Federal Liabilities
Past Actions with Future Consequences

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Summary

As a share of GDP, the debt held by the public is now larger than any other period in US history besides 1944 to 1950. But the debt held by the public is only part of the federal government’s liabilities that arise from past actions. Each year, the official liabilities are reported in the Financial Report of the United States Government (FRUSG). In addition to the debt held by the public, the other major liabilities are federal employees’ accrued retirement benefits.

This study suggests adding the Medicare and Social Security benefits that have been accrued by current retirees to the liabilities of the federal government. These accrued benefits, like the accrued retirement benefits of federal workers, represent liabilities that arise from prior actions. Most Social Security and Medicare reform proposals do not affect current beneficiaries, and even the sizable reduction in the long run Medicare unfunded obligations that resulted with the scoring of the Affordable Care Act did not substantially reduce the accrued benefits expected by current retirees.

The FRUSG identified liabilities totaling $19.9 trillion as of September 30, 2013. Adding the almost $16 trillion in accrued Social Security and Medicare benefits payable to current retirees produces a total of $35.8 trillion in federal liabilities. The Social Security and Medicare benefits payable to current retirees are larger than the debt held by the public and are 45% of the total liabilities that include them. The proposed total federal liabilities are equal to 213% of GDP.

While the accrued benefits payable to retirees appear in the FRSUG’s Statement of Social Insurance, these portions of the elderly entitlement programs’ obligations deserve added attention. Reporting them as liabilities complements the forward-looking unfunded obligation measures by distinguishing between the obligations that retirees are already receiving and those payable to future retirees and participants that are more susceptible to reform.
Federal Liabilities: Past Actions with Future Consequences
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Debts, Liabilities, Obligations, Gaps and Imbalances

Various terms and concepts are used to describe the federal government’s financial commitments. The most widely used measure is the federal debt held by the public. This debt is in the form of Treasury notes, bills, and bonds held by individuals, firms, and other investors here and abroad. The debt held by the public, as a share of GDP, is now larger than any other period in US history besides 1944 to 1950. But the debt held by the public only tells part of the story of the government’s commitments and these can arise from past or expected future actions. Here we focus on the federal government’s commitments that arise from past actions. These commitments or liabilities primarily include federal employees’ accrued retirement benefits in addition to the debt held by the public. As will be argued here, they should also include accrued Medicare and Social Security benefits by current retirees.

Accounting for all liabilities arising from the federal government’s past actions gives policy makers additional understanding of the government’s current indebtedness before they consider future government spending either through continuation of current programs or through new programs. Basically, we offer a conservative estimate of the liabilities that are already on the government’s books.

These liabilities are on the books whether we like it or not and must be paid off to bond holders, to current retirees, or to current federal military or civilian employees. We suggest that all of the liabilities are largely unaffected by policy changes, are less sensitive to forecasting assumptions, and collectively provide an important starting point in accounting for how much the federal government owes today based on what it has done in the past.

The emphasis here on liabilities that are already on the government’s books differs from forward looking measures of the federal government’s obligations.

These include the Social Security and Medicare programs’ unfunded obligations and broader government-wide measures like the fiscal gap or the fiscal imbalance. These measures are definitely warranted and provide a comprehensive understanding of the resources necessary to cover the government’s future commitments assuming the continuation of current policies. The narrower focus used here takes a retrospective view in defining a federal liability.

The forward looking measures of the elderly entitlement programs’ financial status are known as the unfunded obligations of Social Security and Medicare. In each case, the unfunded obligation begins with the difference between the present values of future expenditures less future revenues for a particular time horizon, 75 years or the infinite horizon. The current value for the Trust Fund partially offsets this amount, producing the unfunded obligation. The calculation of the unfunded obligation is subject to the assumptions made about future economic conditions, demographic changes, and in the case of Medicare the all important rate of per capita health care spending growth and its relationship to per capita income growth.

Two additional forward looking measures that take into account the entire federal government are the fiscal gap and the fiscal imbalance. The 75-year fiscal gap is estimated by the Congressional Budget Office (CBO) and by the Office of Management and Budget (OMB). While there are several ways to define the fiscal gap, it is most frequently defined as the degree by which the primary surplus (the surplus not including interest payments) must increase relative to current law tax and spending policies such that the ratio of the debt to GDP at the end of the projection period is the same as the current ratio. Thus, the way the fiscal gap term is defined by the CBO and the OMB means that it does not
include the repayment of the current debt.

The fiscal imbalance measure does include the repayment of the debt and it is calculated over the infinite horizon. Like the unfunded obligation measures for Medicare and Social Security, the fiscal gap and the fiscal imbalance are sensitive to long run economic and demographic assumptions and to the interpretations of current law spending and revenue policies.¹

Our emphasis is much simpler and the liability amounts are less impacted by assumptions about the future. Further, the federal government annually reports each of the liabilities in the Financial Report of the United States Government (FRUSG). The accrued Social Security and Medicare benefits payable to current retirees are only modestly affected by major reforms, partly because the changes are phased in over a period of years. These accrued benefits, like the accrued retirement benefits of federal workers, represent liabilities that arise from prior actions and are likely to be paid. Most Social Security and Medicare reform proposals do not affect current beneficiaries and as will be seen, even the sizable reduction in the long run Medicare unfunded obligations that resulted with the scoring of the Affordable Care Act, did not substantially reduce the accrued benefits expected by current retirees.

In this study we explain why the accrued Social Security and Medicare benefits payable to current retirees can be looked upon as burdens on current and future workers, and therefore should be treated as federal liabilities just as the federal employees’ accrued retirement benefits and the debt held by the public are treated as liabilities.

The FRUSG identified liabilities totaling $19.9 trillion as of September 30, 2013. Adding the $16 trillion in accrued Social Security and Medicare benefits payable to current retirees produces a total of $35.8 trillion in federal liabilities based on prior actions. The Social Security and Medicare benefits payable to current retirees are larger than the debt held by the public and are 45% of the total liabilities that include them.

The proposed total federal liabilities are equal to 213% of GDP. But more importantly, if all of the federal government’s tax revenues were devoted to the cause of paying off these liabilities it would take more than a dozen years to pay them off assuming tax revenues remain at their 50-year average share of GDP of 17.3%.²


Each year the FRUSG identifies the government’s assets and liabilities on the federal government’s balance sheet. As of September 30, 2013, the federal government’s assets totaled about $3 trillion and are comprised of financial assets (loans receivable, inventories, and cash) and of nonfinancial property assets. Additionally, the government owns stewardship assets and has the power to tax and set monetary policy.³

While the $3 trillion in assets is sizable, the liabilities of the federal government dwarf this amount. The liabilities reported in the FRUSG include the debt held by the public, the federal civilian and military employees’ accrued pension benefits and other retirement and disability benefits as well as other liabilities. Figure 1 presents the liabilities of the U.S. federal government from 1995 to 2013. As of September 30, 2013

- the debt held by the public stood at $12 trillion,
- federal employee and veteran benefits totaled $6.5 trillion,
- and the other liabilities were $1.3 trillion,
- producing total liabilities of $19.9 trillion.⁴

Though intergovernmental debts are part of the gross debt measure they are not included as liabilities when the federal accounts are consolidated. These intergovernmental debts are primarily the securities held in the Social Security and Medicare Trust Funds and in the federal employees’ pension accounts. While the
securities in these accounts are assets of the programs, they are also liabilities to the Treasury, and offset each other in the consolidated financial statements. But, as will be discussed in the next section, some portion of the Social Security and Medicare benefits that have accrued to current participants, particularly seniors, should be included in the total liabilities of the federal government.

Figure 1 also illustrates the rapid growth in the federal liabilities in the years following the “great recession.” The liabilities grew 84% between 2007 and 2013 primarily due to the deficits’ additions to the debt held by the public. The debt held by the public in 2007 comprised 47% of the total liabilities reported in the FRUSG, but as of 2013, it accounted for 61%.5

The federal government’s other major class of liabilities are the accrued retirement benefits of military and civilian employees. The benefits come in the form of pensions and other post employment benefits (OPEBs) – benefits of $1,171 billion (18% of the total).

The veterans’ compensation category includes disability and survivors benefits and since 1995 this category has grown from 14% of the total accrued benefits to its present share of 30%. Altogether the accrued benefits have grown from 25% of contemporaneous

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**FIGURE 1**

LIABILITIES OF THE U.S. GOVERNMENT FROM THE FINANCIAL REPORTS OF THE UNITED STATES GOVERNMENT

annual GDP in 1995 to 39% of GDP in 2013.

**Are Accrued Social Security and Medicare Benefits also Liabilities of the Federal Government?**

The inclusion of accrued federal civilian and military personnel retirement benefits in the liabilities of the federal government raises the question: If these retirement pensions and liabilities are included as liabilities why are federal government they are not liabilities “in a legal or accounting sense.” Analytical Perspectives goes on to note that “the Government has unilaterally decreased as well as increased these benefits in the past, and future reforms could alter them again,” and “There is no bright line dividing Medicare, Medicaid, and Social Security from other programs that promise benefits to people, and all the Government programs that do so should be accounted for similarly.” It is also

**Figure 2**

**Accrued Civilian and Military Pension and Benefit Liabilities**


accrued Social Security and Medicare benefits excluded as liabilities?

The answer is not simple. For several years, the question of why Social Security and Medicare benefits were not included as liabilities on the federal government’s balance sheet was addressed in the “Stewardship” chapter of Analytical Perspectives, a document that accompanies the publication of the Budget of the U.S. Government each year. The short answer to the question given in Analytical Perspectives is that while Social Security and Medicare are “obligations” of the

reasoned that the earmarked taxes should be counted as assets. “Finally, under Generally Accepted Accounting Principles (GAAP) Social Security is not considered to be a liability, so not accounting for it as such in this chapter is consistent with accounting standards.”

While it is true that retirees do not have a legal right to their expected Social Security and Medicare benefits, retirees’ benefits are already accrued, they are based on prior actions, and they are very likely to be paid as projected. They meet the definition of a liability as laid out in the FRUSG, “Liabilities
“Liabilities are obligations of the government resulting from prior actions that will require financial resources.”

are obligations of the government resulting from prior actions that will require financial resources. Further, the concern about how to account for the potential asset of dedicated revenues should not influence how the liability is accounted for.

Some of the responses to the question of including Medicare and Social Security as federal liabilities mix the distinction between past actions and future obligations. The bright line we propose to draw is between the Social Security and Medicare benefits that are already accrued by current retirees and the benefits that are payable to all other current and future participants in the programs.

The benefits not included in our proposed Social Security and Medicare liability are the accrued benefits of current workers and the yet-to-be “accrued” benefits of current and future workers. These categories may be affected by reforms, but the benefits of current retirees are much less likely to be affected.

The relationship between the accrued benefits payable to current retirees and the future-oriented unfunded obligation measures for Medicare and Social Security is laid out in the appendix. The Medicare and Social Security Trustees Reports provide annual estimates of the programs’ respective unfunded obligations and some of those components are incorporated into Table 1. Table 1 illustrates how the accrued benefits payable to current retirees are related to the comprehensive accounting of a program’s future scheduled benefits and dedicated tax revenues under current law.

The accrued benefits payable to current retirees net of their tax and premium payments in support of the programs are given in the first row of the table. Net accrued Social Security benefits payable to participants who have attained the eligibility age of 62 totaled $10.11 trillion as of 2013. Net accrued Medicare benefits payable to participants who have attained the eligibility age of 65 totaled $5.85 trillion as of 2013. Together the net accrued Social Security and Medicare benefits payable to current retirees were $15.96 trillion as of 2013.

Net benefits for current workers who have not reached the program’s respective eligibility ages totaled $38.24 trillion in 2013—comprised of $16.39 trillion in net Social Security benefits and $21.86 trillion in net Medicare benefits. The combination of the first two rows produces the 100 year closed-group unfunded obligation. These amounts indicate by how much current participants’ expected future benefits exceed their future dedicated payroll tax payments and premium payments beginning in 2013 (at current tax rates).

The next row indicates the net benefits for future workers. The negative net Social Security benefits for future workers indicates that these workers will pay more in payroll taxes than they will receive in benefits even at the current tax rate which is significantly lower than the tax rate necessary to fund future Social Security expenditures. Paying those expenditures implies they would have higher taxes and the net benefits would be significantly lower. The next row indicates the magnitude of the net benefits over the infinite horizon at current tax rates, or alternatively, these are the amounts by which Social Security and Medicare are underfunded relative to their dedicated revenue sources of payroll taxes, taxes on Social Security benefits, and Medicare premium payments. Altogether the two programs will require $60 trillion in additional revenues to pay scheduled benefits.

For the present analysis, it is important to point out the 23% of the unfunded obligation is payable to current retirees and that their scheduled accrued benefits are likely to be paid. We argue that they should be treated as liabilities in the same way that the federal employees’ pensions and OPEBs are treated as liabilities. Most proposed reforms have
minimal effects on reducing these accrued liabilities and they are definitely consistent with the definition of a liability.

In contrast, the forecast benefits of current and future workers can be substantially unilaterally change the programs. This section illustrates that recent policy changes significantly affect long-run unfunded obligation measures, but have only modest effects on reducing accrued benefits payable to

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<th>Social Security</th>
<th>Medicare</th>
<th>Total</th>
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<tr>
<td>Net benefits accrued by current retirees</td>
<td>$10.11</td>
<td>$5.85</td>
<td>$15.96</td>
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<td>Net benefits of current workers</td>
<td>$16.39</td>
<td>$21.86</td>
<td>$38.24</td>
</tr>
<tr>
<td>Net benefits of future workers</td>
<td>-$0.60</td>
<td>$15.40</td>
<td>$14.80</td>
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<tr>
<td>Total infinite horizon net benefits</td>
<td>$25.90</td>
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<td>$69.00</td>
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<tr>
<td>Trust Fund</td>
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<td>$0.20</td>
<td>$2.93</td>
</tr>
<tr>
<td>Total infinite horizon unfunded obligation</td>
<td>$23.17</td>
<td>$42.9</td>
<td>$66.07</td>
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Source: 2013 Financial Reports of the United States Government and 2013 Social Security and Medicare Trustees Reports

affected by reforms, and are not necessarily related to prior actions of the government, particularly for younger current workers and future participants. The accrued benefits payable to older workers, those 55 and over, could arguably be considered liabilities as well, thus only including the accrued benefits of current retirees is a conservative estimate of the total liabilities.

**The Durability of Retirees’ Accrued Social Security and Medicare Benefits**

Though the accrued benefits payable to retirees are consistent with the definition of a liability, one of the rationales for not including Social Security and Medicare on the federal balance sheet is that the government can retirees and may even materially increase them. It is true that the government can unilaterally change the programs, but the impact of those changes is distributed differently across generations.

Given that the focus here is limited to current retirees and on the liability side of the equation, revenue side policy adjustments like higher benefit taxes do not affect the pure liability measure.

**Medicare** – Two recent Medicare reforms illustrate how accrued Medicare benefits payable to retirees are impacted by policy changes. Figure 3 presents the accrued net Medicare benefits payable to participants who are 65 and older. Each part of Medicare is identified. The first policy change to consider is the passage of the Medicare Modernization Act (MMA) in 2003. The Act added

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prescription drug benefits, or Part D, to the insurance package. As seen in the figure, retirees at that time were endowed with new benefits net of premiums equal to $597 billion.

As an aside, based on the 2004 Medicare Trustees Report, the Part D benefits over and above premium payments were estimated to have a present value of $11.4 trillion over the 75-year horizon and $23.2 trillion in perpetuity. Since that time, the long-run estimates have been adjusted down significantly; such that, by the 2013 Trustees Report, the Part D benefits over and above variability in the estimates are less affected by changing assumptions than are the long-run estimates.

The other major policy change reflected in the figure is the impact of the passage of the Affordable Care Act (ACA) in March of 2010. Scoring its provisions resulted in a dramatic reduction in 75-year and perpetuity unfunded obligations, but as seen by comparing the accrued benefits for the years 2009 and 2010 from the figure, it had a modest effect on these liabilities. Between the two years, the accrued benefits declined by $339 billion, from $4,848 to $4,509 billion or by only 7%.

This modest reduction in accrued benefits payable to current retirees stands in stark contrast to the substantial decline in the long run unfunded obligation measures between the 2009 and 2010 Trustees Reports. The considerable decline in the unfunded obligation estimates result from provisions in the ACA designed to limit per capita spending growth. The main provision is the productivity

**Figure 3**

**Accrued Net Medicare Benefits Payable to Participants Who Have Attained Eligibility Age**

adjustment that primarily affects Medicare’s Part A spending projections and some of Part B spending. Basically, the provision requires that payment updates to most providers are adjusted downwards by the increase in total factor productivity. As a consequence of this provision the estimated

- 75-year unfunded obligation for Part A dropped from $13.4 trillion to $2.4 trillion and
- the infinite horizon unfunded obligation for Part A dropped from $36.4 trillion to -$0.6 trillion!

The ACA’s productivity adjustment had less of an effect on the present value of the general revenue contributions necessary to fund Medicare Part B in addition to premiums from retirees, but the reductions were substantial nonetheless

- the present value of the general revenues required to fund Part B over the 75 year horizon dropped 25% from $17.2 trillion to $12.9 trillion and
- over the infinite horizon they fell 43% from $37.0 trillion to $21.1 trillion.

The productivity adjustment is a mechanism analogous to Sustainable Growth Rate (SGR) for physician payments applied to most other Medicare payments beside Part D payments. The history of legislative overrides of the SGR suggests the same fate for the productivity adjustment, though making projections based on “current law” has produced estimates that the Trustees themselves deem to be quite favorable and unlikely to be realized.15

The Government Accountability Office (GAO) audited the U.S. Government’s Fiscal Years 2013 and 2012 Consolidated Financial Statements and found the Medicare spending projections as reported in the Statements of Social Insurance wanting for the years 2010-2013. These are the forecasts that followed the passage of the ACA incorporating its spending growth constraints. The auditor’s report noted:

“Significant uncertainties (discussed in

Note 24 to the consolidated financial statements), primarily related to the achievement of projected reductions in Medicare cost growth reflected in the 2013, 2012, 2011, and 2010 Statements of Social Insurance, prevented us from expressing an opinion on those statements as well as on the 2013 and 2012 Statement of Changes in Social Insurance Amounts. The statement of Social Insurance for 2009 is presented fairly, in all material respects, in accordance with U.S. generally accepted accounting principles.”16

Thus, the GAO’s audit “disclaimed” the post ACA Medicare spending forecasts. Whether or not the ACA’s provisions are realized in the long run, the forecast spending on behalf of current retirees, as we have seen, is only slightly negatively affected. The series in Figure 3 illustrates that these accrued benefits are “durable” even in light significant reforms that affect the long-run forecasts. In regards to Medicare, reporting the accrued liabilities payable to retirees in each year gives policy makers and the public a better idea of how legislative changes add to the liabilities in the case of the MMA, or reduce the liabilities, although only slightly, in the case of the ACA.

Social Security – Medicare spending on behalf of current retirees was only reduced 7% following the passage of the ACA, even though as we saw, should all of its spending constraints be realized, the entire infinite horizon unfunded obligation of the HI portion of the program would be eliminated. The impact on current retirees is muted because it takes time for all of the provisions to come on line. The youngest retirees would see the greatest impact on their benefits relative to the prior forecasts.

The delayed or deferred effects of reforms to either Medicare or Social Security means that current retirees’ accrued benefits are not affected at all or are only slightly affected as they are phased-in in coming years.

Most Social Security reforms that have been discussed in recent years leave current retirees unaffected. Increasing the retirement age, increasing payroll taxes, raising the taxable maximum, instituting means testing for
incoming groups of retirees have no effect on current retirees and the accrued benefits presented in Figure 4.

The cost of living adjustment is the only as a share of GDP. In 2000 they were equal to 60% of GDP, by 2007 they were 71%, and as of 2013 they were 95% of GDP.

Because these accrued Medicare and Social

**Figure 4**

**Accrued Social Security and Medicare Benefits Payable to Participants Who Have Attained Eligibility Age**

![Graph showing the accrual of Medicare and Social Security benefits from 2000 to 2013.]


reform, among those currently receiving attention, that would reduce current retirees’ accrued benefits. However, the effect on the aggregate accrued liability would be minor. Most leading proposals prefer replacing the current CPI-W (consumer price index for wage and salary workers) with the chained version of the CPI as the index used to make cost of living adjustments to Social Security Benefits. Over the next 30 years, the present value of benefit payouts are reduced by less than 3% if the cost of living adjustments are bound on the chained CPI rather than the CPI-W. Thus, the accrued benefits payable to current retirees would be reduced slightly if this reform were implemented.

Figure 4 indicates that the total of the accrued Medicare and Social Security benefits payable to retirees has risen steadily in nominal dollars. They have also risen steadily Security benefits conform to the definition of a liability, are only modestly affected by reforms, and are substantial in size, we propose reporting them as liabilities of the federal government along with the debt held by the public and federal employees’ accrued retirement benefits.

**Adding Retirees’ Accrued Medicare and Social Security Benefits to Federal Liabilities**

Figures 5 and 6 depict the composition and size of the “official” federal liabilities combined with retirees’ accrued Medicare and Social Security benefits in nominal dollars and as a share of GDP.

As seen in Figure 5, the total of the official liabilities and retirees’ accrued Social Security and Medicare benefits were almost $36 trillion
in 2013. The $16 trillion in accrued Social Security and Medicare benefits comprised 45% of the total, were equal to 86% of the official liabilities reported in the FRUSG, and were 32% higher than the debt held by the public. Altogether, these liabilities more than doubled their size over the last decade.

Denominating the combined liabilities by contemporaneous annual GDP is depicted in Figure 6. By 2013 the total liabilities were equal to 213% of GDP. The figure indicates that the liabilities’ share of GDP was fairly static from 2000 to 2007. Prior to the recession the combined liabilities were 145% of GDP. The increase in the debt held by the public about the future path of fiscal and monetary policy and ultimately how the debt affects growth. The concern is based on evidence that higher sovereign debt as a share of the economy lowers economic growth.

The debt held by the public is but one form of federal liability that may put a drag on the economy, however. The federal government is already committed to paying federal employees’ accrued pensions and other post-employment benefits – primarily health care benefits. Adding these federal employee retirement liabilities and other federal liabilities to the debt held by the public produces the $19.9 trillion liability on the

accounts for 54% of the growth in the share of GDP from 2007 to 2013 and the accrued Social Security benefits of retirees account for 29%.

**Conclusion**

With the federal debt held by the public approaching 75% of GDP many are concerned federal government’s balance sheet as of September 30, 2013.

We have suggested here that the accrued Social Security and Medicare benefits that are expected to be paid to current retirees should also be added to the official federal liabilities to provide a comprehensive measure of the government’s indebtedness based on past
actions. When they are added to the “official” liabilities the total proposed liability measure is $35.8 trillion or 213% of GDP. Paying off these would take more than 12 years’ of all federal revenues if they remain at the 50 year average of 17.3% of GDP.

The additional liability measure we propose is distinctly retrospective in its treatment of how to include Social Security and Medicare commitments in a more comprehensive liability measure.

We have argued that the benefits expected by current retirees provide a conservative estimate of commitments that meet the definition of a liability – they are obligations of the government resulting from prior actions that will require financial resources. We also illustrated that these accrued Social Security and Medicare benefits are only modestly affected by past reforms and by reform proposals that target long run solvency. They are also large. Together they exceed the debt held by the public and are 80% the size of the official federal liabilities reported in the FRUSG. Finally, they are relevant to policy makers and the public. These are the benefits on which retirees rely and retirees are politically motivated to assure that their benefits are not reduced.

While they appear in the Statement of Social Insurance these portions of the elderly entitlement programs’ obligations deserve added attention. The added attention of reporting them as liabilities complements the forward-looking unfunded obligation measures by distinguishing between the obligations that retirees are already receiving and those that are payable to future retirees and participants that are more susceptible to future reforms.

Appendix

Net Benefits to Current Retirees as (Conservative) Debt Measures for Social Security and Medicare

The debt accumulated in Social Security or Medicare is better understood in the context of the unfunded obligation of the program. The financing gap in a program can be measured by the perpetuity unfunded obligation defined as

\[
UO^\infty = \sum_{t=0}^{\infty} \frac{B_t}{(1+r)^t} - \sum_{t=0}^{\infty} \frac{R_t}{(1+r)^t},
\]

where \( UO^\infty \) is the perpetuity or infinite horizon unfunded obligation at the valuation year, 0, \( B_t \) are total benefits in year \( t \), \( R_t \) are total dedicated revenues in year \( t \), and \( r \) is the discount rate. The Social Security trust fund is not included as an offsetting asset because we are viewing the unfunded obligation from the consolidated federal budget perspective.

Benefits in year \( t \) can be decomposed as follows

\[
B_t = B_t^{rcp} + B_t^{wcp} + B_t^{fp}.
\]

\( B_t^{rcp} \) are benefits in year \( t \) payable to retired current participants who, in the case of Social Security, are age 62 and above in the evaluation year, \( t = 0 \). \( B_t^{wcp} \) are benefits in year \( t \) payable to working age current participants who are 15 to 61 years of age in the evaluation year, \( t = 0 \). Finally, \( B_t^{fp} \) are benefits in year \( t \) payable to future participants who are 14 years of age or below or yet to be born in the evaluation year, \( t = 0 \).

Revenues in year \( t \) can be decomposed similarly as

\[
R_t = R_t^{rcp} + R_t^{wcp} + R_t^{fp}.
\]

\( R_t^{rcp} \) are the benefit taxes in year \( t \) that will be paid by retired current participants. \( R_t^{wcp} \) and \( R_t^{fp} \) are payroll tax revenues and benefit taxes that will be paid by working age current participants and by future participants, respectively.

Putting the benefits and tax revenues together the infinite horizon unfunded obligation can be written as:

\[
UO^\infty = \left( \sum_{t=0}^{\infty} \frac{B_t^{rcp}}{(1+r)^t} - \sum_{t=0}^{\infty} \frac{R_t^{rcp}}{(1+r)^t} \right) + \left( \sum_{t=0}^{\infty} \frac{B_t^{wcp}}{(1+r)^t} - \sum_{t=0}^{\infty} \frac{R_t^{wcp}}{(1+r)^t} \right) + \left( \sum_{t=0}^{\infty} \frac{B_t^{fp}}{(1+r)^t} - \sum_{t=0}^{\infty} \frac{R_t^{fp}}{(1+r)^t} \right)
\]

Each difference (term) in the parentheses in the equation represents the component parts of
the infinite horizon unfunded obligation. The unfunded obligation is equal to the present value of net benefits for retired current participants plus the present value of net benefits for working age current participants plus the present value of net benefits for future participants. For Social Security, the first two terms are positive whereas the third term is negative suggesting Social Security is a worse-than-market deal to participants from a lifetime perspective.

The first term is the debt a program owes to the current retirees as of the evaluation year, and the second term is the debt to the current workers. The first two terms together identify the debt the program owes to all the current participants as of the evaluation year, also known as the closed-group unfunded obligation. The close-group unfunded obligation is thus the difference between scheduled (or current-law) benefits and taxes associated with current participants in the program defined as individuals age 15 and above as of the evaluation year. It measures how much the program on net owes its current participants, if the program were closed to all future participants beginning at the evaluation date.

So there are two natural candidates for the debt measure in a program: a narrowly defined debt measure consisting of the net benefits to current retirees alone, and a more inclusive debt measure consisting of the net benefits to both current retirees and current workers. The latter debt measure is comprehensive, but it could be argued that the net benefits to current workers – and especially to the younger workers – can be easily changed by entitlement reforms. In contrast, the former debt measure is about the net benefits to the retirees alone, which, while not as comprehensive as the latter measure, seem to be immune to entitlement reforms. Accrued Social Security and Medicare benefits payable to current retirees are liabilities quite similar conceptually to federal employees’ accrued pensions and benefits in that they derive from prior actions. Demarcating as liabilities as only the accrued Social Security and Medicare benefits payable to current beneficiaries who have reached the age of eligibility results in a conservative estimate of total accrued liabilities. We therefore propose to use the net benefits to retirees as the (conservative) debt measure in a program, on par with the public debt.

The Medicare and Social Security Trustees Reports include estimates of the unfunded obligations of elderly entitlement programs over the infinite horizon. These estimates can be broken down into the net benefits to the retired current participants, the net benefits to the working age current participants and the net benefits to the future participants. Adding the debts (i.e. the net benefits to the retired current participants) in Social Security and Medicare to the federal liabilities from the Financial Report of the United States Government, it is obvious that the real debt the federal government owes is a multiple of the public debt that draws most media and public attention.
Notes

1 In a subsequent section we discuss the substantial reductions in the Medicare Trustees’ long-run spending forecast following the passage of the Affordable Care Act and the uncertainty associated with the recent forecasts. Another example of how new legislation and forecasting assumptions affect forward looking fiscal measures is the Office of Management and Budget’s fiscal gap estimates. The estimate of the 75-year fiscal gap was 8.0% of GDP in the Fiscal Year 2011 Analytical Perspectives (p. 52) but the fiscal gap became a 75-year fiscal surplus of 1.8% in the Fiscal Year 2013 Analytical Perspectives (p. 26).

2 The years to pay for these liabilities are based on the present value of 17.3% of future GDP where the GDP and discount rate forecasts are from the 2013 Social Security Trustees Report Table VI.F6.

3 Analytical Perspectives, Budget of the U.S. Government, Fiscal Year 2010 notes that “These additional resources include most importantly the Government’s sovereign power to tax, which would not normally appear on a balance sheet but may be of greater value than all the balance-sheet items combined.” Our emphasis here is to identify a starting point of the stock of liabilities in any given year that will require future revenue from taxes.

4 The other liabilities include environmental and disposal liabilities, accounts payable, insurance and guarantees, and a subset “other liabilities.” See Financial Report of the U.S. Government, Department of the Treasury, 2013, page 46.

5 See Analytical Perspectives, Budget of the United States Government, Fiscal Year 2012, Office of Management and Budget, Table 31-2, for other estimates of the total liabilities and assets for the years 1960-2010.

6 See Fiscal Years 1998-2010, Analytical Perspectives, Budget of the U.S. Government. These versions of Analytical Perspectives include a “Stewardship” chapter that addresses the question of inclusion of Medicare, Medicaid, and Social Security as government liabilities.


10 In “How Large is the Federal Government’s Debt?” National Center for Policy Analysis, Policy Report No. 263, October 2003, by Liqun Liu, Andrew J. Rettenmaier and Thomas R. Saving, the authors discuss the relationships between the various unfunded obligation measures for Medicare and Social Security. They show how the perniciousness, 75-year, closed-group unfunded obligations measures are related to the maximum transition cost or accrued benefit measure. The appendix of the present paper is adapted from the 2003 paper and illustrates the accrued liability measure for that is incorporated into the proposed total liability measure. See the Appendix for an adapted version of the appendix from the 2003 paper. Also see How Much Does the Federal Government Owe? National Center for Policy Analysis, Policy Report No. 398, April 2012, by Liqun Liu, Andrew J. Rettenmaier and Thomas R. Saving. The present paper is an updated version of the 2012 paper.

11 The infinite horizon open group, 75-year open group, and the 100-year closed group measures are presented in the annual Social Security and Medicare Trustees Reports. The accrued benefit liability for all current Social Security participants is available in an annual Actuarial Note published by the Social Security Administration’s Office of the Actuary. In 2013, the accrued benefits of all current participants totaled $29.6 trillion. See Jason Schultz and Daniel Nickerson, “Unfunded Obligation and Transition Cost for the OASDI Program,” Actuarial Note, Number 2013.1, Social Security Administration, Office of the Chief Actuary, January 2014.

12 Table 1 presents the net accrued Social Security and Medicare benefits payable to current retirees. Thus, premium payments for Part B and D are netted out of the accrued Medicare benefits as are remaining dedicated Social Security and HI payroll taxes and income taxes on Social Security benefits. Federal income taxes in support of Medicare Parts B and D are not subtracted from the accrued benefits. However, the Health and Human Services Agency Financial Report: http://www.hhs.gov/afr/2013hhsagency-financial-report.pdf, does identify the income taxes payable from retirees as offsetting revenue.

13 The Supplementary Medical Insurance portions of Medicare (Parts B and D) are funded by
premium payments from participants and from general revenues. Officially, these parts of the program do not have unfunded obligations because the general revenues are assumed to cover the difference between premium revenues (about 25% of expenditures) and expenditures.

14 Granted we have netted out the dedicated taxes and premiums paid by retirees in accrued liability measures we report in Table 1. Thus, an increase in premiums and/or benefit taxes would affect the liabilities we report.

15 See the 2013 Medicare Trustees Report, p. 5.

16 2013 Financial Report of the United States Government, page 220. The auditor’s report also notes that the valuation date for most components on the SOSI is January 1 rather than the end of the fiscal year, September 30.

17 See the Social Security Administration’s Office of the Actuary web page for the scoring of variants of all of the provisions that are components of current reform proposals. The estimates in the text are based on provision A3: http://www.ssa.gov/OACT/solvency/provisions/cola.html