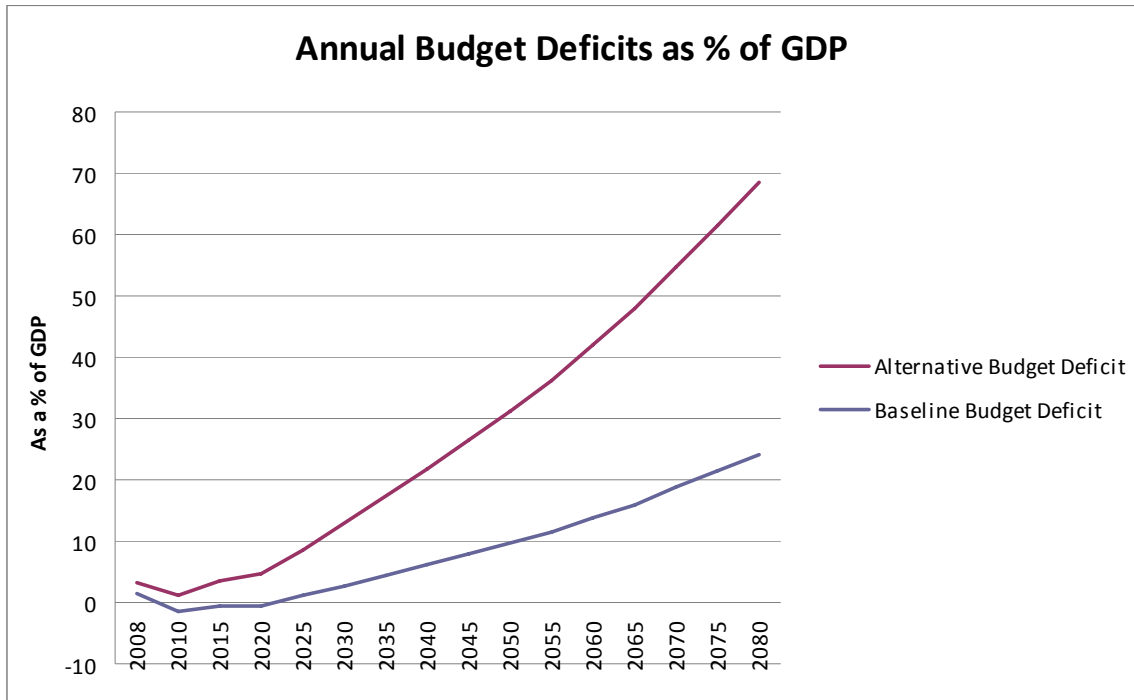
Lest the numbers from Tables 1 and 2 fail to do the sharply upward overall trend sufficient intuitive justice, the following charts portray the information from both tables visually:

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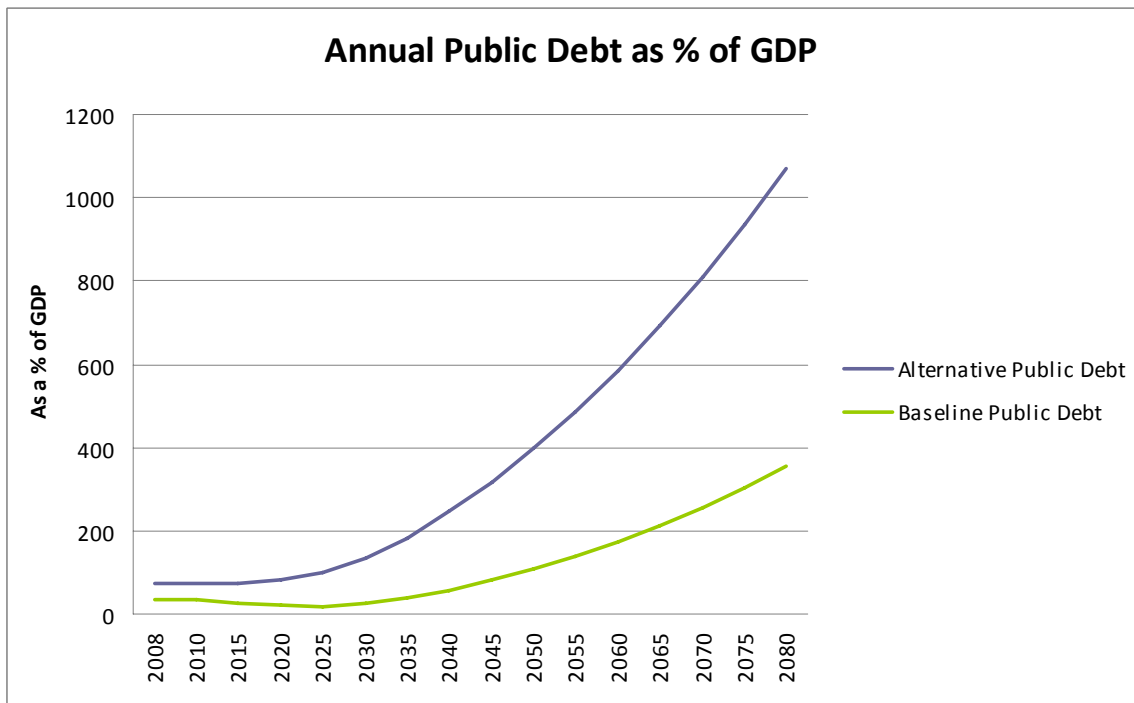
<sup>30</sup> See id.

<sup>31</sup> General Accounting Office, Statement of Gene L. Dodaro, supra, at \_\_\_.

**CHART ONE**



**CHART TWO**



Even absent other concerns, the gradual macroeconomic effects of a rising debt-to-GDP ratio would merit attention. According to the CBO, the currently projected rise in this ratio would reduce the U.S. capital stock by more than 40 percent, and real gross national product (GNP) by more than 25 percent, by 2050. For years past 2062, “projected deficits become so large and unsustainable that CBO’s textbook growth model cannot calculate their effects.”<sup>32</sup>

As we will see in part IV, however, the really big issue raised by an exploding debt-to-GDP ratio pertains to default or some other version of a “bumpy landing”-style return to sustainability enforced by capital markets with substantial collateral economic damage. The projected debt-to-GDP ratio cannot, however, tell us how far in advance capital markets would respond, since this depends on actual “soft” expectations about future policy as well as – once the expectations are clearly pessimistic – the unpredictable dynamics of a bubble market.

#### D. Generational Accounting

A limitation that the fiscal gap and debt-to-GDP ratio share with the deficit is failing to illuminate *who* gets or pays anything. For centuries, concern about deficits has focused on the issue of burdening future generations.<sup>33</sup> Proponents of addressing the fiscal gap often share this concern.<sup>34</sup> The underlying idea is that, the more we defer addressing the fiscal shortfall however measured and labeled, the more we are leaving it for younger and future generations. However, if generational distribution is what we care

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<sup>32</sup> Congressional Budget Office, *The Long-Term Budget Outlook 14* (December 2007).

<sup>33</sup> See *id.* at 77.

<sup>34</sup> See, e.g., Laurence J. Kotlikoff and Scott Burns, *THE COMING GENERATIONAL STORM: WHAT YOU NEED TO KNOW ABOUT AMERICA’S ECONOMIC FUTURE 45* (2004).

about, the obvious thing to do is try to measure it directly. A second alternative fiscal measure, generational accounting, does exactly that.

Distribution tables, showing how different groups (such as income classes) fare under current law or proposed changes to it, are a familiar tool in tax policy debate. For a while, Congress relied heavily on them in designing and evaluating proposed tax legislation.<sup>35</sup> When, under Republican leadership in 1995, it stopped even publishing (much less relying on) tax distribution tables, academic think tanks stepped into the void by continuing to disseminate them. Thus, during the 2008 presidential campaign, interested people with Internet access could readily learn that, for people in the top one-tenth of a percent of the income distribution, Senator McCain's tax proposals (as described on the stump) were estimated to reduce annual tax liability by an average of \$991,681 per taxpaying unit, while Senator Obama's tax proposals were estimated to increase such liability by an average of \$192,645.<sup>36</sup>

Attempting to measure the distributional effects of government policy is a more ambitious, hence more perilous, enterprise than simply counting cash flows in the manner of the budget deficit and the fiscal gap. For example, it requires determining the economic incidence of tax burdens – a notoriously fraught task given the complexity and potential impact of behavioral responses across the entire world economy.<sup>37</sup> One could even argue that it is “conceptually invalid because it postulates, for implicit comparison, a state of affairs in which there are no taxes whatever, and no government borrowing or

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<sup>35</sup> For an informative though highly critical view of this practice, see Michael J. Graetz, *Paint-by-Numbers Tax Lawmaking*, 95 *Colum. L. Rev.* 609 (1995).

<sup>36</sup> The tables containing this information can be found on-line at [http://www.taxpolicycenter.org/UploadedPDF/findtables\\_candidates.pdf](http://www.taxpolicycenter.org/UploadedPDF/findtables_candidates.pdf).

<sup>37</sup> Carl Shoup, *Public Finance* 57778 (1969), quoted in Graetz, *supra*, at 619..

creation of new money, hence impliedly no government services, not even of the type or amount necessary to assure the existence of society.”<sup>38</sup>

Even if one adequately solves (or ignores) these problems, typical tax distribution tables are myopic like the deficit measure, or perhaps even more so. They use a purely annual focus not just in measuring effects on tax liability, but also in classifying people by income class. Thus, for example, a medical student with huge expected future earnings might be misclassified with the lifetime poor, while an individual with low lifetime income who had a single big “score,” such as from winning the lottery or selling her house at retirement, might be misclassified with the lifetime rich. In addition, they look just at the tax side, without regard to the spending side, of the federal budget, thus giving an incomplete picture of the distributional effects of overall government policy.<sup>39</sup>

The spirit behind the long-term and budget-wide focus of the fiscal gap suggests natural corrections to these features of typical tax distribution tables. In particular, one can do the following:

(1) treat transfers, such as under the Social Security, Medicare, and Food Stamps programs, as negative taxes. More generally, one can apply this treatment to any government spending that has identifiable direct beneficiaries (such as offering free public schooling) rather than simply involving the provision of non-excludable public goods such as national defense. Hence, the measure becomes one of net tax liability (i.e., taxes minus transfers) rather than of gross tax liability, although it still generally depicts people as facing positive tax rates given the presumed impossibility of valuing individual benefits from the provision of public goods.

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<sup>38</sup> See Graetz, *supra*, at 619 (quoting economist Carl Shoup).

<sup>39</sup> Regulations also can have substantial distributional effects that are off-budget.

(2) count net taxes on a lifetime basis, whether from birth to determine people's lifetime net tax rates (LNTRs) as a percentage of lifetime income or on a going-forward basis to measure the effects of proposed changes. Similarly, if people are being grouped into income classes, this can be done on the basis of lifetime income as measured from birth.

These moves are conceptually uncontroversial, and indeed obvious, within a standard public economics framework, although challenges to that framework can be deployed against them.<sup>40</sup> Thus, it comes as no surprise that economists have employed them in distributional analysis. The best-known such effort with respect to current generations is a 1993 study by Donald Fullerton and Diane Lim Rogers.<sup>41</sup> In the context of long-term budgeting, where issues of generational distribution often take center stage, economists Alan Auerbach, Jagadeesh Gokhale, and Laurence Kotlikoff introduced a measure known as generational accounting (GA), involving the computation of lifetime net taxes and lifetime LNTRs for the average members of different age cohorts.<sup>42</sup>

GA requires taking on two distinct sets of challenges – both those involved in measuring lifetime net tax incidence, and those involved in measuring the fiscal gap. The latter arise because, for both present and future generations, one needs to make assumptions about future policy, as well as future demographic and economic circumstances, in order to include forward-looking estimates. This alone should not discourage acceptance of GA as a relevant and interesting budgetary measurement tool. After all, ambition in looking ahead necessarily requires willingness to speculate. In

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<sup>40</sup> On the problems with lifetime measures, see Daniel Shaviro, *Beyond the Pro-Consumption Tax Consensus*, 60 *Stan. L. Rev.* 745, \_\_ (2007).

<sup>41</sup> See Donald Fullerton and Diane Lim Rogers, *WHO BEARS THE LIFETIME TAX BURDEN?* (1993).

<sup>42</sup> See Alan Auerbach, Jagadeesh Gokhale, and Laurence J. Kotlikoff, *Generational Accounts: A Meaningful Alternative to Deficit Accounting*, NBER Working Paper W3589 (1991).

practice, however, the need to look indefinitely forward has led to unfortunate confusion and controversy. The problem lies in deciding how to account for the fiscal gap in making GA estimates.

One possibility might be to ignore it, and treat current budget policy as if it could continue indefinitely, or at least for the full lifetimes of the youngest age cohorts for whom one prepares estimates. This, however, would pose two problems. First, it would involve logical fallacy, at least as applied to all future generations and the infinite horizon, because a permanently unaddressed fiscal gap is arithmetically impossible. Second, it would make the measure uninteresting, by suppressing any reflection in it of what arguably is the most compelling and important fact about current budget policy, i.e., its apparent sustainability. Thus, proponents reached the very reasonable judgment (at least in my view) that the fiscal gap had to be incorporated into the measure.

One should keep in mind, however, that this was not just a matter of logical necessity but reflected separate empirical judgments about the U.S. fiscal situation. Thus, suppose one believed with high confidence that current U.S. fiscal policy could continue on its current course for at least the next 1,000 years, via ever-increasing borrowing to fund budget deficits (including borrowing to pay interest on new debt, interest on the interest, and so forth). Then it might seem quite logical to prepare GA estimates that simply ignored the fiscal gap, so long as a future generation cutoff ensured omission of anyone far enough in the future to be alive in 1,000 years. The cutoff, in turn, might be defended, not just based on how little we know about the very distant future, but also on the ground that users of the information are likely to care more about more proximate than more distant future generations. (One's own children and grandchildren, after all,

may seem more tangible and interesting than descendants in the fortieth generation.) Such an approach has considerably less appeal, however, if one believes that the fiscal gap is likely to have to be addressed much sooner, and thus to affect current generations or those who are born during our lifetimes.

A second possibility would be to project a specific correction path for making our long-term budget policy more sustainable. This, however, would go beyond being merely speculative (like forecasting demographic and economic trends) or even fanciful (like projecting forward current policy despite its not having been fully determined) to being virtually unbounded. What is more, while one certainly could prepare GA estimates regarding different plausible paths back towards sustainability, these would no longer be estimates of current policy. Instead, they would be estimates of the likely long-term distributional consequences, across age cohorts, of continuing for the time being to follow current policy.

For lack of a better alternative, therefore, GA typically assigns the entire burden of eliminating the fiscal gap to future generations. Proponents of the measure are careful to emphasize that this is not an actual projection of how the fiscal gap will end up being addressed, while noting as well that delay in addressing it does indeed tend to leave it to future generations.<sup>43</sup> However, despite the evident lack of any better alternative, this has worsened GA's reception among budget aficionados for two reasons. First, it creates genre confusion by mixing and matching what is otherwise a pure projection exercise concerning current policy with something that is apparently quite different. Second, it results in depicting a disparity between the LNTRs applicable to present and future

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<sup>43</sup> See Alan Auerbach, Jagadeesh Gokhale, and Laurence J. Kotlikoff, *Generational Accounting: A Meaningful Way to Evaluate Fiscal Policy*, *Journal of Economic Perspectives*, winter 1974, at \_\_\_.

generations that exceeds any plausible projection of the actual disparity that will end up prevailing, if policy change to restore sustainability does not in fact wait until all members of current generations have left the scene. In a highly charged political environment, where some (including GA proponent Kotlikoff) strongly urge immediate policy changes, such as scaling back Social Security and Medicare growth, while others strongly oppose such a course, a measure that could be viewed (even if unfairly) as exaggerating what we will do to future generations if we do not act promptly was bound to face a stormy reception.

Reflecting GA's treatment of the fiscal gap, estimates have consistently shown far higher LNTRs for members of future than current U.S. generations. The most recent available study, by economist Jagadeesh Gokhale, shows LNTRs of 18.5 percent for males<sup>44</sup> born in 2004, as compared to 58.2 percent for those born in 2005 or thereafter.<sup>45</sup> If one treats this as an actual projection, there are two main reasons for possible concern about it. First, one might object to it distributionally as unfair to future generations, depending on how one evaluates generational equity (which I discuss in part III below). Second, 58.2 percent is so high a net tax rate as to suggest that eliminating the fiscal gap entirely through changes applying to future generations would raise extremely severe efficiency concerns if we assume the continued use of distortionary rather than lump-sum taxes.

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<sup>44</sup> GA consistently shows women facing lower lifetime net tax rates than men for two reasons. First, women tend to have lower lifetime earnings than men, and thus to fare better under progressive tax and transfer rules (along with Social Security and Medicare rules that provide spousal benefits to one-earner married couples). Second and more importantly, women live longer on average, and thus tend to receive more years of Social Security and Medicare benefits.

<sup>45</sup> Jagadeesh Gokhale, *Generational Accounting*, forthcoming in the *New Palgrave Dictionary of Economics*, available on-line at [http://www.cato.org/pubs/articles/gokhale-generational\\_accounting.pdf](http://www.cato.org/pubs/articles/gokhale-generational_accounting.pdf).

To be sure, these estimates are not actually a projection. Yet this does less than one might think to alter their implications. One could think of them as representing the far point along a continuum of approaches to splitting the burden of eliminating the fiscal gap between present and future generations. As one increases present generations' share of this burden from zero, the 18.5 percent rate goes up and the 58.2 percent rate goes down. Very large changes would surely be needed, however, to bring the rates close together.

D. What We Learn (and Don't Learn) from the Long-Term Measures

The fiscal gap tells us that there is a large under-specification in current policy regarding how the inter-temporal budget constraint will end up being satisfied. Projected outlays greatly and unsustainably exceed projected financing. We do not immediately learn from this, however, such important details as (1) how politically difficult or economically disruptive reconciling the two sides of the budget is likely to be, (2) whether some age groups are winning relative to others from our currently following an unsustainable policy, or (3) how policy in different years will end up varying, either under current policy or by reason of needing to make it sustainable. The rising debt-to-GDP ratio, while potentially helping to guide speculation about when capital markets might be expected to respond, cannot address these issues either.

GA tells us that delay in addressing the fiscal gap tends towards requiring future generations to face substantially higher LNTRs than current generations. This, in turn, against a background of general knowledge about the U.S. fiscal system, makes it reasonable to infer that (1) gross tax rates are likely to increase substantially, and (2)

spending on programs such as Medicare and Social Security is likely to be cut substantially relative to their currently projected paths.

Why does any of this matter? A useful rubric holds that the economic consequences of fiscal policy can be divided into two categories: the allocative and the distributional. Allocation involves the amount, use, and character of all assets in society, while distribution involves who has what.<sup>46</sup> A third category worth separately considering is political economy, or how structural features of government policy (such as those relating to the permissibility of deficits or fiscal gaps) systematically affect policy outcomes.<sup>47</sup> The rest of this article therefore explores each of these sets of issues in turn, asking both what we can say about an optimal policy path across time and about how the current lack of a sustainable fiscal policy affects the degree of optimality that is achieved.

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<sup>46</sup> See Daniel Shaviro, Rethinking Tax Expenditures and Fiscal Language, 57 Tax L. Rev. 187, 188 (2004), deriving the two categories from Richard A. Musgrave, THE THEORY OF PUBLIC FINANCE, A STUDY IN PUBLIC ECONOMY 5 (1959). In previous work, I have attempted a three- or four-part analysis of the issues, based on subdividing the allocative issues by type. See Shaviro, DO DEFICITS MATTER?, supra (describing issues of generational equity, macroeconomic effects, and the size of government); Shaviro, TAXES, SPENDING, AND THE U.S. GOVERNMENT'S MARCH TOWARD BANKRUPTCY, supra (adding sustainability to the list). Other writers on these issues have also essayed tripartite classification. See Alan Auerbach, Long-Term Objectives for Government Debt (2008), available on-line at [http://www.econ.berkeley.edu/~auerbach/long\\_term\\_objectives\\_govt\\_dept.pdf](http://www.econ.berkeley.edu/~auerbach/long_term_objectives_govt_dept.pdf) (intergenerational equity, economic performance, and fiscal sustainability). For that matter, Musgrave also had a third category, stabilization policy. I have concluded, after multiple iterations of writing about long-term budgetary issues, that dividing the non-distributional (i.e., allocative) issues into multiple categories, though meant to add clarity by distinguishing them by type, in fact does more to confuse analysis and bring line-drawing questions to the fore than to clarify it.

<sup>47</sup> Obviously, evaluating the political economy effects of a given structural feature of government policy, such as a fiscal rule pertaining to deficits or the fiscal gap, depends on its allocative and distributional effects.

### III. GENERATIONAL EQUITY

#### A. Evaluating Higher Lifetime Net Tax Rates for Future Generations

As we saw in part II, current GA estimates suggest that, if the fiscal gap were eliminated purely through tax increases and benefit cuts for future generations, they would end up paying much higher LNTRs than current generations – indeed, according to Gokhale’s study, rates that are more than three times as high if one compares newborn with unborn males. This comparison helpfully tees up the big generational equity issue in fiscal policy debate, which is whether any such rate disparity should be reduced by requiring current generations, sooner rather than later and more rather than less, to share in the burden of restoring fiscal sustainability.

In evaluating this issue, it can be linguistically convenient to speak in terms of “transferring” resources between generations – such as by saying that current fiscal policy implies huge transfers from current to future generations, or that moving current and future LNTRs closer together would transfer resources back to present generations relative to not doing so. While this is a useful shorthand, one should keep in mind that it is not exactly correct. Short of using a time machine, resources (or ownership of them) can only be transferred between contemporaneous individuals, not those living at different times. Even as to overlapping generations, the question is how much the older leaves in the hands of the younger, given bequests of privately owned assets plus changes in the value of all other social and natural resources. Current generations always make some sort of immense transfer to future generations, even if only in the form of not running down all existing resources to a value of zero.<sup>48</sup>

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<sup>48</sup> This presumably reflects the existence of overlapping generations, so that those alive today would never share the same end point even if life expectancies were fixed and uniform.

Against this background, the generational equity question is less one of what fiscal policy transfers there should be between the generations, than of how the consumption of resources should be split between them. For current generations, this amounts to a question of how much they should consume rather than save for others to consume later. LNTRs affect this, however, insofar as raising them for members of current generations ends up reducing the amount that they consume, by lowering their budget lines in a manner that is not entirely (or, it appears, even substantially) offset by their reducing bequests.<sup>49</sup> Thus, enacting policy changes that raise LNTRs for current generations, so as to narrow the gap between current and future LNTRs, does indeed amount in practice (relative to not enacting these changes) to transferring lifetime consumption from current to future generations.

To assess generational equity in this sense, one needs a normative framework. The question of what framework to apply is, of course, enormously controversial, and would help to assure lack of consensus about policy towards future generations even if we knew more about the future. I will apply a straight utilitarian framework, reflecting not only that it resonates for me, but that it permits analytical (whether or not bottom-line) clarity and may be at least a relevant input for many people with different frameworks. As we will see, even thus narrowing the normative space falls far short of allowing us to reach firm conclusions.

#### B. Some Relevant Factors in a Utilitarian Assessment of Generational Equity

Within utilitarianism, the motivation for transferring a dollar from one person to another (such as by giving the latter a lower LNTR) relates to marginal utility. If A, for

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<sup>49</sup> See, e.g., Altonji, Hayashi, and Kotlikoff, *Is the Extended Family Altruistically Linked?*, 82 *Am. Econ. Rev.* 1177 (1992) (finding that fiscal policy transfers between generations largely are not offset by changes in transfers within the household).

any reason, has a higher marginal utility for a dollar than B, dollars should be transferred from B to A (ignoring any efficiency costs of the transfers) until their marginal utilities have been equalized, as should happen at some point if both A and B experience declining marginal utility (DMU) for a dollar as material wellbeing increases.

If people and their circumstances are assumed to be identical in all respects except for material wellbeing, the DMU assumption does all the work and suggests redistributing solely from richer to poorer individuals. However, this overly narrows the relevant considerations even for intra-generational distribution issues. For example, household issues, concerning the tax and transfer relevance of marital or couple status and children, turn on issues apart from simply comparing different types of households' available resources.<sup>50</sup>

Inter-generational analysis, while no different in principle than the intra-generational from a utilitarian perspective,<sup>51</sup> is fundamentally harder for two reasons. First, we know much less about future generations' circumstances than our own. Even if we expect a given trend (such as rising prosperity), at best we have an expected median outcome across a broad probabilistic distribution. Second, with present and future conditions potentially being so different (even disregarding uncertainty about the latter), a number of factors apart from overall material wellbeing, easier to ignore with respect to people living in the same time period, may significantly affect the relevant marginal utilities. Thus, in assessing generational distribution, the issues that may have a significant impact on the analysis include at least the following:

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<sup>50</sup> See, e.g., Daniel Shaviro, *Households and the Fiscal System*, 23(2) *Social Philosophy and Policy* 185 (2006) (discussing the relevance of household structure to distribution policy).

<sup>51</sup> See, e.g., Louis Kaplow, *THE THEORY OF TAXATION AND PUBLIC ECONOMICS* 382-383 (2008).

1) Rising lifetime income – For many decades, per capita national income has been rising. While there are no guarantees, many expect this trend to continue. Thus, as Neil Buchanan notes, recent economic and demographic projections by the Social Security Trustees suggest that per capita GDP will more than double by 2080 even in the most pessimistic of three alternative scenarios, while more than quadrupling in the most optimistic scenario.<sup>52</sup>

All else equal, rising per capita income would suggest imposing higher LNTRs on future than current generations, in order to move towards equalizing lifetime consumption.<sup>53</sup> However, the existence of uncertainty around a broad band of possible outcomes reduces the otherwise desirable redistribution. Given DMU for income, which gives rise to risk aversion, future generations' expected utility is less, and the expected marginal utility of a dollar greater, than if the median expectation were certain to occur.

2) Rising life expectancies – Americans' life expectancies have been rising for decades. In 2006, the average U.S. life expectancy at birth reached an all-time high of 78.1 years, an increase of 1.4 years over the prior decade and about 30 years over the prior century.<sup>54</sup> This trend is expected to continue, with the Social Security Trustees

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<sup>52</sup> Neil Buchanan, *Social Security and Government Deficits: When Should We Worry?*, 92 Cornell L. Rev. 257, 266 n. 57.

<sup>53</sup> If all aspects of the forecast by Gokhale, *supra*, are correct, however, the rise in LNTRs exceeds that supportable on the ground of equalizing lifetime consumption. Gokhale estimates that males born in 2004 will on average pay lifetime net taxes of \$104,300 on lifetime earnings of \$565,000, while those born in 2005 or thereafter will on average pay lifetime net taxes of \$332,000 on lifetime earnings that will only have increased to \$572,500. The younger group's higher taxes would therefore leave them with after-tax earnings of only \$240,500, as compared to \$460,700 for the older group.

<sup>54</sup> See National Center for Health Statistics, *Health, United States, 2008, With Chartbook on Trends on the Health of Americans* (2008).

forecasting almost another three-year gain in life expectancy at birth over the next seventy-five years.<sup>55</sup>

Rising life expectancies have the opposite normative implication of rising per capita income. If all else were equal, they would suggest that lifetime consumption should be shifted from current to future generations. A longer lifespan increases the marginal utility of a dollar by increasing the period during which one needs (and can benefit from) resources. This is why rational life cycle planning for an individual involves annuitizing one's wealth, or buying a life annuity (if available on actuarially fair terms) under which living longer means that one will get paid more. Transferring the use of resources to the longer-lived is the social equivalent of individual annuitization.

3) Rising environmental disamenities – As the world's human population rises, physical congestion and resource scarcity may become increasing problems. Likewise, rising pollution levels and a host of serious environmental dangers (such as from global warming) cloud our future prospects. Even ignoring for now the threat of a serious calamity, this set of problems threatens, not only to forestall the otherwise expected growth in per capita GDP, but also to impose rising disamenities that GDP ignores but that are no less relevant for that. Thus, future generations may be less well-off, relative to current ones, than one would think from looking just at per capita GDP, even as adjusted for life expectancy. This might suggest transferring the use of resources from us to them, all else equal, assuming that marginal utility follows here the usual pattern of increasing as overall wellbeing declines.

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<sup>55</sup> See 2008 OASDI Report, Table V.A.4. (Cohort Life Expectancy), forecasting that life expectancy at birth will rise from 78 years to 80.8 years between 2010 and 2085.

4) Technological progress – Dollars have no value in themselves, but rather are worth what they can be used to buy. This, in turn, may change over time, not only with fluctuating supply and demand for various resources that may exist at all times, but also with technological advances. Just as today we buy computers, home entertainment devices, and healthcare treatments (among other consumer items) that did not exist until recently, so future generations may have consumption opportunities that are not available or even imaginable to us.

If future individuals are therefore more efficient consumers than current ones – that is, able to derive more utility from the same resources – this would tend to support, under utilitarianism, transferring the use of resources from us to them.<sup>56</sup> To be sure, there may be countervailing factors that point in the opposite direction. Future individuals may, for example, be less efficient consumers insofar as they become habituated to a higher material standard that is costly to reach. It may also be worth noting here that some non-utilitarians would object to this entire line of analysis on grounds relating to the issue of “expensive tastes.”<sup>57</sup> However, both the empirical issue of habituation to a higher standard and the philosophical issue of expensive tastes may recede insofar as technological advances would permit future generations to use extra resources on healthcare that lengthens lives or mitigates sickness and disability in ways not feasible today. This factor is therefore hard to dismiss, although its practical significance is hard to evaluate.

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<sup>56</sup> A ground apart from technological progress for believing that future generations might be more efficient consumers is that population growth implies that a greater number of people benefit from the provision of pure public goods, which by definition are non-rival and hence not subject to congestion or rising cost of provision.

<sup>57</sup> See Louis Kaplow and Steven Shavell, *Fairness Versus Welfare*, 114 Harv. L. Rev. 961, 1339 (2001) (noting and rebutting the non-utilitarian objection to transferring resources to individuals who derive high utility from receiving substantial resources by reason of their having developed expensive tastes).

5) Significance of discounting future dollars but not future utility – A robust debate within the generational equity literature asks whether, in addition to discounting future dollars to their present value, we should also discount future individuals' utility. Thus, suppose that for dollars we accept a 3 percent annual discount rate, such that a \$100 billion dollar cost to be incurred in fifty years is worth \$22.8 billion in current dollars.<sup>58</sup> Similarly discounting future individuals' utility would imply that we care less than one-quarter as much about newborn individuals' welfare in fifty years as compared to today. The welfare of future generations is vastly discounted in the overall social calculus if we discount future welfare just like future dollars.

From a straight utilitarian standpoint, however, it seems clear that future generations' utility should not be thus discounted. Utilitarianism can be described as requiring one to maximize expected utility from behind the veil – that is, under the assumption that one has an equal probability of being any given individual, an exercise that serves to ensure that each individual's utility is weighted equally. From this perspective, it makes no sense to count future individuals less, other than by discounting for the less than 100 percent probability of their existing.<sup>59</sup>

Even as to a given individual, time discounting for future utility, which typically is rationalized on grounds of impatience to consume, may not be rational.<sup>60</sup> The dominant lifecycle saving model in the economics literature, which holds that people generally should engage in lifetime consumption smoothing so as to equalize the marginal utility of

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<sup>58</sup> See Marvin A. Chirelstein, *FEDERAL INCOME TAXATION* 440 (10<sup>th</sup> ed. 2005) (table showing that \$1 in 50 years is worth 22.8 cents today, assuming a 3 percent discount rate).

<sup>59</sup> See Kaplow, *THE THEORY OF TAXATION AND PUBLIC ECONOMICS*, *supra*, at 383.

<sup>60</sup> See Tyler Cowan, *Caring About the Distant Future: Why It Matters and What It Means*, 74 *U. Chi. L.Rev.* 5, 9 (2007).

consumption in all periods, expressly rejects it.<sup>61</sup> However, even if one can logically posit that a given individual should discount future utility based on impatience, the argument does not apply to future generations. As Tyler Cowan notes:

Time preference means that an individual prefers to have a given benefit sooner rather than later. Perhaps I am impatient to enjoy my steak dinner, or I wish to put off going to the dentist .... but pure time preference across the generations is harder to defend. Our still unborn great-great-grandchildren will not receive benefits for some while. But in the meantime they are not sitting around, waiting impatiently. It cannot be argued that a forthcoming slice of time is worth less because future generations must wait for it. Nor did medieval peasants receive some kind of benefit from having been born before us.<sup>62</sup>

With current dollars growing at a positive interest rate while current generations' utility merely counts the same as that of future generations, there potentially is a strong implication that we should save a great deal for their benefit. After all, if someone living in fifty years counts just as much as I do and we otherwise are the same, the choice between whether I should get to consume \$1 or she should get to consume \$4.38 (the amount to which that dollar would grow at a 3 percent annual interest rate)<sup>63</sup> may seem not close at all.

To be sure, this is just one factor in the overall generational analysis, and at some point, as consumption shifts from me to her, it is outweighed by the marginal utility

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<sup>61</sup> See Milton Friedman, *A THEORY OF THE CONSUMPTION FUNCTION* (1957) (describing permanent income hypothesis); Franco Modigliani and Richard Brumberg, *Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data*, in K.K. Kurihara, ed., *POST-KEYNESIAN ECONOMICS* (1954) (describing the theory of lifetime consumption smoothing).

<sup>62</sup> Cowan, *supra*, at 9. Note that other grounds for discounting future utility, e.g., Posner on 'I'm not the same person, don't apply to either setting if we're treating everyone the same behind the veil.

<sup>63</sup> See Chirelstein, *supra*, at 441 (table showing that \$1 grows to \$4.38 over 50 years assuming a 3 percent annual return).

consequences of her getting to consume increasingly more than I do. Indeed, in the analysis of optimal lifecycle saving by a discrete individual – formally the same problem as intergenerational resource allocation within a successive-generations household that is treated as if it involved one extremely long-lived individual – the same line of reasoning has not generally been thought to suggest that consumption should be heavily back-loaded to one’s later years by reason of the opportunity to earn more interest. This reflects in part typically assuming in the lifecycle model that consumption in any one period has significantly declining marginal utility – an assumption that may be at least as plausible in the context of consumption by succeeding generations. It also, however, reflects that only a relatively short period of consumption deferral and consequent growth of resources at the interest rate is possible within the limits of an individual’s lifespan. In intergenerational analysis, one may not be thus limited.

Formal economic models often posit infinite-lived households or an infinite number of future generations. This timeframe permits the interest rate factor to potentially grow and swamp everything else in the absence of utility discounting or some other limiting factor,<sup>64</sup> at least if one ignores the difficulty of ensuring that the generations immediately after one’s own will keep on saving on behalf of people living in the more distant future.<sup>65</sup> In addition, an infinite horizon offers powerful grounds for being willing to sacrifice the welfare of current generations in exchange for benefiting

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<sup>64</sup> An example of a limiting factor is Frank Ramsey’s positing “bliss,” or the point at which a generation has reached the maximum achievable level of utility and thus will not benefit at all from further consumption.

<sup>65</sup> On the problem of an absconding intermediate generation, see, e.g., Cass Sunstein and Arden Rowell, On Discounting Regulatory Benefits: Risk, Money, and Intergenerational Equity, 74 U. Chi. L. Rev. 171, 193-194 (2007).

future generations. If the latter are infinite in number, their undiscounted utility gain can hardly help but exceed current generations' utility loss.<sup>66</sup>

Obviously, an infinite number of future generations is not in fact possible. Indeed, the Sun is expected to expand and boil away the Earth's oceans within several billion years, and one would have to be optimistic indeed to expect humanity to last that long. Accordingly, without realistic projections of how many future generations there are likely to be, the tradeoffs presented by sacrificing current generations' welfare to achieve a superior steady state are hard to assess.

6) Risk of global catastrophe – The chance of an “end to history,” in the catastrophic rather than the Fukuyama sense,<sup>67</sup> does more than merely undermine the case for sacrifice today to achieve a superior steady state. It potentially indicates that the social saving rate should be negative, or even substantially negative, so that more of the resources available for human consumption will not end up going to waste. In effect, the logic of annuitization potentially applies, without there being annuitization markets that the human species as a whole can tap.

When one is effectively self-annuitizing (without a bequest motive), the twin evils to balance against each other are over-saving, and thus running out of resources before death; and under-saving, and thus dying with resources unused. It is generally accepted, within optimal lifetime consumption models, that people without bequest motives should

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<sup>66</sup> A good example involves the so-called “Golden Rule” savings rate, defined in Robert Solow's influential growth model as the rate that would maximize steady-state consumption by all generations. Gregory Mankiw argues that sacrifice by current generations, in the form of extra saving to bring us up to the Golden Rule level, is clearly justified in utilitarian terms because, “[e]ven though current generations will consume less, an infinite number of future generations will benefit.” See also Buchanan, *What Do We Owe Future Generations*, supra (noting that the Mankiw argument does not necessarily hold if future generations' welfare is discounted).

<sup>67</sup> See Francis Fukuyama, *THE END OF HISTORY AND THE LAST MAN* (1992) (positing that history has an endpoint, involving the universal establishment of liberal capitalist democracy).

at some point dissave, and thus reduce their remaining wealth, as they age. If the human species similarly had a discernibly finite life expectancy with the end clearly approaching, the implication would be similar. That is, running down the world's resources would at some point make sense (assuming that only human welfare was relevant). Moreover, even merely a chance of human extinction would tend to increase the optimal level of current generations' consumption, in a utilitarian analysis, by lowering the expected social utility from saving via the possibility that saved resources would end up not being used. Again, however, the underlying empirical question is daunting.

7) Future-directed inter-generational altruism – People often emphasize how much they care about future generations, often specifically adding that, in addressing public policy issues ranging from the environment to the budget deficit to terrorism, they want to make sure their children are better off than they were themselves.<sup>68</sup> This sentiment, if taken at face value, expresses altruism towards future generations that is not limited to one's own household. It could be interpreted as suggesting that a rising standard of living provides utility to members of current generations even though they do not enjoy the direct material payoff, which goes to the future generations.

The academic literature concerning private gifts and bequests, such as to one's children or a charity, shows that, where altruistically motivated, such transfers have a positive externality that leads to their under-supply from a social standpoint. For example, if I am indifferent between spending \$100 on myself or on a gift to my children, this implies that the utility to me of these choices is the same, but the gift would also

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<sup>68</sup> See Buchanan, *What Do We Owe Future Generations?*, supra, at 1-4, 21-22.

benefit the recipients by \$100. This altruistic externality suggests (all else equal) that gifts should be subsidized.<sup>69</sup>

In the collective inter-generational setting, a similar line of reasoning suggests that current generations, even if they could fully solve collective action and political choice problems in order to select the level of rising future prosperity that they preferred, would select one that was too low (all else equal), since they would count their own altruistic benefit but not the future generations' independent benefit from being better off. More generally, assuming one counts other-regarding preferences such as altruism in the social welfare function,<sup>70</sup> the existence of one-way or at least asymmetric altruism running from older to younger generations arguably shifts the socially optimal distribution in favor of the latter. Once again, however, the factor thus identified as relevant to inter-generational distribution is hard to evaluate empirically.

### C. Summing Up

As GA calculations help show, to defer addressing the fiscal gap would likely result in the imposition of far higher LNTRs on future than current generations. This projected disparity, in addition to raising efficiency issues that I discuss in part IV, raises a question of generational equity, pertaining to how much current as opposed to future generations should get to consume. One way to ask the pure distribution question would be to suppose that dollars of consumption could be shifted between present and future generations with no efficiency consequences, and thus with no change in the amount consumed except by reason of the time value of money (i.e., with no change in the present value of consumption). Under that assumption, the question is to what extent, if

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<sup>69</sup> See, e.g., Kaplow, *THEORY OF TAXATION*, supra, at 253-254.

<sup>70</sup> See id. at 362-366, for an argument in favor of counting other-regarding preferences in the social welfare function.

any, should we shift burdens back from future to current generations relative to the GA scenario.

As I have tried to show, evaluating this distribution question is extremely difficult. Even if one narrows the potential normative landscape by assuming a utilitarian view of generational equity, a number of important considerations suggest tilting overall distribution towards future generations, while others suggest tilting it towards us. We are thus left with far greater normative uncertainty in addressing generational equity than typically arises in addressing intra-generational equity, where a reasonable starting point might be to assume that equal distribution is generally best in the absence of efficiency issues, albeit with a few adjustments such as favoring longer-lived individuals (as happens under Social Security and Medicare) and determining what are suitable adjustments for household characteristics such as the presence of children.

The problems that make generational equity so much harder, even under a straight utilitarian norm, are twofold. First, we know much less about the future than the present, and cannot confidently say, for example, how much wealthier our society will grow or for how long it will continue. Second, over a long period of time the world may change enough to undermine standard assumptions, such as that a dollar has the same marginal utility for two individuals who, by measures such as lifetime income, appear to be equally well-off. Technological and environmental changes, for example, may plausibly have systematic effects on marginal utility that cannot comfortably just be ignored.

The fact that it is so hard to reach any firm conclusions about the implications of generational equity for long-term budgetary policy does not reduce such equity's potential importance, or suggest that we should simply forget about it. The uncertainty

does, however, impede relying on considerations of equity to draw confident conclusions regarding how we ought to share between current and future generations the burden of putting fiscal policy on a sustainable course. It thus is worth considering the implications of efficiency and resource allocation for addressing the fiscal gap. I do so under the next section, therefore, under the assumption that, while the welfare of all generations matters equally (in the utilitarian sense), we are agnostic about the direction in which the otherwise prevailing intergenerational distribution ought to be adjusted.

#### IV. ALLOCATIVE CONSEQUENCES OF A CONTINUING FISCAL GAP

##### A. The Allocative Issues

As a statement about statements, the fiscal gap, on its face, indicates only one thing: that the policy path assumed for purposes of measuring it is not in fact feasible. Inflows to the government must be higher, and/or its outlays lower, than the measure's rendering of current policy would suggest. This, in turn, might matter either for informational or substantive reasons. Informationally, it suggests that current policy fails to offer guidance regarding how a sustainable policy course might end up being established. Substantively, since the needed tax or spending changes have not yet been adopted and, when adopted, presumably will apply prospectively only, the existence of a fiscal gap suggests that the policies applying in future years, unlike those applying in the current year (or at any time before policy changes) will bear the full brunt of changing for the worse<sup>71</sup> relative to the currently assumed path.

In other words, the fiscal gap implies two distinct things: deferred announcement of the adverse tax and spending changes, and their deferred implementation. Each merits separate discussion, although I will argue that deferred implementation is more clearly important from the standpoint of efficient resource allocation across time.

Four preliminary definitions, which I offer simply to assist this discussion, are as follows. By *current policy*, I mean the set of policies attributed to the present year and all future years in computing the fiscal gap, based on the view that these policies reflect current political intent (or the path of least resistance, absent fiscal pressures) for the present and the indefinite future. By *currently applicable policy*, I mean the current

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<sup>71</sup> By changing for the worse, I mean not that the new policies will necessarily be substantively inferior to the presently assumed policies, but that they will be less favorable in the sense of giving people less or requiring them to pay more.

policy that is actually now applying (such as this year's tax and spending rules) and that will not be changed because new political decisions generally do not apply retroactively. By *projected future policy*, I mean current policy for years that are further in the future, and that might (indeed, at some point must) be changed. By *actual future policy*, I mean the policy that actually ends up being followed in future years after current policy changes, whether the change reflects the need to address the fiscal gap or any other cause (such as changed political preferences).

B. Deferred Announcement

There is no mystery to why politicians might be eager to defer announcing policy changes that would be adequate to eliminate the fiscal gap. To make this clear, all one needs to ask is what would likely have happened either to Barack Obama or John McCain in the 2008 presidential campaign if he had endorsed sufficient tax increases and spending cuts (relative to current policy) to put us on a sustainable path. As noted previously, if done purely on the tax side this might involve proposing increasing revenues by 45.8 percent, or income tax revenues by 72 percent; while if done purely on the spending side it might involve a 31.9 percent reduction in noninterest outlays, with the proviso that "eliminating all discretionary spending would not suffice."<sup>72</sup> One pities the candidate who would dare to embrace these unpalatable estimates in the middle of a hotly contested political campaign dominated by soundbites and attack ads.

The broader point this demonstrates is that deferred announcement has important political economy implications. As I am reserving such issues for part V, however, the question for now is simply how deferred announcement may affect people as economic actors, rather than as political actors. From this standpoint, the key issue is how deferring

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<sup>72</sup> Auerbach et al at 988, quoted previously in part II.B., *supra*.

the announcement of adverse tax and spending changes to current policy affects behavior via its impact on expectations regarding actual future policy.

Suppose initially that there were no reason to expect future policy to change for the worse, and that people understood this (in contrast to the actual state of affairs, in which a majority apparently expects adverse changes such as Social Security benefit cuts).<sup>73</sup> Moreover, suppose that no political trends suggested the likelihood of change in a particular direction. Under these circumstances, would it make sense to posit that people should, on average, approximately expect projected future policy?

Insofar as projected future policy reflects the laws on the books, it relies on publicly available information. This alone, however, does not necessarily establish such policy as a convincing baseline, whether because the general public may not know about the law on the books for future years, or because more knowledgeable economic actors may not regard such law as the starting point for forming expectations. In particular, when the law on the books suggests that policy will change dramatically, then either (a) failing to look ahead, or (b) looking ahead and finding the scheduled change not credible politically could lead one instead to expect that currently applicable policy will continue.

Since this is a question about actual expectations, not abstract logic, it has no general answer. It is no surprise that the biggest dilemmas in defining projected future policy arise when the law on the books suggests that currently applicable policy will change dramatically – for example, via the scheduled 2011 sunset of major tax cuts enacted in 2001 and 2003, or the projected dramatic growth of the AMT. As it happens, however, while treatment of the 2011 sunset and the AMT significantly affect the fiscal

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<sup>73</sup> See Shaviro, *TAXES, SPENDING, AND THE U.S. GOVERNMENT'S MARCH TOWARD BANKRUPTCY*, *supra* at 88 (noting survey evidence that people expect drastic Social Security benefit cuts).

gap estimate, that estimate is huge in any event so long as one accepts the projected rapid growth rates for Social Security and Medicare, which mainly reflect the assumed continuation of currently applicable policy under changing circumstances (such as the aging of America's population and the growth trend for healthcare spending relative to GDP).

Accordingly, no matter how projected future policy is best defined for expectational purposes along the spectrum ranging from currently applicable policy to the law on the books, actual future policy is likely to be significantly worse than it.<sup>74</sup> Given the fiscal gap, this has two alternative implications. First, insofar as people realize that it will change for the worse, there is an issue of subjecting them to needless uncertainty. Second, insofar as people treat projected future policy as if it could be actual future policy, there is an issue of inducing systematic planning errors.<sup>75</sup> Each possibility merits brief further discussion.

Needless uncertainty – Actually knowing future policy would benefit economic actors today by eliminating a risk that they otherwise face. To be sure, in some circumstances their knowing future policy would permit them to plan for it in ways that are only personally, rather than socially, optimal. An example would be shifting their earnings from years when the tax rate is higher to years when it is lower. However, the strong possibility of future Social Security and Medicare cuts for current workers does

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<sup>74</sup> Moreover, if actual expectations treat current political trends as pertinent adjustments to what would otherwise be projected future policy, the gap between it and actual future policy would likely be larger still. Thus, consider that budget policy changes over the last few years have generally greatly increased the fiscal gap, and that both the Obama and McCain campaigns are proposing to increase it further.

<sup>75</sup> See Shaviro, TAXES, SPENDING, AND THE U.S. GOVERNMENT'S MARCH TOWARD BANKRUPTCY, *supra*, at 87-88.

not fall into this category. Uncertainty about one's future retirement benefits undermines optimal lifecycle planning that would have had little if any social downside.<sup>76</sup>

To be fair, however, the right comparison is not between actually knowing future policy and having a fiscal gap, but between sustainable and unsustainable projected future policies, either of which could change at any time (although only the latter *must* change). In other words, since future policy is unpredictable in any event, the informational question posed by having a fiscal gap is how much people's planning uncertainty would be reduced by the announcement of a politically credible (though still contingent) projected path that was fiscally sustainable.

Under the right circumstances, such specification might count for a lot. Given the political difficulty of agreeing to the necessary long-term policy changes (or even a small fraction of them), a decided shift towards sustainability might be possible only in the context of a high-level bipartisan deal like the noted 1983 agreement between President Reagan and House Speaker O'Neill to restore Social Security's 75-year solvency through a mutually painful package of tax increases and benefit cuts. The 1983 changes presumably were considered politically credible (as indeed they have proven to be), and thus surely did reduce uncertainty. This example should remind us once again, however, that the significance of moving towards sustainability depends on soft political economy variables rather than simply the raw numbers that the fiscal gap offers.

Recent survey evidence suggests that younger Americans, understanding that Social Security faces long-term sustainability problems, are if anything "too pessimistic on average about their likely benefits," with many believing that Social Security might be

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<sup>76</sup> There is, however, a positive revenue externality if people work and save more to self-insure against the risk of a reduction in their retirement benefits.

eliminated altogether rather than merely scaled back (relative to the law on the books) by, say, a third.<sup>77</sup> Yet many apparently are not doing much about it. In the same survey, “huge majorities (ranging from 68 to 80 percent) endorsed the propositions that they should save more and that they had enough disposable income to save more, and yet were unwilling to curtail their current consumption to this end.”<sup>78</sup> Insofar as people fail to respond to expected benefit cuts – entirely in line with a key rationale for Social Security and Medicare, which is that people, due to myopia, do not save enough voluntarily<sup>79</sup> – the uncertainty might matter, if at all, only hedonically, i.e., by making them feel insecure as they ponder their retirement years. It is admittedly hard to imagine that the hedonic impact on people’s current lives of long-term fiscal uncertainty is very substantial. However, before entirely dismissing the significance of the extra uncertainty about future policy that results from the fiscal gap, one should also consider the possibility that it helps induce systematic planning errors.

Systematic error – If people’s retirement saving generally reflected optimal lifecycle planning, subject only to their having mistakenly treated projected future policy as a credible median projection of actual future policy, then the downside of deferring the announcement of likely future benefit cuts would be clear. People who were relying on current policy might end up with too little retirement saving, relative to their lifetime incomes net of taxes and transfers, when and if their future benefits were unanticipatedly cut. As we have seen, however, this scenario appears to fall short on two distinct fronts, since (for Social Security) at least the long-term sustainability problems are neither unknown nor prompting the savings response that one might rationally have expected.

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<sup>77</sup> Shaviro, TAXES, SPENDING, AND THE U.S. GOVERNMENT’S MARCH TOWARD BANKRUPTCY, *supra*, at 88.

<sup>78</sup> *Id.*

<sup>79</sup> See Shaviro, Making Sense of Social Security Reform, *supra*, at 29-30, 47.

Accordingly, it is unclear how (if at all) people's retirement planning is actually being undermined by current policy's apparent over-promising likely future benefits.

One plausible inference might be that failure to address how the fiscal gap will be eliminated is not actually a problem along this dimension. The actual problem might be substantive rather than informational, in the sense that current workers would be better served by raising their current taxes in lieu of reducing (to the same degree) their future benefits, holding constant the overall lifetime distributional effect, if they are otherwise under-saving.

However, there also is an alternative plausible inference, under which deferring the announcement of a sustainable fiscal path might harm people's lifecycle planning after all. People often inattentively follow automatic "rule of thumb" approaches to complicated long-term decisions such as how much to save, but a shocking and salient event can force them to take a fresh look. It thus is conceivable that an announced reduction in projected future retirement benefits, even if it merely confirmed what people say they are already expecting (or indeed was less severe than they say they expect), would prompt increased saving by dramatizing the likelihood of future benefit cuts.

Given the alternative scenarios, it is hard to say to what extent Congress's current refusal to announce a sustainable path for future policy is actively causing harm by depriving current economic actors of potentially useful information. However, since the loss of information brings no offsetting benefit – leaving aside important political economy issues that I reserve for part V – it seems clear that only such issues could offer any justification for the continuing existence of an unaddressed fiscal gap. Otherwise, leaving people even more in the dark than they would otherwise be is simply gratuitous.

However, if the only efficiency issue raised by the fiscal gap pertained to information, the importance of addressing it promptly might be relatively speculative. This brings us, however, to the set of efficiency issues raised by the deferred implementation of changes to currently applicable policy.

C. Deferred Implementation

As noted earlier, the fact that policy changes generally apply prospectively only leaves some subset of future policy to bear the full brunt of the adverse changes needed to eliminate the fiscal gap. This may have adverse allocative effects for either of two reasons: because of how it causes earlier and later policy to differ, or because the shift to a sustainable course is bumpy rather than smooth. The bumpy landing scenario is conceptually simpler, so I address it first.

1. Rising Debt to GDP Ratio and the Doomsday Scenario

As we saw earlier, the all-time U.S. high debt-to-GDP ratio was 109 percent, right at the end of World War II<sup>80</sup> – at which point annual budget deficits and thus new debt issuances manifestly were about to plunge. Under the GAO’s alternative simulation, we would pass this historical benchmark in 2030, but under the circumstance of its continuing to rise rapidly if current policy was being maintained. The debt-to-GDP ratio is then projected by the simulation to double again by 2042 and yet again by 2062.

One can easily see that, even with myopic financial markets that failed to look down the road at all, this would become impossible to finance. At some point, the U.S. government might need either to default explicitly or else start printing money to pay the bills. With forward-looking markets, however, this would not necessarily need to happen before things started getting ugly.

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<sup>80</sup> General Accounting Office, Statement of Gene L. Dodaro, supra, at \_\_\_.

An initial warning sign might be loss by the U.S. dollar of its current status as the world's reserve currency. If the dollar comes to be perceived as too weak or risky, it could potentially lose its status as the world's reserve currency very swiftly, even overnight, whether another currency (such as the Euro) replaced it or the "post" was left vacant. Even if the transition occurred smoothly, without disrupting financial markets either generally or with respect to U.S. dollars and dollar-denominated financial instruments in particular, it would be an adverse development from the U.S. national standpoint. We in effect make money from the fact that investors in other countries want to hold dollars, along with dollar-denominated U.S. government bonds, for reasons apart from just expecting the items to appreciate or offer favorable returns. What is more, the transition could well be disruptive, in particular if it involved rapid sell-offs that triggered a downward cycle in dollar and bond prices.

A broader nightmare scenario could take effect at some point even if the dollar transitioned smoothly (albeit with some loss of national economic welfare) out of being the world's reserve currency. As the CBO explains:

If foreign investors began to expect a crisis, they might significantly reduce their purchases of U.S. securities, causing the exchange value of the dollar to plunge, interest rates to climb, consumer prices to shoot up, or the economy to contract sharply. Amid the anticipation of declining profits and rising inflation and interest rates, stock prices might fall and consumers sharply reduce their purchases. In such circumstances, the economic problems in this country would probably spill over to the rest of the world and seriously weaken the economies of the United States' trading partners.

Adopting a policy of higher inflation by printing money to finance the deficit ... would, in the short run, enable the government to repay its

debt in cheaper dollars. But financial markets would not be fooled for long, and investors would eventually demand higher interest rates. If the government continued to print money to finance deficits, the policy would eventually lead to hyperinflation (as Germany experienced in the 1920s, Hungary in the 1940s, Argentina in the 1980s, and the Federal Republic of Yugoslavia in the 1990s). Moreover, interest rates could remain high for some time even after inflation was brought back under control. High inflation causes governments to lose credibility in financial markets, and once that credibility has been lost, regaining it can be difficult.<sup>81</sup>

Under the current U.S. fiscal path, absent any positive shocks such as a dramatic decline in expected healthcare expenditure growth, the question is not whether a fiscal meltdown would eventually happen, but simply when. While the timing of a U.S. government credit event is inherently unpredictable, it clearly need not wait for the debt-to-GDP ratio to approach World War II levels, given the vast difference in projected future budgetary paths between then and now. Today's forward-looking expectations are far worse than those prevailing in 1945, if investors believe that the U.S. will not voluntarily make requisite tax or spending changes to current policy.

What would trigger a collapse? Insofar as the U.S. government's continued ability to borrow vast amounts at a reasonable interest rate reflects optimism in the capital markets about the eventual adoption of a timely course correction, the key event could be anything that should shock this confidence. Insofar as collapse is deferred by the psychology of a bubble market, rather than by optimism about U.S. budget politics, the timing of a collapse is perhaps more unpredictable still. Anything could trigger the

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<sup>81</sup> Congressional Budget Office, *The Long-Term Budget Outlook 14* (December 2007). In contrast to the 2008 financial crisis, in which policymakers could hope to avoid a serious depression by using massive outlays to restore the flow of credit and/or consumer demand, in a fiscal crisis dollar-denominated outlays would by definition be unable to help, given the inflation problem.

sudden collapse of confidence in finding “greater fools” who anticipate finding their own “greater fools.”

What is more, the relevant market players are not just disaggregated investors. As of June 2008, for example, the Japanese and Chinese governments each held more than \$500 billion worth of U.S. Treasury securities,<sup>82</sup> together adding up to almost 20 percent of the total for outstanding U.S. public debt. Either of these governments could therefore very likely trigger a U.S. budget crisis if it decided, for whatever reason, to try liquidating its position quickly.

One should keep in mind that this power does not necessarily give those governments usable political leverage against the U.S. – although conceivably it might in some circumstances (such as the rise of U.S.-Chinese military tensions). As the old saying goes, “if you owe the bank \$10,000, the bank owns you. If you owe the bank \$10 million, you own it.” The same phenomenon (with extra zeroes) potentially applies here, giving the Japanese and Chinese governments a stake in continued U.S. government solvency that no diversified investor in perfect capital markets would have. Yet if the relevant actors in either government were to become sufficiently pessimistic about U.S. budget politics, they might reframe the problem as one of cutting their losses rather than just holding on and hoping for the best. What is more, because these are governments rather than private investors, one cannot assume that they will follow optimal investment strategies. Competing priorities, whether these reflect other national interests or the dynamics of internal political conflict, could intervene as well to induce a sell-off decision (or at least the fear of one among other investors).

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<sup>82</sup> See U.S. Treasury Department/Federal Reserve Board, Major Foreign Holders of Treasury Securities, available on-line at <http://www.ustreas.gov/tic/mfh.txt> .

As the CBO's historical examples (from Weimar Germany onward) help to show, a U.S. government fiscal crisis would impose huge costs on Americans and others that would be severely front-loaded to the crisis period but potentially linger for decades. While bondholders at the time of the credit collapse might suffer the largest direct hit (in effect, being taxed via the loss of bond value to make up the fiscal shortfall), this is arguably just a transfer socially. The real problem lies in the collateral damage from the macroeconomic ripple effects plus the harm to a social asset in the form of fiscal credibility. Such collateral damage<sup>83</sup> makes deferred implementation via the use of a fiscal crisis to restore sustainability markedly inferior to alternative policies that might otherwise be distributionally similar (e.g., in terms of the generational or wealth distribution of the direct hit).

There probably is little disagreement about the importance and desirability of avoiding any serious chance of a U.S. government fiscal crisis. The main debate might focus instead on the degree of likelihood of an adverse credit event in the short to medium term, and on when current policy would need to be adjusted in order to forestall it. In the rest of this Part, however, I will argue that, however important this tail, it should not be viewed as the entire dog. Delay in implementing the return to a sustainable path raises important efficiency issues even if one rules out the prospect that it might lead to a fiscal crisis.

## 2. Deferred Tax Adjustment Versus Tax Smoothing

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<sup>83</sup> The collateral damage from a U.S. fiscal collapse that triggered severe recessions in the U.S. and elsewhere could include rising worldwide geopolitical instability if, as happened in Weimar Germany, it prompted the rise to power of angry and aggressive new governments – which now (in contrast to 1933) might in some cases have nuclear weapons.

A fiscal gap, indicating projected outlays in excess of projected revenues, shows that current policy violates the intertemporal budget constraint and thus is not feasible. Adjustments to satisfy the constraint can appear on either the revenue or outlay side of the federal budget (or more likely both). For convenience, I separately consider the efficiency issues raised by deferred implementation on each side of the ledger, starting here with the tax side.

In analyzing the two sides separately, I will assume for now that the proportion of the overall adjustments that come from tax increases and outlay reductions, respectively, are fixed. Thus, delaying the implementation of tax increases does not reduce the degree to which they, rather than outlay reductions, end up being relied on. I make this assumption here not because it is true, but because a contrary view rests on political economy issues that I reserve for part V. In addition, I treat taxes as varying over time solely in their applicable rates, including relevant bracket amounts in dollars that determine where a particular rate applies. Changes in a tax base, such as the repeal of tax preferences, are better analyzed as akin to changing explicit spending policy.<sup>84</sup>

Deferring the implementation of tax increases (relative to current policy) means that they can only apply to projected future policy, to the exclusion of currently applicable policy. Without more detail, this would tell us next to nothing. Thus, suppose the currently applicable rate was 40 percent, while the projected future rate was 20 percent. Then restricting tax increases to the latter would push the two rates closer together.

This is not, however, the current U.S. fiscal picture. Leaving aside the scheduled sunsets for recently enacted tax cuts, projected U.S. tax rates across a variety of tax bases

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<sup>84</sup> See Shaviro, TAXES, SPENDING, *supra* at 174-193; Shaviro, Rethinking Tax Expenditures, *supra*.

are generally constant going forward, except that bracket amounts may increase over time either not at all (as in the case of the AMT), or at the inflation rate (as with income tax brackets), or based on rising wage levels (as with the Social Security portion of the payroll tax). Thus, for top rates, deferred implementation implies their being higher for actual future policy than currently applicable policy.

From an efficiency standpoint, this appears clearly undesirable. In this regard, a bit of background from the economics literature concerning budget deficits may be helpful. Suppose we had a rule barring deficits even during national emergencies such as World War II. Fighting that war would then have required massive tax increases, presumably supplemented by outright expropriation. Generalizing the underlying reasons why this would have been a bad idea leads one to the theory of tax smoothing, which holds that, from the standpoint of efficiency (i.e., holding generational distribution constant) current and projected future tax rates should generally be the same, and should be set at whatever rate (assuming for simplicity a flat-rate system) would permit satisfaction of the intertemporal budget constraint.<sup>85</sup>

As I have explained elsewhere, the reasons this is preferable to a system of rising rates are twofold:

First, the application of higher tax rates to future than to current activity may induce taxpayers to shift taxable transactions from high-tax to low-tax years, especially as the transition nears and begins to take a more definite and predictable form. Second, even if economic activity cannot shift between years, the application of higher rates to some years and lower rates to other years tends to increase total economic distortion. It is

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<sup>85</sup> See Robert J. Barro, On the Determination of the Public Debt, 87 J. Po. Econ. 940 (1979). To hold generational distribution constant, one can either, like Barro, assume transfers between successive generations that offset any shifts in tax burden, or apply tax smoothing separately to the members of each generation.

a public economics truism that the deadweight loss from a tax generally rises more than proportionately with the rate of the tax, and indeed with the square of the rate. Thus, for example, "doubling a tax quadruples its excess burden, other things being the same." This suggests that overall distortion will be higher if the rates are high in some years and low in others than if they are constant at the intermediate rate required for long-term revenue equivalence. That is, the reduction in distortion in low-rate years will be more than offset by the increase in distortion in high-rate years.<sup>86</sup>

Under tax smoothing, the present and projected future rate would change as needed whenever there was a change in information about expected long-term spending (which the analysis treats as an exogenous variable). However, even with uncertainty and frequent changes in expected long-term spending, people would not be able to outsmart the government by correctly guessing the likely direction of future rate change, if currently applicable rates already reflected the best available information.<sup>87</sup> And at any time currently applicable and expected future rates would be identical, which is the best one can do in attempting to minimize tax distortions.

Changing circumstances could alter the policy suggested by tax smoothing. For example, if labor supply elasticity were expected to decline over time, thus reducing deadweight loss at any given tax rate level, future tax rates might optimally be higher

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<sup>86</sup> Daniel Shaviro, *Reckless Disregard: The Bush Administration's Policy Of Cutting Taxes In The Face Of An Enormous Fiscal Gap*, 45 B.C. L. Rev. 1285, 1314-15 (2004) (citations omitted). The rationale for tax smoothing does not apply to provisions styled taxes that actually are required deposits in exchange for future benefits. Among existing U.S. rules, the Social Security portion of the payroll tax comes closest to being a required deposit rather than a tax in this sense, because under commonly applicable circumstances paying an extra dollar of tax does indeed correlate with one's earning additional fewer benefits. Even for Social Security, however, the relation at the margin between paying current taxes and accruing future benefits generally is not one-to-one, and even insofar as it exists may tend not to be understood by workers who are subject to the payroll tax. See Daniel Shaviro, *MAKING SENSE OF SOCIAL SECURITY REFORM*, *supra*, at 12-13.

<sup>87</sup> See Barro, *supra* at 954 (noting the analogy to the efficient capital market hypothesis, in which investors cannot systematically make money by predicting changes in companies' expected earnings, if the market price of stock already reflects the existing state of information).

than current tax rates, despite the resulting inefficient incentive to shift taxable income forward. It is unclear why one should expect this under present circumstances, however.<sup>88</sup> Likewise, changing wealth distribution might affect the optimal degree of tax rate progressivity,<sup>89</sup> but this concerns the relationship between contemporaneously applicable rates, not whether they should go up or down overall.

In sum, deferred implementation of the tax increases that ultimately will be needed to eliminate the fiscal gap violates the principle of tax smoothing and thus, all else equal, causes needless inefficiency. What is more, so long as there is a fiscal gap, politicians who promise tax cuts arguably are being misleading – and, if they are not pig-ignorant about the long-term fiscal situation, bordering on consciously dishonest – unless they acknowledge that the actual proposal is to shift taxes from the present to the future, rather than to cut them in any stable, long-term sense.

### 3. Deferred Outlay Adjustment Versus Consumption Smoothing

Deferred implementation of the changes needed to eliminate the fiscal gap raises more complicated efficiency issues on the outlay side than on the tax side, for two reasons. First, outlays more clearly would oscillate from year to year than taxes under an optimal policy. For example, the United States obviously needed to spend more money in 1944 and 1945, when it was still fighting World War II, than in 1946 and 1947, when the war had ended. Likewise, it is not immediately obvious that, under an optimal policy,

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<sup>88</sup> Arguably, secondary earners may become less tax-elastic over time as their commitment to the workplace grows. This, however, might suggest that primary earners will become more tax-elastic, via the income effect on them of having another regular earner in the home. In addition, labor supply elasticity may increase around the retirement period if the timing of retirement becomes more variable. Finally, changes in the technology of tax avoidance, such as via financial innovation and rising worldwide capital mobility might increase measured labor supply elasticity by making observable earnings easier to avoid.

<sup>89</sup> See Leonard E. Burman, Robert J. Shiller, Gregory Leiserson, and Jeffrey Rohaly, *The Rising Tide Tax System: Indexing the Tax System for Changes in Inequality* (2007) (arguing that the tax system should become more progressive when after-tax economic inequality increases).

the United States would spend the same amount on, say, Medicare in 2058 as it did in 2008, even as adjusted for inflation or for GDP, and even holding constant overall lifetime generational distribution. Consider, for example, that the proportion of Americans who have reached retirement age, as well as the state of available healthcare technology – both potentially quite relevant to Medicare policy – will presumably change dramatically both throughout this period and thereafter.

Second, for many of the largest and most prominent programs on the outlay side of the federal budget, defining not just optimal policy but even constant policy is much more complicated than in the case of marginal tax rates. Thus, it is hard to identify a proper equivalent to the earlier hypothetical in which comparing currently applicable tax rates to projected future rates immediately reveals whether raising the latter would move the two sets of rates closer or further apart.

Nonetheless, I believe that something can be said about the optimal allocative path in eliminating the fiscal gap through changes on the outlay side. To show this, I start by addressing the hypothetical case in which all years are the same, and then consider how expected changes over time should affect the analysis, both in general and for leading programs (such as Social Security and Medicare) whose projected growth rates underlie existing fiscal gap estimates.

All years the same – Suppose initially that all years were the same – involving, for example, the same infinite-lived individuals who never age and always have the same needs and the same annual incomes, none of which could be saved or borrowed between years. Suppose, moreover, that government outlays consisted, effectively, of manna from heaven, permitting further current-period consumption, that could be made to fall to Earth

whenever one liked, but subject to an overall budget constraint that yielded a maximum per-year average amount (the “sustainable level” of annual manna consumption).

Under these circumstances, if DMU applied separately to consumption in each period, the optimal policy would be consume the same amount of manna each year (i.e., the sustainable level), rather than more in some years and less in others. Absent such annual equality in manna consumption, one would be able to increase the utility derived from manna by shifting its consumption from higher years to lower years.

Now suppose one is basing fixed annual manna consumption on an estimate of the sustainable level that, with new information about the heavens, proves to be too high. Given the case for equalizing annual manna consumption, the optimal response is to shift immediately to the new sustainable level. Deferring the change, and thus consuming more manna in earlier years than will be feasible later on, reduces overall utility from manna, given period-specific DMU and the assumed absence of other pertinent factors.

Lest this account seem too fanciful – rather than merely being preliminary and incomplete – I should note that it parallels the leading economic model for consumption choice by individuals across their lifespans. The permanent income hypothesis holds that rationally utility-maximizing individuals should take account of their entire lifetime budget lines in allocating their consumption across time. Thus, they should not respond to current income shocks by confining the full adjustment to current year consumption, or to future income shocks by deferring any response.<sup>90</sup> A closely related model, the life-cycle model of consumption smoothing, holds that people will consume the same amount

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<sup>90</sup> On the permanent income hypothesis, see Milton Friedman, *A THEORY OF THE CONSUMPTION FUNCTION* (1957); Daniel Shaviro, *Beyond the Pro-Consumption Tax Consensus*, *supra*, at \_\_\_.

of their lifetime income in each period (i.e., the maximum sustainable amount) if all periods are otherwise equivalent and characterized by period-specific DMU.<sup>91</sup>

If all years, going forward, were the same, and currently applicable and projected future outlays were therefore the same for each year, the proper response to the fiscal gap would be to reduce annual outlays immediately so that (until the next shock creating a fiscal gap or surplus) they could remain the same. Obviously, this approach resembles tax smoothing. However, we know that all years are not the same, and that this may matter differently for outlay policy than for setting the top marginal tax rate. It thus is worth examining, in particular program areas, how the differences between years matter.

This is not principally a matter of dealing with emergencies and other contingent events, such as wars or national disasters, which can be built into a long-term estimate based on their assumed frequency, and then treated as modifying the presumption that annual spending would otherwise be equal. Of greater interest, therefore, are systematic and predictable trends, such as rising national income and population, along with the gradual aging of the U.S. population due to rising life expectancy along with fertility trends. Accordingly, I examine in turn how several of the leading trends might affect the analysis, both in general and for the programs (such as Social Security and Medicare) to which they are most directly relevant.

Rising per capita GDP – With rising per capita GDP, the applicability of lifetime consumption smoothing becomes less clear. If infinite-lived people already were equalizing all of their privately funded consumption at the maximum sustainable rate (in effect, by borrowing as necessary against future income increases), then presumably they

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<sup>91</sup> See Franco Modigliani and Richard Brumberg, *Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data*, in K.K. Kurihara, ed., *POST-KEYNESIAN ECONOMICS* (1954); Shaviro, *Beyond the Pro-Consumption Tax*, *supra*, at \_\_\_.

would equalize as well their annual consumption from government outlays, absent any other differences between years. However, a key point of interest in thinking about government outlays over time is that society in later periods will likely have higher annual private consumption if per capita GDP rises – mainly due to future generations’ being wealthier, although perhaps secondarily because people’s earnings might tend to rise during their lifetimes for other than life cycle reasons, without their being entirely able to self-smooth by borrowing against future earnings.

From this perspective, one might initially think that the main implication of a consumption smoothing approach is to suggest that government outlays should actually decline over time, as a mechanism for moving towards equalization of overall consumption. In this Part, however, we are abstracting from the generational equity issues that play the lead role in thinking about long-term consumption smoothing.

From the standpoint purely of efficiency in determining the optimal path of government outlays as society grows per capita wealthier, the point of real interest about most government outlays is that they provide specific in-kind benefits, such as healthcare, education, and national defense. Indeed, even Social Security benefits, which are paid in cash, could be viewed as quasi-in-kind in the sense that they effectively require people to spend a minimum portion of their lifetime incomes on retirement-period consumption rather than earlier consumption.<sup>92</sup> Moreover, while various welfare benefits for the poor are provided in cash rather than in-kind,<sup>93</sup> we will see that special considerations may result in viewing them similarly to in-kind benefits for analytical purposes.

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<sup>92</sup> See Shaviro, *Making Sense of Social Security Reform*, and note the difficulty of avoiding the consequent “forced saving,” such as by borrowing up-front against the benefits’ expected value.

<sup>93</sup> For example, Temporary Aid to Needy Families (TANF) benefits are provided in cash. Food Stamps, while arguably in-kind in the sense that they can only be spent to purchase food, are effectively cash-

For in-kind outlays with generational distribution held constant, the key efficiency question is how rising per capita wealth affects the optimal level of the particular kinds of consumption that the outlays provide. Thus, consider outlays for education, national defense, or transportation infrastructure. Suppose initially (for convenience) that a richer individual, such as one living in 2040, had exactly the same demand for the benefits provided by these outlays as a poorer individual, such as one living in 2010, and that the right amount for both years, given the costs and benefits, was spent in 2010. Then spending more to provide more in 2040 would be wasteful, in the same sense that it is wasteful to give food to someone who isn't hungry.

Now suppose instead that public spending in 2010 was too high, generating waste because many of the consumption goods provided by government outlays were worth less than they cost (a la the infamous "Bridge to Nowhere"). Then outlays in 2040 should be lower if the costs and benefits (from consumer demand) are the same, but this is not a point about earlier versus later outlay levels – rather, it applies equally to 2010 outlays. It thus suggests that outlays in all periods should be cut, but this is not the question posed when we ask how they should compare across time, and thus how a given reduction in their projected path by reason of the fiscal gap should be allocated intertemporally.

I have thus far been assuming that richer individuals would not choose more consumption from government outlays than poorer individuals, all else equal. This is not, however, a very plausible assumption. When one's budget line goes up, the typical

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equivalent if they do not increase one's budget allotment to food relative to what one would have done upon the receipt of cash. See David F. Bradford and Daniel N. Shaviro, *The Economics of Vouchers*, in Steuerle, Ooms, Peterson, and Reischauer (eds.), *VOUCHERS AND THE PROVISION OF PUBLIC SERVICES* (2000).

response (for what economists call “normal goods”)<sup>94</sup> is to spend more on all of the items in one’s consumption basket. Moreover, while for “inferior goods” (e.g., hamburger once one can afford steak) demand may actually decline as income rises, there also are luxury goods for which demand increases more than proportionately with income.

Historically, the rise of government outlays at a faster rate than per capita GDP arguably supports the view that it largely provides luxury goods, rather than inferior goods or even those for which demand simply rises more slowly than income. Intuitively, this makes sense as well. For example, environmental protection, costly military adventures abroad, extensive healthcare subsidies, and well-funded public education are all the sorts of things that one might expect people to be more willing to pay for (if only in the sense of not demanding cash instead) when they have more disposable income, rather than less.

However, even if demand for the consumption value derived from government outlays merely rises proportionately with per capita GDP, there is an implication for how the reduction in outlays that the fiscal gap necessitates should be allocated across periods. If a given overall reduction is necessary, then, rather than exclusively cutting future outlays, in the sense of requiring them to grow more slowly than per capita GDP, the reduction arguably should be spread between current and future periods, leading to the currently projected rate of increase but from a lower baseline.

Obviously, this is just a very rough starting point, and detailed analysis of particular government-financed consumption goods would be necessary to reach any firm conclusions. Moreover, changing conditions apart from the expected rise in per capita GDP – for example, rising or falling needs for educational, environmental, or national

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<sup>94</sup> See, e.g., Jonathan Gruber, *PUBLIC FINANCE AND PUBLIC POLICY* 36 (2d ed. 2007).

security outlays – might end up mattering more to the optimal path. As a very general starting point, however, the view that outlays should be cut proportionately across periods, thus permitting them to stay fixed relative to per capita GDP, has support on efficiency grounds, holding constant both generational distribution and the overall contribution that the outlay side makes towards eliminating the fiscal gap.

Cash outlays and rising per capita GDP – As noted above, both Social Security and welfare benefits are paid in cash. Social Security benefits actually are required under present law to rise with wage levels, presumably causing them to rise as well with per capita GDP. While welfare benefits are not similarly pre-committed to keep on rising with national income, they would do so if national poverty policy remained constant and defined poverty in relative terms, based on contemporaneous standards of living, rather than in absolute terms, based on privation such as starving.

The fact that Social Security benefits are projected to rise in real terms, rather than just with inflation, became a source of controversy in 2005, when President Bush, in connection with his proposal to replace existing Social Security with personal accounts, tiptoed in the direction of endorsing reduced benefit growth for higher earners. Given, however, Social Security's character as a program requiring workers to save at least some minimum portion of their lifetime incomes for retirement consumption, on the view that saving less presumptively indicates erroneous personal planning, it arguably makes sense for benefits to keep pace with general economic growth, rather than merely with inflation.<sup>95</sup>

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<sup>95</sup> Thus, policy analysts frequently Social Security replacement rates, assessing how benefits relate to pre-retirement earnings levels. See, e.g., Olivia S. Mitchell and John W.R. Phillips, Social Security Replacement Rates for Alternative Earnings Benchmarks, Pension Research Council Working Paper 2006-6 available on-line at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=908985](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=908985).

Rising population – An increase in population, like rising per capita GDP, arguably carries the efficiency implication, based on satisfying people’s preferences, that government outlays should increase in real terms, whether or not quite proportionately to the increase. For pure public goods that cost the same amount no matter how many individuals enjoy them, economies of scale, resulting from the fact that they are now cheaper per beneficiary to supply, suggest supplying at least somewhat more of them when the population rises. For government-supplied consumer goods such as healthcare and education, any economies of scale would have similar implications, but in addition there presumably are significant additive per-person costs.

Advances in healthcare technology – Perhaps the biggest cause of the U.S. fiscal gap is that healthcare expenditures are projected to grow much faster than GDP, with federal budgetary implications given the costly healthcare subsidies that we deliver via Medicare, Medicaid, and income and payroll tax subsidies for employer-provided health insurance. This rise, in turn, is principally driven by healthcare technology, which makes ever better but costlier healthcare available with each passing year.<sup>96</sup>

In theory, technological advances can lead to cheaper, no less than costlier, healthcare – for example, via preventive medicine that forestalls the need for costly surgical intervention (such as pills that lower cholesterol or blood pressure in lieu of later open heart surgery). While the persistently cost-increasing overall trend of healthcare technology to date might conceivably reflect features of the current technological frontier, it also is widely attributed to the incentives that healthcare technology firms face

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<sup>96</sup> See Shaviro, WHO SHOULD PAY FOR MEDICARE?, supra, at 6.

when healthcare consumers, by and large, are so shielded from cost-consciousness at the margin by reason of the structure of existing federal healthcare subsidies.<sup>97</sup>

Since healthcare expenditures' current growth relative to GDP is unsustainable, long-term fiscal gap estimates generally reflect assuming that at some point, by an unexplained mechanism, the growth rate will slow. Thus, an adverse future policy change already is built into the estimates, with deferred implementation being assumed so as not to credit currently applicable policy with potentially wrenching changes that have not yet been made. This ad hoc departure from the usual approach of not crediting projected future policy with such changes, while necessary to avoid the absurd result of a future economy that ostensibly is more than 100 percent devoted to healthcare, suggests that even dire-looking long-term projections are in a sense too optimistic about the sustainability of actual current policy.

In assessing how fast government spending on healthcare ought to grow over time if their total amount is fixed (and within sustainable levels), we can start by treating the path of healthcare technology, in terms of its implications for healthcare expenditure, as fixed, rather than as influenced by the structure of the government subsidies. Efficiency indicates equalizing the marginal utility of the last expenditure (if made in order of decreasing value) that is made in each period, holding constant different generations' lifetime incomes. Assessing how to do this is difficult, due not only to limited information about the future, but to the fact that healthcare consumers generally do not have to be cost-conscious at the margin (and thus do not provide good evidence of their subjective valuations) under existing policy. It is plausible, however, that, as healthcare technology continues to improve, in the sense of permitting ever better treatment albeit at

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<sup>97</sup> See id. at 50-52.

an increasing cost, one would want expenditure levels to grow faster than GDP, so that people in the future can take advantage of improved treatments. Thus, the projected path of healthcare growth may not be unreasonably high, and there is a decent argument for responding to the fiscal gap by comparably reducing treatment in all periods, rather than by waiting to implement the needed belt-tightening. Only if we have reason to believe that rising projected healthcare costs imply decreasing marginal benefits, notwithstanding technological advances, would a policy of deferring the adjustment be optimal.

When one considers the likely endogeneity of the rate of healthcare expenditure growth to subsidy structure, the analysis changes in two ways. First, the conclusion that changes should be adopted sooner rather than later becomes even stronger, as one is affecting the dynamic process of healthcare evolution, rather than just trading off present versus future healthcare spending. Second, it becomes plausible that an optimal reform might reduce projected future outlays, without reducing current ones, by reason of its shifting technological advances onto a more cost-conscious and thus sustainable path. This point does not, however, change the implication that, insofar as rationing is being relied on to limit healthcare budgetary costs, it should be spread over all periods rather than being deferred to the future.

Possible reasons for delayed implementation – While generally outlay reductions should be spread in some sense “equally” between all periods, there are at least two grounds on which modest delays in their implementation, though not their announcement, may be optimal. First, people may need time to plan and adjust for changed circumstances, or in some cases may be unable to adjust (affecting the extent to which new policies should apply to them). In particular, current retirees can no longer adjust

their lifetime saving or acquisition of health insurance for existing medical conditions in light of newly enacted Social Security and Medicare cuts. Second, a down business cycle is generally not a good time to implement tax increases and benefit cuts – although announcing such changes, with deferred implementation, can actually help stimulate current economic activity, by suggesting that it will be treated more favorably than activity after the adverse changes take effect.

D. Summing Up

While the generational arguments for addressing the fiscal gap sooner rather than later are unclear, those for doing it on efficiency grounds are quite powerful. The ever-rising chances of a serious U.S. fiscal crisis clearly present the greatest danger. However, even if we shift to a sustainable budgetary path via a smooth rather than a bumpy landing, the case for adjusting taxes and outlays immediately, rather than at some future and as yet unspecified time down the road, is compelling.

While the degree of harm from deferring announcement of the sustainable path is unclear, there are no offsetting benefits (leaving aside political economy issues that I address in part V below). Deferred implementation of the needed changes, however, appears likely to be more harmful still. Tax smoothing, through the immediate adoption of a sustainable rate structure that would be promptly revised again whenever expected long-term outlay levels change, has clear efficiency advantages in the absence of systematic reasons for preferring higher rates in some periods than others. On the outlay side, while smoothing arguments are subject to greater uncertainty, they likewise suggest comparably reducing projected outlays for all periods, relative to a path where they would ratably grow with population and per capita GDP (or perhaps even faster in the

case of healthcare subsidies). Deferred implementation of needed outlay reductions concentrates them in future periods, merely as a byproduct of deferring their announcement (and applying them prospectively only) rather than based on any good evidence that they will be less valuable and more wasteful in the future than they are now.

## V. POLITICAL ECONOMY AND THE FISCAL GAP

A final set of issues raised by the fiscal gap concerns the political economy effects of tolerating, as opposed to discouraging, failure to announce and implement long-term financing for currently projected outlays. In principle, even if deferred announcement and implementation have normatively ambiguous distributional effects and affirmatively undesirable efficiency effects, they could lead to better policy overall if they sufficiently improve the content of the policies that Congress ends up enacting. Or alternatively, if they tend to make outcomes worse, political economy could be the heart of the problem – in particular, if it pushes Congress towards triggering a calamitous U.S. fiscal crisis notwithstanding that almost nobody would voluntarily choose one.

An extensive literature concerning the political economy of budget deficits reveals two main types of issue that are raised by tolerating their use beyond the needs of counter-cyclical fiscal policy and tax smoothing. The first goes to their effect on the perceived ratio of benefits to costs from proposed new enactments. The second goes to their strategic use when rival groups (such as the parties) with differing policy preferences take turns exercising current political control, or else need to cooperate in a partly zero-sum setting.

While this literature mainly concerns short-term budget deficits rather than the fiscal gap, it tends to apply to both. In the political economy setting, the difference between current and long-term horizons for balancing taxes and outlays may be reduced by projected future policy's (1) having limited visibility to current voters, (2) not being considered credible even as a reflection of current policymakers' intent, or (3) being highly subject to change as current political control oscillates.

A. Reducing Voters' Actual or Perceived Costs, Compared to Benefits

Surely a key reason for politicians' preferring not to currently implement or even announce the proposed financing for projected outlays is informational. Almost any proposed policy, such as a spending initiative or a tax cut, will have both benefits and costs. Both announcing the financing and collecting it currently can increase attention to the cost side. Deferring announcement and/or implementation tilts the balance of acknowledged elements towards the benefit side, encouraging current voters either myopically to overlook costs that they are likely to end up bearing, or farsightedly to figure that the costs are someone else's problem.

In general, reducing and biasing information (if costs are not merely being avowedly shifted to future generations) sounds bad. However, since the information that voters use is not likely to be otherwise perfect, the significance of this bias depends on the interactions with other biases. In addition, if political outcomes are systematically flawed in a given direction, then reducing and biasing information can either accentuate or reduce the expected error, again depending on how it all interacts.

Given the breadth of these considerations, it is difficult to reach firm conclusions about the political economy effects of the fiscal gap, unless one reasons from the broad principle that we generally ought to favor more information rather than less, and thus ought to demand projected financing absent compelling reasons for thinking that it would make things worse. While I myself consider that broad principle quite appealing, it is worth noting several varying grounds for reaching more particular judgments about the impact, be it good or bad, of reducing the cost side's impact on political debate by not indicating projected financing for one's proposals:

1) Leviathan theory – In the 1970s, Nobel Prize-winning economist James Buchanan and Richard Wagner argued that debt financing dupes voters by lowering the perceived cost of government spending,<sup>98</sup> thereby encouraging the Leviathan-like growth of the federal government. Insofar as outlays and the size of government would tend to be too high even without this lubricant, the informational deficit makes things worse. Buchanan and Wagner further argued that, without legal or moral constraints on debt financing, it leads inexorably to hyperinflation and fiscal collapse, as politicians keep on promising ever more unfinanced benefits.<sup>99</sup>

Buchanan and Wagner did not address unfinanced tax cuts, perhaps in part because they were writing shortly before tax-cutting rose to political prominence through California's Proposition 13 and the election of Ronald Reagan as president in 1980. The same logic applies to it, however, insofar as unfinanced tax cuts can actually increase the size of government<sup>100</sup> and may contribute to hyperinflation and fiscal collapse.

2) Interest group politics – As Mancur Olson famously showed, interest groups seeking large, concentrated benefits that would have a diffuse cost often thrive, securing transfers that are inefficient and thus socially negative-sum, because they are better-situated than the general public to overcome the costs of information and organization that pose barriers to collective action.<sup>101</sup> Failing to specify who will pay for a given

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<sup>98</sup> See Shaviro, *TAXES, SPENDING, AND THE U.S. GOVERNMENT'S MARCH TOWARD BANKRUPTCY*, supra, at 117, discussing James Buchanan and Richard Wagner, *DEMOCRACY IN DEFICIT* (1977).

<sup>99</sup> Buchanan and Wagner, supra, at \_\_\_. I have argued that, given the role of unfunded entitlements growth in the U.S. government's own apparent progress towards fiscal collapse, "[t]he victim has the wrong fingerprints" for the Buchanan-Wagner scenario to have pride of place. Shaviro, *TAXES, SPENDING, AND THE U.S. GOVERNMENT'S MARCH TOWARD BANKRUPTCY*, supra, at 118.

<sup>100</sup> For an argument that tax cuts during the George W. Bush Administration may actually increase the size of government, see Shaviro, *TAXES, SPENDING, AND THE U.S. GOVERNMENT'S MARCH TOWARD BANKRUPTCY*, supra, at 15-52.

<sup>101</sup> See *id.* at 118, discussing Mancur Olson, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* (1965).

program can diffuse its expected cost or the cost of learning about it, even relative to using general revenues. Thus, insofar as one is concerned about use of the fiscal system to benefit interest groups that could not otherwise procure similarly large transfers, one might consider the ability not to specify the projected financing for proposed policies all the more damaging and objectionable.

3) Informational race to the bottom – Consider the 2008 presidential campaign, in which none of the candidates offered credible long-term plans to address the fiscal gap. Given the zero-sum nature of competition for a fixed prize such as the presidency, the group of actual and potential candidates arguably did not collectively benefit from failing to address the fiscal gap. Had all been forced to address it to the same degree, on average the competitive effect would have been neutral. Voters, however, collectively lost information by reason of the candidates' lack of candor about plausible long-term scenarios.

With political competition, however, no candidate could unilaterally afford to be more honest than the rest about the likely long-term need for massive tax increases and entitlements cuts. Indeed, anyone candid enough to do this would have faced devastating political attacks from the others. Thus, though universal full disclosure would have been competitively neutral on average, a collective action problem as between the candidates prevented anyone's attempting it.<sup>102</sup>

If one adds the possibility that some candidates benefit more than others from depriving the voters of honest information about long-term financing, then the problem is more intractable still. Those who comparatively benefit from ignoring the intertemporal

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<sup>102</sup> This logic continued to apply even when just two candidates were left, as neither could have safely proposed mutual candor and since the degree of candor that each engaged in would have been hard to monitor.

budget constraint would reject even symmetric disclosure. The result is a race to, or at least towards, the bottom in fiscal honesty, and all the more so if the press refuses to make distinctions between degrees of irresponsibility, in its unreflective pursuit of supposed “balance.” If informed political debate over a long period of time is needed for a well-functioning system to address even widely recognized problems, such as the unsustainability of current U.S. budget policy, this race to the bottom can have crippling effects.

4) Underappreciated benefits – While all of the theories that I have mentioned so far all carry the implication that concealing and downplaying cost information is especially bad, one also can argue that it is potentially good. In particular, if the benefits of higher outlays or lower taxes are systematically underappreciated, then inducing comparable under-appreciation of the costs can actually, at least in theory, lead to better decisions. A notorious early example of this view arose during the Cold War, when economist Abba Lerner complained that foes of debt financing risked making Americans unwilling to countenance adequate defense spending, to the point that “we may fail to protect them from nuclear war and/or totalitarian domination.”<sup>103</sup>

More recently, proponents both of lower taxes and of maintaining entitlements programs at high levels have arguably relied on such considerations to rationalize their refusing to suggest financing. The political outcome will actually be better if we ignore this point, they may tell themselves. Likewise, suppose one believes that current voters fail to appreciate how much better-off than themselves the members of future generations will be. Then one arguably could improve political outcomes by not letting the voters

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<sup>103</sup> Abba Lerner, *The Burden of the National Debt*, in James M. Ferguson (ed.) *PUBLIC DEBT AND FUTURE GENERATIONS* (1964) at 95; quoted in Shaviro, *DO DEFICITS MATTER?*, *supra*, at 41.

know about the burdens they are imposing on future generations, since they would overrate the actual impact of these burdens on their children's and grandchildren's welfare.

B. Strategic Use of Temporary Political Control

As suggested by the informational race to the bottom, political competition plays a crucial role in bringing out the worst elements of deficit and fiscal gap politics. A rich political science literature, dating from the previous era when deficits were prominent (the 1980s through the early 1990s), helped develop academic understanding of its significance but has not as yet received substantial broader attention.<sup>104</sup>

To set the groundwork, consider dictatorship, or in particular hereditary monarchy. While on balance a terrible system that no one who is schooled in the frailties of human nature should want, it does, when politically secure, have the virtue of steering the “decider” in the direction of taking the same type of long-term perspective as one would expect from rational owners of private property. Because the dictator “owns” the government (and indeed permanently in a secure dynastic system), there is no incentive to postpone problems, such as by putting budget policy on an unsustainable course, so that someone else will have to face the problems instead.<sup>105</sup>

By contrast, when rival parties predictably will take turns running the government, or else will have to negotiate deals in which they have adverse interests regarding the division of the surplus, they have incentives to use budget policy to their short-term advantage, potentially socially harmfully. Examples from the literature include the following:

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<sup>104</sup> However, I discuss this literature in Shaviro, TAXES, SPENDING, AND THE U.S. GOVERNMENT'S MARCH TOWARD BANKRUPTCY, *supra*, at 120-122.

<sup>105</sup> This assumes sufficient altruism by the monarch towards his or her heirs.

--Suppose the parties prefer different types of spending, such as military versus entitlements or healthcare spending. Each party then “has reason to debt-finance its preferred choice while temporarily in power, so that the other party will be too bound up in paying off the previous period’s debt to do as much of its own new spending.”<sup>106</sup> This process can keep on escalating, and all the more so if the parties start playing tit-for-tat.

--If the more liberal party prefers higher social spending while the more conservative party prefers that it be lower, the former may prefer budget surpluses to keep such spending affordable, while the latter prefers budget deficits so as to crowd out such spending when the liberals return to power. This arguably is the story of the Clinton and George W. Bush Administrations, which makes academic work from 1989<sup>107</sup> that posited it seem “startlingly prescient”<sup>108</sup> today. One possible consequence of its happening, however, is that the more liberal party will realize that its strategy did not work, and switch to attempting precommitment through debt financing.

--Suppose the parties know that only through a negotiated deal can they prevent fiscal collapse. For example, the Democrats might need to agree to entitlements cuts in exchange for the Republicans agreeing to tax increases, since, even if one party controlled the presidency and Congress, it would be risking a devastating political attack from the other if it acted alone. This creates a bilateral monopoly in which conflict of interest over the division of the surplus – determined by which side ends up conceding more – can lead to a chicken game in which side refuses to make any concessions in the

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<sup>106</sup> Shaviro, TAXES, SPENDING, AND THE U.S. GOVERNMENT’S MARCH TOWARD BANKRUPTCY, *supra*, at 120, discussing Alberto Alesina and Guido Tabellini, A Positive Theory of Fiscal Deficits and Government Debt,” 57 *Rev. of Econ. Studies* 403 (1990).

<sup>107</sup> See Torsten Persson and Lars E. O. Svensson, Why a Stubborn Conservative Would Run a Deficit: Policy with Time-Inconsistent Preferences, 104 *Q. J. Econ.* 325 (1989).

<sup>108</sup> Shaviro, TAXES, SPENDING, AND THE U.S. GOVERNMENT’S MARCH TOWARD BANKRUPTCY, *supra*, at 121.

hope that the other side will fold first.<sup>109</sup> Unfortunately, as is well known, chicken games have the potential to end calamitously if one or both parties miscalculate.<sup>110</sup>

In contemporary political terms, the chicken game scenario presents a relatively principled explanation for Republicans' endless advocacy of tax-cutting when the fiscal gap not only makes it unsustainable, but suggests that tax increases will soon be necessary. Rather than merely employing demagoguery that exploits voters' lack of information or short time horizons, Republicans who do this can reasonably be viewed as attempting to ensure that the eventual solution to the risk of fiscal collapse will be tilted as much as possible towards the side (emphasizing reduced outlays rather than tax increases) that they believe is better for society. Indeed, insofar as their policy preference is correct, this strategy actually has the potential to increase long-term social welfare. The problem, however, is that, if no one flinches in time, and given that the exact timing of a fiscal collapse may be unpredictable, a disaster that no one wants could be the consequence, and all the more so if Democrats play the chicken game by responding in kind.

Given the political incentives for endlessly running up deficits and risking a fiscal collapse unless the other side blinks first, perhaps the greater mystery than why budget politics looks so bleak today is why it apparently functioned better two decades ago – when, against the background of a much less imminent sustainability problem, Republicans and Democrats agreed to mutually painful but fiscally responsible deals in

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<sup>109</sup> Alberto Alesina and Allen Drazen, *Why Are Stabilizations Delayed?*, 82 *Am. Econ. Rev.* 1170 (1991).

<sup>110</sup> See Shaviro, *TAXES, SPENDING, AND THE U.S. GOVERNMENT'S MARCH TOWARD BANKRUPTCY*, *supra*, at 121-122.

1982, 1983, 1984, 1985, and 1990.<sup>111</sup> I have suggested elsewhere that the parties' changing internal dynamics and general election strategies may have played an important role in this negative transformation of budget politics. In particular, cooperation was encouraged by competition for the political center or median voter, conventionally viewed as the gold standard for victory in a two-party electoral system. Such voters, if they favored deficit reduction via bipartisan compromise, could induce it via the threat of voting against whichever party seemed to abandon the center more by heeding their hardcore ideologues who opposed any compromise.<sup>112</sup>

Arguably, what changed is that the Republicans switched to a Karl Rove-style "energize-the-base" strategy for winning elections. The underlying logic behind this strategy is that (1) not everyone votes, and (2) voters with strong ideological preferences have greater "turnout variability," depending not just on which candidate is closest to their position but on whether anyone is close enough. Thus, moving to the center by cooperating in bipartisan budget deals may lose more votes from the fringe than it attracts from the center. The energize-the-base strategy may gain significant appeal when there are ever fewer competitive races to be decided by centrist voters, due to the ever-advancing science of gerrymandering House districts plus the degree of natural population sorting into "red" and "blue" states that has narrowed the geographical scope of competition for the center in senatorial and presidential elections (in the latter case, reflecting the role of the Electoral College).<sup>113</sup>

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<sup>111</sup> (Referring to 1982 TEFRA, 1983 Social Security deal, 1984 Deficit Reduction Act, 1985 Gramm-Rudman-Hollings, and 1990 tax increase.)

<sup>112</sup> See Shaviro, TAXES, SPENDING, AND THE U.S. GOVERNMENT'S MARCH TOWARD BANKRUPTCY, *supra*, at 128-131.

<sup>113</sup> See *id.* at 131-136.

An energize-the-base strategy suggests not accepting budget compromises, but instead perennially upping the ante and trying to bludgeon the other side into surrender. But given the emotional (as well as the strategic) appeal of tit-for-tat approaches that may trump rational case-by-case calculation, and that presumably have deep evolutionary roots in our species' socially competitive past, the result can just as plausibly be reciprocal and mutually escalating intransigence. That is why I personally tend to believe these days that the U.S. is headed for a catastrophic political collapse.

Such pessimism should be limited by the fact that strategic interactions in the chicken game setting are inherently unpredictable, rather than guaranteeing a bad ending. Moreover, the Republicans, in the aftermath of their dismal showings in the 2006 and 2008 elections, may at some point decide to return to their frequent pre-1994 strategy of competing for the political center, inducing them to take a more favorable view of budgetary cooperation. Still, it is hard to deny that the political economy attributes of budget politics in a competitive political environment help to give at least some plausibility to a disaster scenario that no one would rationally choose. And this is perhaps the chief reason why I believe that delay in addressing our long-term sustainability problems is unacceptably dangerous and irresponsible – in addition to having clear (though less calamitous) efficiency costs outside the worst-case scenario.

## VI. CONCLUSION

Current U.S. budget policy is unsustainable because it violates the intertemporal budget constraint or no-free-lunch rule, which requires that all outlays eventually be paid for by someone. While the resulting fiscal gap will eventually be eliminated whether we like it or not, the big issue in current budget debate is whether the ultimately unavoidable course corrections should start now or be left for later (and perhaps much later, if financial markets permit).

This paper argues that concerns of generational equity, which often are relied on by those demanding a prompt course correction, do not convincingly settle the issue. While future generations will apparently pay much higher lifetime net tax rates than current generations if we leave the adjustments to be made largely or even entirely at their expense, too little is known about the two groups' relative circumstances to permit confident conclusions about the right policy of generational distribution, even under a straightforward utilitarian norm. Thus, while generational equity is important and arguably could carry the day if there were sufficient information, its implications are at present unclear.

Efficiency issues, by contrast, create powerful grounds for urging a course correction sooner rather than later, and indeed immediately if possible. The biggest problem is that delay risks having the adjustment forced on us through a severe fiscal crisis that would impose vast and needless costs on our economy when it happened and for some time thereafter. However, even if we assume that the adjustment will involve a smooth rather than a bumpy landing, thus simply requiring ever larger prospective changes to tax and spending levels the more the adjustment is delayed, there are strong

efficiency reasons for waiting as little as possible before the policy change is both announced and implemented. The case for tax smoothing suggests raising tax rates less starting today, rather than more starting in the future. Likewise, holding lifetime generational distribution constant, it generally makes sense to permit expenditure levels to be adjusted uniformly against the baseline of constant size relative to the economy, rather than being more sharply curtailed later on simply because we decided to wait.

Political economy considerations, while ambiguous and multifaceted, suggest that incurring deficits and failing to indicate how current budget policy will be made sustainable may be associated with various pathologies of the political process. Such considerations also help show why the occurrence of a fiscal collapse is not implausible – perhaps not even unlikely – even though it is so contrary to our collective self-interest. Even small steps taken today in the right direction, towards narrowing the fiscal gap through bipartisan cooperation, could help to produce an iterative process that would rightly raise confidence both in our fiscal future and in our political system.