

# The Forty-Four Trillion Dollar Deficit Scare

by **Dean Baker and David Rosnick**<sup>1</sup>

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CENTER FOR ECONOMIC AND POLICY RESEARCH • 1621 CONNECTICUT AVE., NW, SUITE 500  
WASHINGTON, D.C. 20009 • (202) 293-5380 • <WWW.CEPR.NET> • EMAIL: CEPR@CEPR.NET

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<sup>1</sup> Dean Baker is a co-director and David Rosnick a research associate at the Center for Economic and Policy Research. The authors would like to thank Heather Boushey, Jagadeesh Go khale, and Kent Smetters for their contributions.

## **The Forty-Four Trillion Dollar Deficit Scare**

Earlier this summer, a new study projecting the size of the budget deficit made headlines in the *London Financial Times* and many other major newspapers and news magazines (e.g. “Bush Shelved Report on \$44,200bn Deficit Fears” *Financial Times*, 5-29-03; A1; All Things Considered, National Public Radio, 5-29-03; “The \$44 Trillion Hole?” CNN/Money 5-29-03). The study, *Fiscal and Generational Imbalances: New Budget Measures for New Budget Priorities* by Jagadeesh Gokhale and Kent Smetters, projected that the value of future budget deficits would be \$44 trillion, more than four times current GDP.<sup>2</sup> This projection was taken as a warning of the government’s extraordinary profligacy, and the need to radically reduce future spending commitments. In particular, most news stories reported that the study implied a need to reduce Social Security and Medicare spending to more manageable levels.

A somewhat closer examination suggests that there is less basis for concern than the \$44 trillion figure implied. Furthermore, the major underlying cause of this deficit is not demographics – the growing population of elderly – as most reporting indicated, but rather a private health care system whose costs are exploding out of control. The assumption in this study – that private sector health care costs continue to explode for the next eighty years – would have a devastating impact on the economy even if we eliminated all publicly supported health care programs. If health care costs are brought under control, then the projected deficit would be manageable, and not qualitatively different than what comparable projections would have indicated in prior years.

### **Putting \$44 Trillion in Context**

While the prospects of \$44 trillion deficits was attention grabbing, it is unlikely that many people who heard this projection had a clear idea of what it meant. The \$44 trillion figure was the study’s projection of the present discounted value of all future deficits. In other words, the study estimated annual deficits through eternity, under the assumption that current tax and spending rules remained in place. It then summed up these deficits by discounting the value of future deficits at a 3.6 percent real (inflation adjusted) annual rate.

This figure would only be meaningful to people who are accustomed to thinking of present discounted values of future income. Since almost no one is accustomed to making such calculations (which require somewhat arbitrary assumptions about the interest rate used, as well as the growth rate), as a practical matter, this \$44 trillion would be virtually meaningless to anyone who heard it. Apart from being obviously large, very few readers would be able to place this number in a meaningful context.

It actually is quite easy to express this deficit projection in a more meaningful way. If the deficit is expressed as a share of future GDP, then it is immediately possible

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<sup>2</sup> Jagadeesh Gokhale and Kent Smetters. 2003. *Fiscal and Generational Imbalances: New Budget Measures for New Budget Priorities*. Washington, DC: The AEI Press.

to place it in context. The study by Gokhale and Smetters actually provides this information. The study projects the present discounted value of future GDP as \$682 trillion (p.37). This means that its projected deficit is equal to 6.5 percent of future GDP, implying that a tax increase of 6.5 percent of GDP would be needed to close the gap. This is far from a trivial sum, but it is not necessarily an impossible burden either.

The tax rate in the United States has increased by comparable amounts in prior periods. For example, the federal tax burden as a share of GDP grew by 4.6 percentage points of GDP between 1950 and 1952, rising from 14.4 percent to 19.0 percent.<sup>3</sup> This increase was due to the costs of the Korean War. While the tax burden did decline somewhat in subsequent years, it remained close to its 1952 level, as defense spending soared due to the Cold War.

It is also worth noting that most other industrialized nations face far higher tax burdens than the United States. According to OECD data, the 2000 tax share of GDP in the United States, Belgium, and Norway were 29.6, 45.6, and 40.3% respectively. These higher tax burdens have not prevented the economies of these nations from continuing to grow and prosper. Belgium, France and Norway enjoyed higher productivity levels than the United States throughout the 1990s, despite their higher tax rates.<sup>4</sup> Many countries with far higher tax burdens than the United States, such as Denmark, Sweden, and the Netherlands, enjoy lower unemployment rates.

Of course, the prospect of a tax increase equal to 6.5 percent of GDP should be taken seriously. But it is important to recognize that it is possible for the United States to bear this cost, if the purpose of the public spending is considered necessary and desirable. The country has been willing to incur comparable costs in prior periods for national defense purposes – without undermining economic growth. In principle it could incur these costs to serve other ends as well.

## **The Health Care Cost Explosion**

The other important factor, missing from most coverage of this study, is the extent to which this projected debt burden is driven by the assumption that growth of health care costs would continue to outstrip the overall rate of growth of the economy. The study assumed that, in addition to the impact of demographic factors, annual health care costs would rise by 1 percentage point more than the nominal rate of GDP growth.

This assumption about rising health care costs is enormously important to the study's deficit projection. If the United States managed to contain health care costs, so that apart from demographic factors they grew at the same rate as nominal GDP, then the projected deficit would be equal to just 1.5 percent of future GDP, or \$10 trillion. While even this figure is not a trivial sum, there would be little basis for the nation to be too

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<sup>3</sup> *Economic Report of the President, 2003*, table B-79.

<sup>4</sup> University of Groningen and The Conference Board, GGDC Total Economy Database, July 2003, <http://www.eco.rug.nl/ggdc>

consumed with such a deficit projection. This methodology would have produced comparable deficit projections for most of the last four decades.

The fact that most of the projected deficit is due to projected increases in health costs is extremely important. It means that the key problem driving this deficit projection is not an out of control budget situation, but rather out of control health care costs. The rise in health care costs will affect both the public and private sector. If the projected rise in health care costs proves accurate, it will have a devastating impact on the economy even if public sector health care programs are eliminated altogether. The rate of increase in health care costs assumed in these projections implies that health care expenditures will consume 30 percent of GDP by 2080. This compares to 14 percent of GDP in 2001.

The projections for rising health care costs can be expressed in comparable terms to the projections for the budget deficit. We can define a prospective “health care deficit” as the extent to which health care spending is projected to exceed the rate of growth of nominal GDP, adjusted for the aging of the population. Using the assumptions in the study, this health care deficit is equal to \$69 trillion, or 9.3 percent of GDP. This prospective health care deficit is a far greater threat to future living standards than the budget deficit.

Among the industrialized nations, only the United States faces this sort of dramatic increase in health care costs. Measured as a share of GDP, the United States already spends twice as much as the average for other OECD nations. In other OECD nations the share of GDP devoted to health care spending, adjusted for demographic change, has largely stabilized in the last two decades. Remarkably, the United States has little to show for these vast expenditures on health care. Its health care outcomes, such as life expectancy and infant mortality rates, are near the bottom among industrialized nations. In short, there is a compelling case for a fundamental reform of the U.S. health care system.

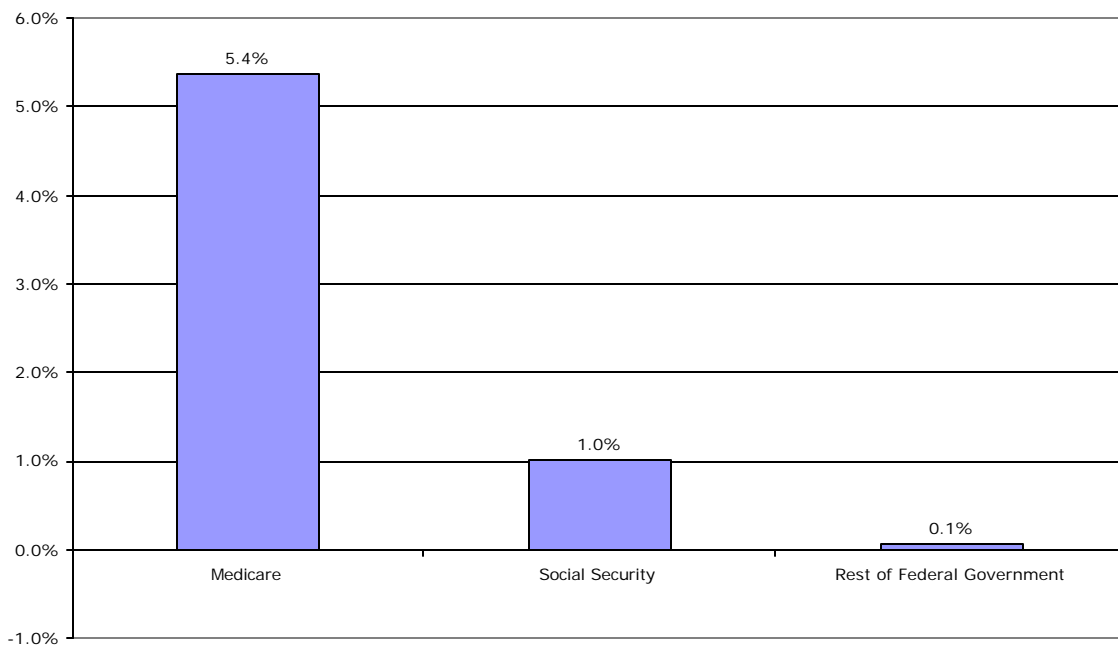
This is the most fundamental, albeit hidden, point of the \$44 trillion deficit scare study. The United States health care system is broken, and desperately needs to be fixed. If nothing is done to fix the system, then rising health care costs will have a devastating impact on the economy. Part of this impact will be felt in the public sector, which pays for approximately half of all health care in the United States, but the impact on the private sector will be equally harmful. Rather than presenting a compelling case for the need to get the deficit under control, the study by Gokhale and Smetters demonstrated the importance of fixing the U.S. health care system. If costs continue to rise out of control, it will have a devastating impact on the economic well-being of future generations.

## Appendices

### Appendix A -- Where The Deficit Comes From

Figure 1 shows Gokhale and Smetters' breakdown of the federal fiscal imbalance by major spending category. In their accounting, nearly all the imbalance rests in Medicare. Medicaid, the next largest health-care program, is included in the imbalance for the "Rest of Federal Government."

Figure 1: Fiscal Imbalances as a Share of GDP (Gokhale and Smetters -- Medicare imbalance includes Medicare Part B)

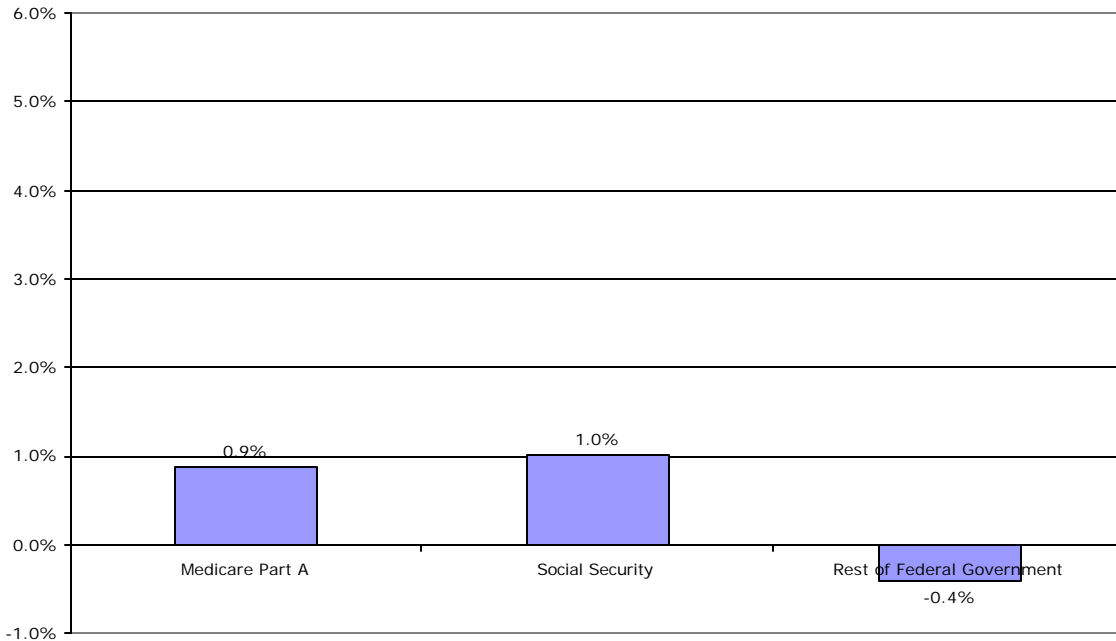


There is no clear reason for this breakdown. A more informative breakdown would reflect the rules governing the tax financing of each program. In Figure 2, imbalances are categorized by tax (Medicare part A by the Medicare HI payroll tax, Social Security by the OASDI payroll tax, and the rest of federal government by other taxes.) Thus, Medicare part B, which is financed primarily through general revenues, is included along with Medicaid in the third group.<sup>5</sup> Figure 2 also reflects the effect of reigning in the cost of health care. Given that the United States already very high costs relative to other developed countries despite poorer health outcomes, it stands to reason that a more

<sup>5</sup> This accounting issue is discussed in Gokhale and Smetters, 2003, (p. 77), which presents an argument for including Medicare Part B spending as part of the Medicare deficit.. However, this view seems inconsistent with the rules governing the funding of Medicare Part B, which explicitly require that any shortfall in the program is paid out of general revenue. As the most recent Medicare trustees' report states: "SMI [Medicare Part B] differs fundamentally from OASDI [Social Security] and HI [Medicare Part A] in regard to the nature of financing and the method by which financial status is evaluated...SMI is automatically in financial balance under present law." (p 15). Nearly half the Medicare imbalance reported by Gokhale and Smetters comes from Medicare Part B. (see Gokhale and Smetters, 2003, p.29)

efficient structuring of the U.S. health care system would allow its per capita expenditures to move closer to the OECD average without adverse health effects. Figure 2 less optimistically assumes that health costs rise in step with GDP and demographics.<sup>6</sup>

Figure 2: Fiscal Imbalances as a Share of GDP (Restrained growth in health care cost, Rest of Federal Government includes Medicare Part B)



## 2) Appendix B -- Calculations

What follows is a detailed explanation of the derivation of the imbalance figures we report. This model is less detailed than Gokhale and Smetters', but its projections are similar.

Where available, data was taken from official sources.<sup>7</sup> Remaining data were either *interpolated* using an exponential growth model between known values, *projected* out under an explicit growth assumption, or *extrapolated* based on a recursive function as follows:

<sup>6</sup> Gokhale and Smetters consider even this to be “clearly conservative by historical standards” (p. 40), implying that the growth rate should be higher. Mathematically, health care costs cannot grow faster than GDP indefinitely. Gokhale and Smetters choose to assume a return to sustainability far in the future, where the effects are heavily discounted. These calculations show that the large imbalances they compute are an artifact of the decision to delay a return to sustainable growth – a fact confirmed by their own sensitivity analysis (Gokhale and Smetters, 2003, Table 5, p. 39).

<sup>7</sup> References to OASDI refer to *The 2003 Annual Report of the Board of Trustees of the Federal OASDI Trust Funds*, (select annual data available on the web) and references to Medicare refer to *2003 Annual Report of the Federal HI/SMI Trust Funds*.

## The recursive growth model

An extrapolated time series  $y(t)$  is assumed to be a linear function of its lag. That is,  $y(t+1) = a + by(t)$  where  $a$  and  $b$  are coefficients determined from the first three lags.

Specifically, we solve  $\begin{cases} y(t) = a + by(t-1) \\ y(t-1) = a + by(t-2) \end{cases}$  for the coefficients from the known lags.<sup>8</sup>

Applying the now-known coefficients to the recursion results in the following formula for the next value:

$$y(t+1) = \frac{y^2(t) + y^2(t-1) - y(t) \times [y(t-1) + y(t-2)]}{y(t-1) - y(t-2)}$$

## Population Assumptions

Population data for 2002-2080 was taken from OASDI, Table VI.F7 intermediate projections. Population data was then extrapolated beyond 2080.

## Basic Economic Assumptions

All dollars are deflated by the CPI to 2002 dollars.<sup>9</sup> GDP and CPI data for 2002-2008 were taken from *Analytical Perspectives FY 2004* Table 2-1, p.26. Beyond 2008, per-capita GDP was projected out at the real annual rate of 1.7% and present values were computed at a real 3.6% discount rate.<sup>10</sup>

## Medicare Part A Assumptions

The current balance in the HI trust fund is taken from Medicare, Table I.F1. HI beneficiary to non-beneficiary ratios were taken from population numbers and Medicare, Table II.A4. Missing ratio data prior to 2075 are interpolated between reported values and extrapolated beyond 2075. HI Income and Cost in 2002 come from Medicare, Table II.B6 (total non-interest income and total expenditures.) Income is projected to maintain share of GDP.<sup>11</sup> In the base model, cost per beneficiary is projected to grow at the real annual rate of 1% over that of per-capita GDP through 2080. The 1% differential decreases linearly to 0% by 2100, and stays at 0% thereafter. In the alternative model, cost per beneficiary always grows in step with per-capita GDP.<sup>12</sup>

## Medicare Part B Assumptions

The current balance in the SMI trust fund is taken from Medicare, Table I.G1. SMI beneficiary to non-beneficiary ratios are taken from the population numbers and

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<sup>8</sup> For example, the rationale behind this form for population growth is that  $b$  represents a domestic growth rate, and  $a$  reflects immigration.

<sup>9</sup> Gokhale and Smetters, 2003, p.76.

<sup>10</sup> Gokhale and Smetters, 2003, p.38.

<sup>11</sup> This is slightly optimistic with respect to Medicare's numbers through 2080.

<sup>12</sup> For discussion of base model, see Gokhale and Smetters, 2003, p.38. See earlier footnote for discussion of alternatives.

Medicare, Table II.A4. Additional years are computed in the same manner as in HI. SMI cost in 2002 comes from Medicare, Table II.C6 (total expenditures.) Cost per-beneficiaries are computed in the same manner as in HI. In the base model, SMI income is assumed to be 25% of costs.<sup>13</sup> In the alternative model, income exactly covers costs, but 75% of income will be charged elsewhere.<sup>14</sup>

### Computing Fiscal Imbalances

To compute the federal fiscal imbalance in the base model as a share of GDP, the Medicare imbalance was first computed. From the population numbers and the beneficiary ratios, the number of HI and SMI enrollees were computed. Each year, the number of enrollees for each program was multiplied by the estimated cost per beneficiary for that program to reach a total program cost.<sup>15</sup> The annual incomes for 2002 through 3000 were subtracted from costs and summed at discounted values. The trust fund balances were then subtracted from the results. The total Medicare imbalance computed were added to the Social Security and Rest of Federal Government imbalances computed by Gokhale and Smetters and then divided by the present value of future GDP from 2002 to 3000.

The resulting imbalance came to 6.0% of GDP, slightly less than the 6.5% computed by Gokhale and Smetters.<sup>16</sup> In order bring the two into line, the computed imbalances were scaled up by a factor of 1.083 to match their imbalance to GDP ratio.

To compute the federal fiscal imbalance in the alternative model, the same procedure was used. We employed the alternative model data as discussed previously, but we did not use Gokhale and Smetters' figure for the Rest of Federal Government. Starting with their number, we added 75% of the alternative SMI cost, reflecting the actual financing of the program. We then subtracted 55 cents for every dollar saved in Medicare between the two models to reflect health care cost savings in Medicaid.<sup>17</sup> This new Rest of Federal Government imbalance, along with Gokhale and Smetters' Social Security imbalance and the alternative Medicare imbalance<sup>18</sup> were then scaled up by the same overall factor as in the base calculation. The resulting total fiscal imbalance came to 1.5% of GDP.

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<sup>13</sup> Gokhale and Smetters, 2003, p.29

<sup>14</sup> See earlier footnote for discussion of accounting changes.

<sup>15</sup> The effect of aging beneficiaries was assumed negligible. According to Social Security, the average age of the 65 and over male population grows by less than 0.025% a year through 2035, and females far less. Unless costs are extremely sensitive to age, this effect will be irrelevant,

<sup>16</sup> Our computed present value of GDP came out larger than that reported by Gokhale and Smetters.

<sup>17</sup> According to the CBO report *A 125-Year Picture of the Government's Share of the Economy, 1950-2075*, federal Medicaid expenditures amounted to 55% of Medicare expenditures in 2000. Medicaid grows faster, then slower than Medicare so that expenditures are again 55% by 2075.

<sup>18</sup> The SMI alternative imbalance was negative (by definition equal to minus the 2002 trust fund balance) and so was not scaled.