NATIONAL CENTER FOR POLICY ANALYSIS

Thinking About Tomorrow

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How large is the federal government's debt? The figure most likely to be reported in newspapers is the debt held by the public. This measure currently stands at $6.3 trillion and is rising. However, the debt held by the public tells only a small part of the story. How should the government account for the predicted shortfalls of Social Security and Medicare? Officially, they are considered government "obligations," but not "liabilities" or "debts." The reason: retirees and workers do not have a contractual right to the benefits they expect to receive.

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Executive Summary

Looking indefinitely into the future, anticipated benefits, over and above expected premiums and dedicated tax revenues, amount to $102 trillion. This is about 7 times the size of the U.S. economy. It is the amount the government needs to have set aside today, invested and earning interest, to fund these programs indefinitely — if it is to avoid benefit cuts or tax increases. Since these funds have not been set aside, the options available are not very attractive:

- One option is an immediate and permanent tax increase equivalent to 15.6 percentage points of taxable payroll, investing the proceeds in interest-earning assets until they are needed, beginning today and continuing indefinitely into the future.
- Another option is to increase federal income taxes by 60 percent, again investing the proceeds beginning today and continuing indefinitely into the future.
- A third option is to continue the pay-as-you-go approach — raising taxes or cutting benefits along the way.

The third option is the approach that has been taken. However, if retirees are to receive scheduled benefits, tax revenues must rise. Already, these two programs combined are paying out more in benefits than they collect in dedicated taxes and premiums. Combined, the programs receive a transfer of about 7 percent of income taxes. In the near future, the draw on federal finances will grow rapidly:

- By 2012, one of every 10 income tax dollars will be needed to close the funding gap for Social Security and Medicare.
- By 2030, almost half of all income tax dollars will be needed to close the funding gap.
- By 2070, almost 80 cents of every income tax dollar will be needed to close the funding gap.

Clearly, Social Security and Medicare are on a course to eventually crowd out every other government program or usher in a significantly larger federal government.

Another way to look at the funding problem is to apply the same accounting standards used by private corporations and state and local governments. Suppose Social Security and Medicare were ended tomorrow — collecting no more payroll taxes and allowing no more accrual of benefits. How much would be owed current retirees and workers in benefits they have already earned? Answer:

- An estimated $9.5 trillion is owed to current retirees — an amount equal to almost $250,000 per person 65 years of age and older in 2008.
- Adding the liability owed to those nearing retirement (55 and older) more than doubles the accrued debt to $20.6 trillion.
- Adding the benefits accrued by younger workers brings the total to as much as $52 trillion.

Since this amount has not been set aside, funding accrued benefits by themselves will require an amount equal to 54 percent of federal income taxes, for the next 100 years. (By the end of the 100 year period, all the workers who have accrued benefits will have died.)

Fortunately, there is an alternative. Social Security and Medicare can be reformed so that each worker saves and invests funds for his own post-retirement pension and health care benefits. The burden for the current generation of workers would be substantial: saving for their own benefits while at the same time paying taxes to fund the benefits of current retirees. However, over time Social Security and Medicare would be transformed from pay-as-you-go programs in which each generation is dependent on the next generation of workers/taxpayers into funded programs in which each generation pays its own way.

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Dr. Andrew J. Rettenmaier is the Executive Associate Director at the Private Enterprise Research Center at Texas A&M University. His primary research areas are labor economics and public policy economics with an emphasis on Medicare and Social Security. Dr. Rettenmaier and the Center's Director, Thomas R. Saving, presented their Medicare reform proposal to U.S. Senate Subcommittees and to the National Bipartisan Commission on the Future of Medicare. Their proposal has also been featured in the *Wall Street Journal*, *New England Journal of Medicine*, *Houston Chronicle* and *Dallas Morning News*. Dr. Rettenmaier is the co-principal investigator on several research grants and also serves as the editor of the Center's two newsletters, *PERCspectives on Policy* and *PERCspectives*. He is coauthor of a book on Medicare, *The Economics of Medicare Reform* (Kalamazoo, Mich.: W.E. Upjohn Institute for Employment Research, 2000) and an editor of *Medicare Reform: Issues and Answers* (University of Chicago Press, 1999). He is also coauthor of *Diagnosis and Treatment of Medicare* (Washington, D.C.: American Enterprise Institute Press, 2007). Dr. Rettenmaier is a senior fellow with the National Center for Policy Analysis.

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Introduction

Politicians often express concern for the well-being of future generations. However, Congress often passes legislation that benefits current generations by imposing costs on future ones — Social Security and Medicare are prominent examples. The Social Security and Medicare Trustees Reports provide many ways to evaluate the future burden of these programs. For instance, projected costs and revenues spanning 75 years indicate expected annual shortfalls, and summary measures of the current value of projected shortfalls identify the degree to which the programs are underfunded. Over the infinite horizon, the Trustees Reports indicate that Social Security and Medicare will require almost $102 trillion in addition to revenues currently dedicated to them.

To put the projected burden in perspective, covering future Medicare and Social Security revenue shortfalls would require setting aside an amount equal to 72 percent of *all* future federal income tax revenues beginning tomorrow! Further, real resources must be set aside, meaning that real saving and capital investment must occur. To accomplish this, other spending must be reduced, or taxes must be increased significantly. While such long-term calculations — into the infinite future — may be dismissed by some as too farsighted, it is important to point out that $47 trillion, or 46 percent of the total burden, is owed to current workers and retirees. Thus, if members of the current generation pay only scheduled taxes and premiums, but receive all their projected benefits, following generations will have to come up with $47 trillion.

The emphasis in the Trustees Reports on the present value of the difference between projected future costs and dedicated revenues for Social Security and Medicare biases our thinking in favor of pay-as-you-go financing rather than prepayment of benefits through real saving and investment.[1] Further, current federal accounting doesn't provide a measure of these programs' shortfalls similar to either the pension debt reported by private-sector firms and state and local governments or to the other post-employment benefits that state and local governments are required to report. As a result, the funding shortfalls in these federal programs are not fully and accurately reported.[2]

> ***"Today, Medicare and Social Security unfunded obligations total $102 trillion!"***

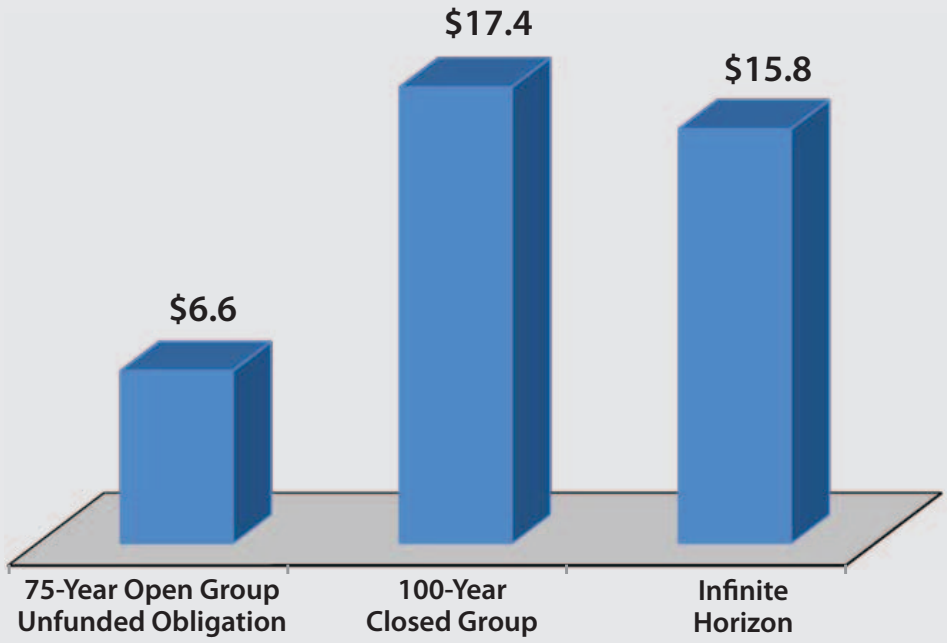
This study argues that the federal government needs to account for Medicare and Social Security benefits that have already been accrued by current beneficiaries. It begins by exploring the generational burden imposed by Social Security and Medicare using conventional measures of the unfunded obligations, and then proposes an additional metric: the accrued benefits owed to current workers and retirees based on their participation in the programs up to 2008. This measure is similar to the accounting for retiree pension and health required of private firms and state and local governments.

"Debts" or "Unfunded Obligations?"

The correct way to account for the financial burdens of Medicare and Social Security has been debated since the programs began, including the terms used to refer to their expected future funding shortfalls. Because both programs have dedicated revenues and costs that can be calculated with varying precision, it is possible to estimate the degree to which the programs are either overfunded or underfunded given prevailing tax rates and premium payments. Both programs are significantly in the red over the time horizons typically considered. However, the programs' costs (benefits payable to retirees now and in the future), revenues (tax rates, tax bases and premium contributions) and obligations can be changed by congressional action. Thus, it isn't clear how the accumulated value of the shortfalls should be reported and labeled. The Trustees Reports have adopted the term "unfunded obligations" to refer to the current or present value of the difference between projected revenues and costs.[3]

The Trustees Reports state the current value of the accumulated shortfalls using three methods: the 75-year open-group unfunded obligation, the infinite-horizon unfunded obligation and the 100-year closed-group transition cost. Each method provides a summary

Figure I
Unfunded Obligations of Social Security
(trillions of dollars)



Source: Tables IV. B5, p. 60 and IV. B7, p. 63, *2008 Social Security Trustees Report.*

number that relates projected future revenues to costs. All three measures assume that the programs continue to be financed on a pay-as-you-go basis. A fourth and final measure, the maximum transition cost, is separately reported for Social Security, but not for Medicare.[4] The maximum transition cost is closest conceptually to the accrued pension debt of a firm.

In the following discussion, the conventional measures are defined, interpreted and compared to accrued debt measures. Accrued liabilities provide the best estimates of how much has already been committed to current retirees and workers, and thus are closest to true debt measures.

Conventional Measures of Social Security's Unfunded Obligations

The Social Security Trustees Reports present three estimates of the program's unfunded obligations. The first estimate includes the costs and revenues attributable to both current and future workers and retirees over the next 75 years. The second estimate extends those projections into the indefinite future. The third estimate includes the costs and revenues attributable to current retirees and current workers over their remaining lives. The cohorts included in each estimate are called, respectively, the 75-year open group, the infinite-horizon open group and the 100-year closed group. The open groups include new workers as time goes on, whereas the closed group includes only those workers and retirees participating in the system at the beginning of the 100-year period under consideration.

The Trustees define the unfunded obligations in terms of the program's shortfall, plus offsetting Social Security Trust Fund balances. However, the Social Security Trust Fund balance is a liability to the rest of the federal government. Surpluses since the program was reformed in 1983 have been loaned to the rest of the federal budget to fund other government projects. The funds were exchanged for bonds that have been accumulating with interest in the Trust Fund, and the government will have to use general fund (primarily income tax) revenues to redeem these bonds, requiring a tax increase. Thus, it is appropriate to exclude the Trust Fund balances in measuring the unfunded obligations of Social Security.

"Anticipated net benefits payable to current workers and retirees total $47 trillion."

The *75-year open-group unfunded obligation* is the present value of the difference between the open group's costs and revenues over the next 75 years.[5] The difference is $6.56 trillion, assuming a real, long-term discount rate of 2.9 percent — the projected rate

paid by the government to borrow money. This means that to fund the program for the next 75 years without benefit cuts or tax increases the government would have to set aside real or financial assets equal to $6.56 trillion. [See Figure I.]

The *infinite horizon open-group shortfall* is the difference between costs and revenues extended to the infinite horizon. The *100-year closed-group shortfall* is the present value of the difference between the closed group's costs and revenues. The 100-year closed group includes all potential Social Security beneficiaries and taxpayers who are 15 years old or older as of January 2008. Projections are made for 100 years because that is sufficient to include the potential lifetimes of all members of the group.

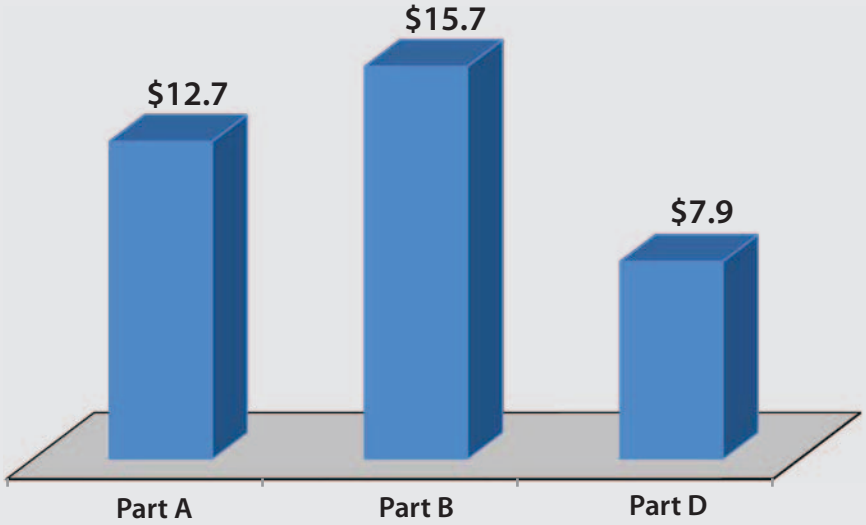
At the beginning of the projection period, the closed group's revenues and costs equal those of the open group because the two groups are identical. However, members of the closed group quickly become a declining percentage of workers and therefore generate a declining percentage of tax revenues. More gradually, the closed group accounts for a declining percentage of beneficiaries and therefore costs. Thus, the estimates of Social Security's unfunded obligations over the infinite horizon can be decomposed into those benefits due to current participants (the closed group) and those due to future participants (the open group).

Assuming that members of the closed group continue to pay payroll taxes and to accrue Social Security benefits based on their lifetime earnings, this group's estimated unfunded obligation is $17.4 trillion. [See Figure I.] This means future participants will have a $17.4 trillion bill to pay if the closed group's taxes are not increased or their benefits are not reduced. However, at prevailing tax rates and with benefits under current law, future participants (in the open group) are projected to contribute $1.5 trillion toward the unfunded obligations of current participants, leaving a net system unfunded obligation of $15.8 trillion. [See Figure I.] The fact that future participants contribute toward the unfunded obligations of current participants indicates that they pay more in taxes, at current tax rates, than the present value of their benefits.[6]

Figure II

Medicare 75-Year Open-Group Unfunded Obligation, 2008-2082

(trillions of dollars)



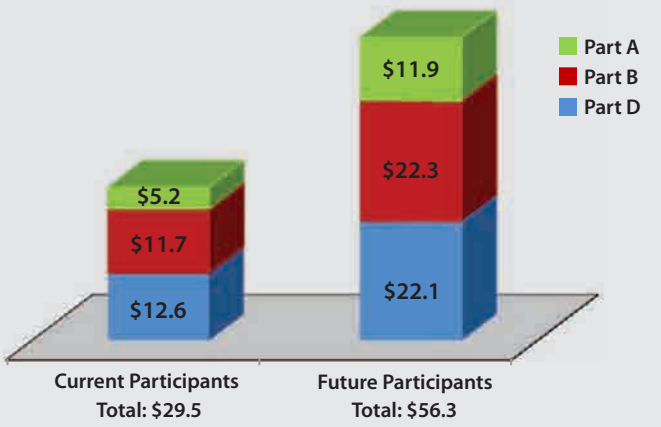
Note: The income for Part B is beneficiary premium income, and for Part D includes state transfers as well as beneficiary premiums. In each case the difference between the present values of costs and income is referred to as "general revenue contribution" in the *Medicare Trustees Report*.

Source: Table III.B9, p. 64, Table III.C15, p.108, and Table III.C23, p. 124, *2008 Medicare Trustees Report.*

Conventional Measures of Medicare's Unfunded Obligations

Reporting the unfunded obligations of Medicare is more complex than for Social Security. First, Medicare's three-part structure (Parts A, B and D) results in three sets of estimates. Second, the Hospital Insurance program, or Part A, is the only part that has a dedicated payroll tax and consequently is the only part for which an unfunded obligation is provided in the Medicare Trustees Report. The other two parts, Part B (Physicians Services) and Part D (the drug benefit), are paid for by general revenues, beneficiaries' premium payments and, in the case of Part D,

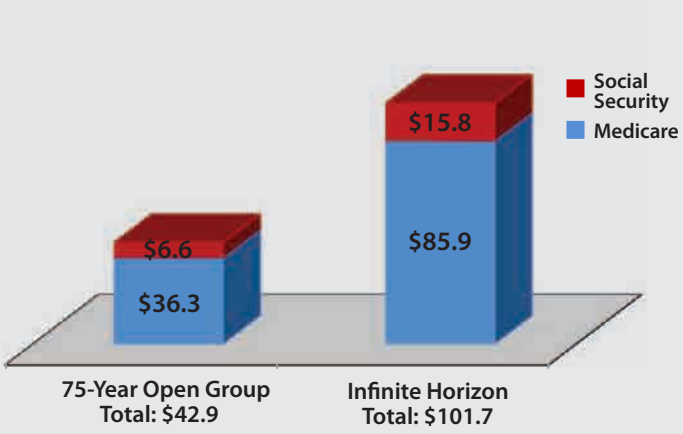
Figure III
Medicare Infinite-Horizon Open Group and 100-Year Closed-Group Unfunded Obligations
(trillions of dollars)



Note: The income for Part B is beneficiary premium income. Part D income includes state transfers as well as beneficiary premiums. In each case the difference between the present values of costs and income is referred to as a "general revenue contribution" in the *Medicare Trustees Report*.
Source: Table III.B11, p. 68, Table III.C16, p.109, and Table III.C24, p. 125, *2008 Medicare Trustees Report.*

"Medicare unfunded obligations are 85 percent of the total."

Figure IV
Components of Medicare and Social Security Unfunded Obligation
(trillions of dollars)



Sources: Tables IV.B5 and IV.B7, *2008 Social Security Trustees Report,* and Tables III.B9, III.B11, III.C15, III.C16, III.C23 and III.C24, *2008 Medicare Trustees Report.*

transfers from the states. Nevertheless, it is possible to construct unfunded obligation estimates for Parts B and D comparable with the Social Security estimates.

Medicare's 75-year Unfunded Obligation. Figure II shows the present value of the estimated unfunded obligation for each of Medicare's three parts over the next 75 years:

- Part A benefits will require a general revenue contribution of $12.7 trillion in addition to the payroll taxes and income taxes on Social Security benefits that are dedicated to the program.
- Part B will require $15.7 trillion in addition to premiums.
- Part D will require $7.9 trillion in addition to premiums and transfers from the states.[7]

Thus, the 75-year total burden on taxpayers of Medicare equals $36.3 trillion. About 35 percent of the burden is due to Part A, 43 percent is due to Part B, and the remaining 22 percent is attributable to Part D.[8]

Medicare's Infinite-Horizon Unfunded Obligations. Figure III shows Medicare's unfunded obligations due to current participants and those due to future participants. In the absence of benefit changes, and over the infinite horizon:

- Current participants will receive $29.5 trillion in projected payments that are not funded by either payroll taxes or premium payments, and thus will have to be funded from general revenues or contributions from future generations.
- However, future participants will receive another $56.3 trillion in unfunded benefits, producing a total unfunded, infinite-horizon Medicare obligation of $85.9 trillion.

In contrast to Social Security, where future generations are expected to receive less in benefits than they will pay at current tax rates, future Medicare participants will receive more in Part A benefits than they pay in at prevailing tax rates.

Combined Conventional Measures of the Unfunded Liabilities of Social Security and Medicare

The unfunded obligations of Medicare and Social Security are combined in Figure IV. Of the total 75-year unfunded obligations of $42.9 trillion, Medicare's $36.3 trillion accounts for almost 85 percent. The combined infinite-horizon unfunded obligations weigh in at $101.7 trillion, with Medicare accounting for $85.9 trillion,

about 85 percent, and Social Security accounting for $15.8 trillion. Of this amount, the unfunded obligations due to current participants (the 100-year closed group) amount to $46.9 trillion, while $54.8 trillion is due to future participants. However measured, these long-term imbalances are staggering and are hard to comprehend.

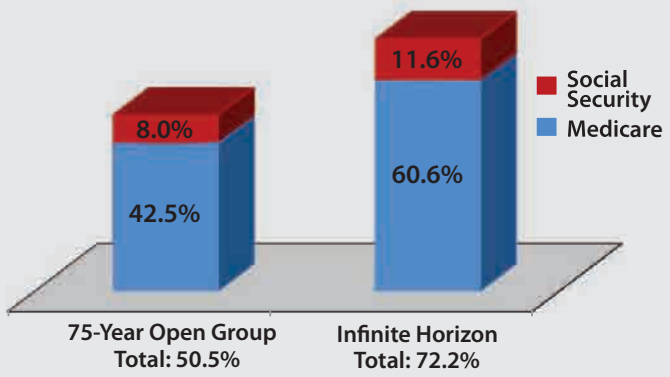
Unfunded Obligations as a Percentage of Projected Taxable Payroll. The Trustees Reports measure the unfunded obligations relative to the present value of taxable payroll for Social Security and Medicare Part A, which are both primarily payroll-tax financed.[9] These ratios are known as the "actuarial deficit" and reflect the increase in the tax rate that would be necessary to fund the program over the horizon under consideration. For these two programs alone, excluding Medicare Parts B and D, the infinite-horizon actuarial deficit is 9.7 percent. This indicates that payroll taxes would have to rise immediately to 25 percent and the surpluses would have to be invested in real assets that earn a real return of 2.9 percent. Though not financed by payroll taxes, the Part B and D shortfalls would require an amount equal to another 5.9 percent of payroll.

Unfunded Obligations as a Percentage of Projected GDP. The Reports also measure unfunded obligations relative to the present value of gross domestic product (GDP), which is helpful in gaining a perspective on their size. However, this measure often sends two unfortunate messages. First, measured against GDP, the unfunded obligations may appear to be small and inconsequential. For example, the $101.7 trillion in combined obligations is 7.7 percent of the present value of infinite-horizon GDP. Second, but more importantly, the comparison sends the message that the nation's output is at the disposal of the federal government.

Unfunded Obligations as a Percentage of Projected Federal Income Tax Revenues. Assuming that general revenues will be used to cover the shortfalls, it is more appropriate to compare the future burden with federal income tax receipts based on their historical share of the nation's output. [See Figure V.] Over the last 50 years, federal corporate and individual income taxes combined have averaged 10.7 percent of GDP. Thus:

- Just over one-half of all federal income tax revenues (50.5 percent) must be set aside and invested in real assets each and every year to fund Medicare and Social Security over the next 75 years.

Figure V
Medicare and Social Security Unfunded Obligation as a Percent of Federal Income Taxes

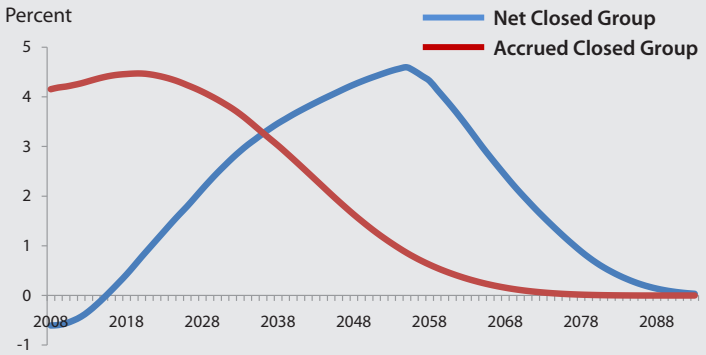


Note: The 75-year obligation is measured relative to the income tax revenues over the next 75 years, assuming they continue at their historical percentage of GDP. The current and future participants and the infinite horizon estimates are measured relative to income taxes over the infinite horizon. Federal, corporate and individual income taxes averaged 10.7% of GDP between 1958 and 2007.

Sources: Tables IV.B5 and IV.B7, *2008 Social Security Trustees Report*, and Tables III.B9, III.B11, III.C15, III.C16, III.C23 and III.C24, *2008 Medicare Trustees Report.*

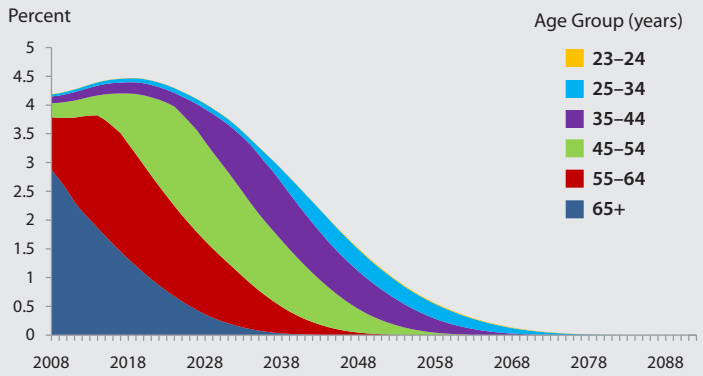
"To meet these unfunded obligations would require 72.2 percent of income taxes every year — forever."

Figure VI
Net and Accrued Social Security Closed-Group Costs
(as percentages of gross domestic product)



Source: Authors' calculations based on *2008 Social Security Trustees Report.*

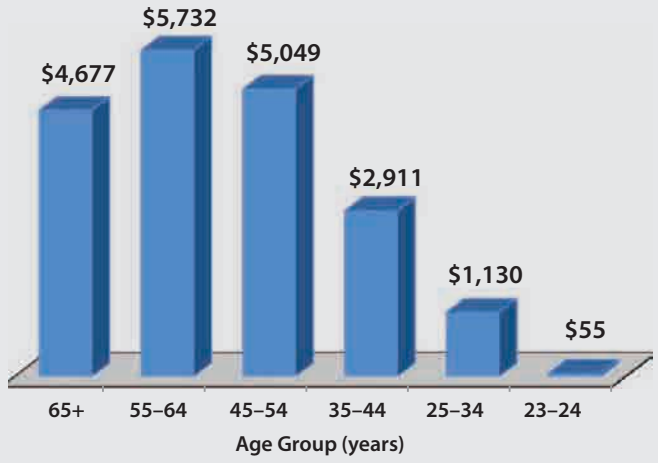
Figure VII
Age Composition of Accrued Social Security Liabilities Over Time
(as percentages of gross domestic product)



Source: Authors' calculations based on *2008 Social Security Trustees Report.*

"Much of the accrued benefits are owed to people who are 55 years old and older."

Figure VIII
Accrued Social Security Debt by Age Group
(billions of dollars)
Total: $19,554



Source: Authors' calculations based on *2008 Social Security Trustees Report.*

- To fund the programs indefinitely would require setting aside 72.2 percent of federal income taxes, beginning immediately and continuing forever.

Treating all of Medicare's general revenue transfers as unfunded obligations ignores the fact that Medicare currently receives a general revenue transfer equal to 12.1 percent of federal income taxes. If this transfer were considered a "dedicated" funding source over the infinite horizon, the unfunded obligation would drop by $17.1 trillion to $84.6 trillion — but an amount equal to 60 percent of federal income taxes would still have to be set aside on an annual basis to fund the programs. Whether or not the current transfers are included, funding projected elderly entitlement benefits will require significant reductions in other programs, significant tax increases or a combination of the two.

The Accrued Elderly Entitlement Debt

The unfunded obligation measures in the Trustees Reports are useful in determining the funding shortfalls in absolute terms and relative to future general revenue requirements. But these measures also have several shortcomings. First, interpreting unfunded obligations as implicit or explicit debts or liabilities is problematic. It has been argued that they are not liabilities because Congress can change the stream of benefits or revenues without the consent of the affected individuals.[10] Further, there is uncertainty associated with estimates over the infinite horizon and even over the shorter 75-year horizon.[11] Finally, unfunded obligation measures are relevant only if the programs continue to involve intergenerational transfers.

These concerns can be addressed by adopting an additional measure to describe the program's finances. The accrued benefits owed to current Social Security and Medicare beneficiaries and workers (the closed group) today are better indicators of the programs' current liabilities or debts. They are similar to the accrued liabilities for pensions and retirement health benefits of private- and public-sector employers. They are conceptually equivalent to debts, and it is more difficult for Congress to unilaterally change them than to change benefits payable to future retirees. There would be strong opposition to proposed benefit changes, particularly for participants who are already retired or close to retirement age.

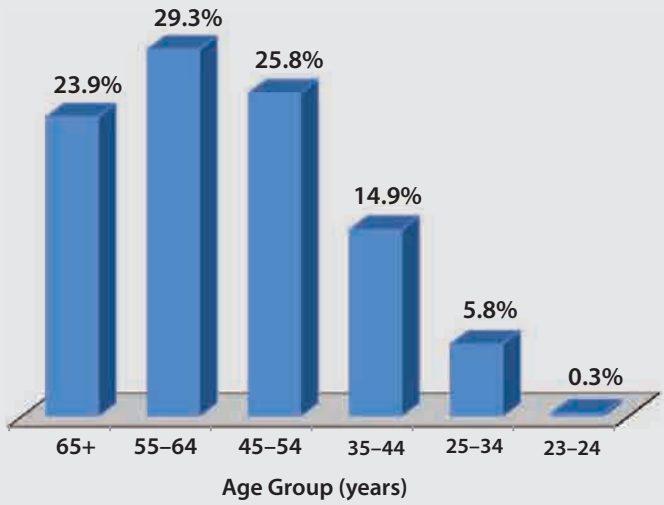
Furthermore, unlike the infinite and 75-year horizon unfunded obligation estimates, accrued benefit estimates are not affected by any future offsetting revenues. Thus, they are less uncertain. This is particularly true in the case of Social Security, given that benefits are based on known earnings histories, and the accrual calculation is closed to potential new entrants. Indeed, much of the accrued debt is owed to participants who are 55 years old and older in 2008; consequently, this measure will always be relevant in the near term. Lastly, accrued benefit liabilities are pertinent if the current financing arrangement continues or the programs are reformed to prepay future benefits.

The "Maximum Transition Cost." Since 1996, Social Security actuaries have calculated a debt measure akin to a firm's accrued pension liability. Although this measure is not presented in the Trustees Report, it is reported annually in an actuarial note. The actuaries refer to the accrued Social Security benefits as the "maximum transition cost" because it "represents the transition cost for continuing the Social Security program in a different form, with all payroll taxes for work after the valuation date credited to the new benefit form. The maximum transition cost is equivalent to the unfunded accrued obligations of a plan designed to be fully advance-funded at the time of plan termination and would be an appropriate calculation to evaluate the actuarial status of an ERISA [Employee Retirement Income Security Act] plan."[12]

The 2008 estimate of the maximum transition cost is $19.8 trillion, or $17.6 trillion with the Trust Fund offset. Note that this is larger than any of the other three measures of Social Security's unfunded obligations previously considered.

Accrued Social Security Benefits. The cost and revenue estimates previously presented assume that Social Security continues in its present form. Specifically, the 100-year closed group estimate assumes that participants continue to accrue benefits as they work, and that their tax payments at current rates continue to offset some of their group's costs. [See Figure VI.] Because of their offsetting tax payments, the net costs are initially negative. However, by 2016 the closed group's rising costs will exceed its declining tax payments. Its net costs will rise until 2055 and then decline.

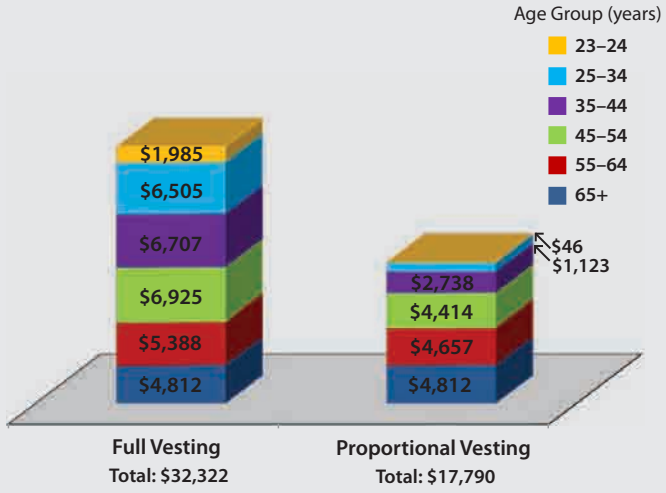
Figure IX
Accrued Social Security Debt by Age Group
(percent of total)



Source: Authors' calculations based on *2008 Social Security Trustees Report.*

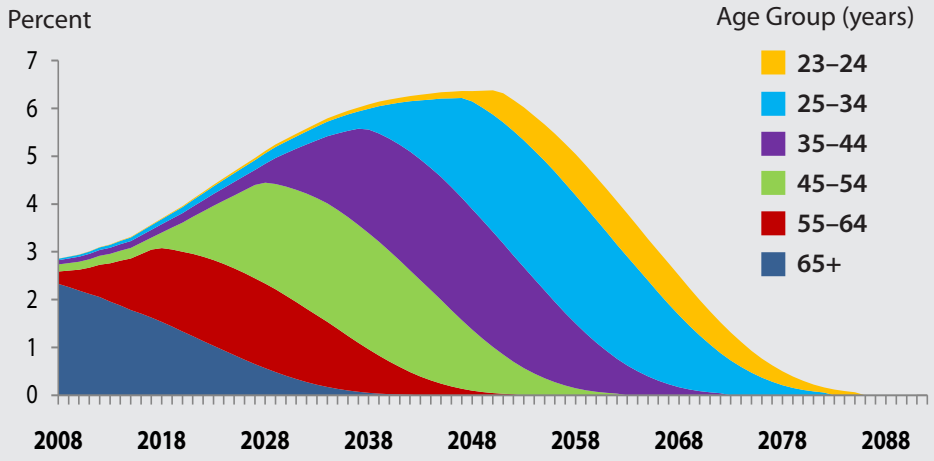
"Unfunded accrued Social Security obligations total $19.8 trillion."

Figure X
Age Composition of Accrued Medicare Liabilities
(billions of dollars)



Source: Authors' calculations based on *2008 Medicare Trustees Report* and projected age-spending profiles based on the Continuous Medicare History Sample.

Figure XI
Age Composition of Accrued Medicare Liabilities Using Full Vesting
(as percentages of gross domestic product)



Source: Authors' calculations based on *2008 Medicare Trustees Report* and projected age-spending profiles based on the Continuous Medicare History Sample.

By contrast, the accrued benefit calculation assumes no future accrual of benefits and no offsetting payroll tax revenues.[13] These accrued benefits are based on participation in Social Security up to 2008. In their simplest form, accrued benefits equal actual benefits to current participants 62 and older, and already-accrued projected benefits for current participants younger than 62.[14]

Figure VI also shows the percentage of GDP that would be required to pay off the accrued benefits over the remaining lives of participants as they reach 62 and older. The accrued liabilities as a share of GDP peak in 2020 and begin to decline as members of the group pass away, since the accrued benefits for younger participants of the closed group are small relative to those of the older participants.

Figure VII shows the age composition of accrued Social Security liabilities over time. As expected, the costs in the early years are primarily due to the 65-and-older population, but as the years pass, accrued benefits owed to the age groups largely composed of baby boomers (55–64 and 45–54) begin to dominate the costs. The accrual factor for 55-year-olds in 2008 is equal to (55−22) / 40 or 0.825, meaning that they have accrued 82.5 percent of their projected benefits. The accrued benefits payable to younger beneficiaries are smaller in comparison. For example, the benefits due to participants who are 35 in 2008 are equal to 32.5 percent of their projected benefits.

Figure VIII shows the present value of liabilities as of 2008. It indicates that current participants have accrued almost $19.6 trillion in benefits up to 2008.[15] This is the amount that the federal government would report as its accrued Social Security debt if it had the same reporting requirements as a firm or as a state or local government entity.

A reform proposal that moves from pay-as-you-go financing to prepayment would have to pay off the $19.6 trillion in benefits that have already been accrued by current workers and retirees, while simultaneously prefunding targeted benefits. Thus the age composition of accrued benefits is helpful in evaluating reform proposals and in reporting aggregate federal debt.

Another important aspect of the age composition of the debt is the fact that $10.4 trillion — over 53 percent of the accrued debt — is payable to participants who are 55 and older. [See Figure IX.] Because these participants are already retired or close to retirement, their accrued benefits will likely be paid in full. Thus, at a minimum their accrued benefits should be reported as liabilities of the federal government. Further, a strong case can be made that all accrued benefits should be reported as liabilities because it is difficult to conceive of a reform that reduces payments to younger age groups below the amounts they have accrued.

Accrued Medicare Benefits. Calculating accrued Medicare benefits is more complicated, given that Medicare "vests" a beneficiary with the full benefit package after he or she has paid payroll taxes for 40 quarters. Thus, it can be argued that all future projected benefits are payable to each vested beneficiary.

It could also be argued that it would be more appropriate to use proportional vesting, which is similar to the method used to calculate accrued Social Security benefits. Thus, accrued Medicare benefits can be calculated in two ways:

- *Full vesting* (Method 1) assumes that current participants (23 and older in 2008) receive 100 percent of the Medicare benefits net of premium payments projected for their birth cohort.[16]
- *Proportional vesting* (Method 2) assumes benefits are accrued over a 43-year period, given that there is no provision for early retirees to receive Medicare benefits.[17]

The two methods yield the following results:

- Under full vesting, the present value of accrued Medicare benefits payable to current participants is $32.3 trillion.
- Under proportional vesting, the present value of accrued Medicare benefits payable to current participants is $17.8 trillion [see Figure X].

"Up to half of accrued benefits are owed to near-term or current retirees."

Both methods assume that participants who are 65 and older in 2008 receive full Medicare benefits net of premium payments and have the same time path of aggregate benefits for those seniors, but under proportional vesting (Method 2) the relative size of the benefits declines from older to younger birth cohorts.[18] Using full vesting [see Figure XI]:

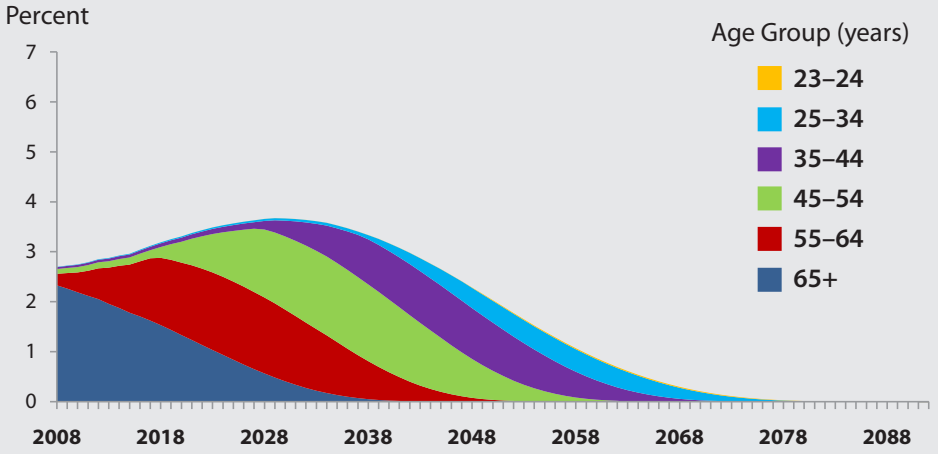
- Accrued benefits reach a maximum 6.4 percent of GDP in 2051.
- Accrued benefits payable to beneficiaries 55 years of age and older equal $10.2 trillion.

By contrast, using proportional vesting [see Figure XII]:

- Accrued benefits reach a maximum of 3.7 percent of GDP in 2030.
- Accrued benefits payable to beneficiaries 55 years of age and older equal $9.5 trillion — 7 percent less than under full vesting.

Thus, most of the reduction in accrued benefits under proportional vesting occurs as a result of its effect on projected benefits among the younger cohorts.

Figure XII
Age Composition of Accrued Medicare Liabilities Using Proportional Vesting
(as percentages of gross domestic product)



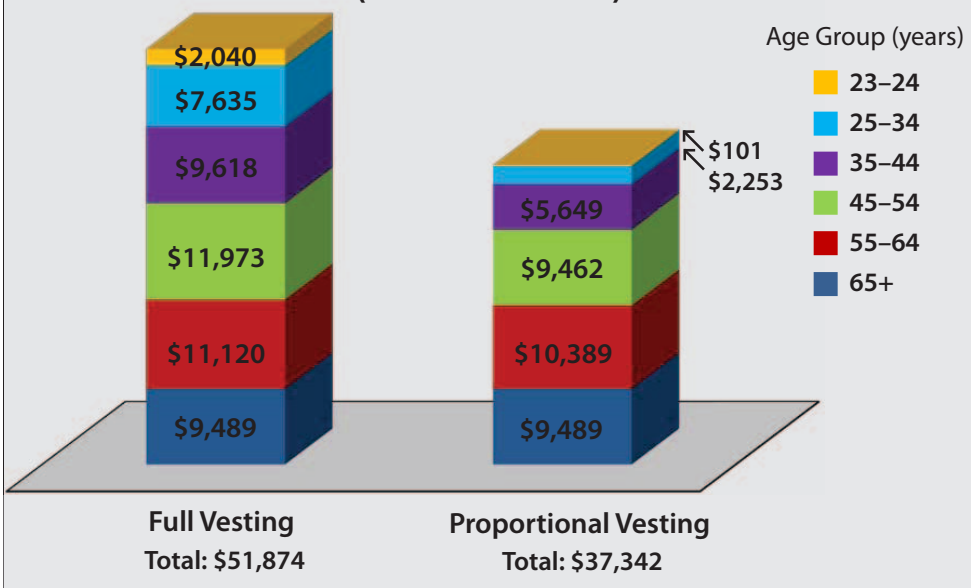
Source: Authors' calculations based on *2008 Medicare Trustees Report* and projected age-spending profiles based on the Continuous Medicare History Sample.

Whereas full vesting is closer to Medicare's actual vesting rules, proportional vesting is consistent with the concept of a transition to a prepaid system. As with Social Security, the accrued benefits would be paid over time, and savings by each age cohort would provide the difference between accrued benefits and the desired level of benefits.

Combined Social Security and Medicare Debts. Estimating the combined debts of Social Security and Medicare, with full or proportional vesting [see Figure XIII]:

- The combined Social Security and Medicare debt owed to current retirees is $9.5 trillion, or almost $250,000 per person 65 and older in 2008.
- Using full vesting of Medicare, the total accrued liability is almost $52 trillion, and paying off

Figure XIII
Age Composition of Accrued Medicare and Social Security Liabilities in 2008
(billions of dollars)



Source: Authors' calculations based on *2008 Medicare Trustees Report* and projected age-spending profiles based on the Continuous Medicare History Sample.

this debt over the next 100 years would require 54 percent of federal income taxes at their historical percentage of GDP.

- Under proportional vesting, the combined liability is $37 trillion or 39 percent of federal income taxes at their historical percentage of GDP.

The $9.5 trillion owed to current retirees should be considered a debt, just like the federal debt held by the public. It is unlikely that Congress will reduce these benefits. Combining these debts with the current $6.3 trillion in publicly held debt produces a total debt figure of $15.8 trillion, or more than $50,000 per person in the United States.

It would also be difficult for Congress to reduce the rest of the accrued benefits, particularly those calculated using proportional vesting. Using full vesting, adding the liability owed to near-term retirees more than doubles the accrued debt to $20.6 trillion. Because the near-term retirees are almost fully vested, their Medicare debt combined with current retirees' debt is $19.9 trillion based on proportional vesting. Either way, Medicare's debt payable to near-term and current retirees is more than three times the official debt.

Conclusion

Public policy decisions consider the well-being of future generations. For example, leaving future generations a clean environment improves their welfare. But reducing elderly entitlement obligations can also better their welfare — by leaving them less debt.

Just as private firms are required to account for their accrued pension debt as a current liability, the accrued debts resulting from federal elderly entitlement programs are today's problem, not tomorrow's. They are based on past participation in the programs and as such are liabilities in the same way that pension debt and other post-employment benefit commitments are liabilities of private- and public-sector employers. It is important to report them as liabilities of the United States government. The sooner these debts are addressed, the greater the likelihood the imbalance can be fixed for coming generations. Further, because the age composition of accrued benefits indicates that much of the debt is owed to current and near-term retirees, it is unlikely that benefit cuts will be a significant part of the solution.

Continuing pay-as-you-go financing of elderly entitlement programs will require members of the next generation to pony up the money for the benefits of their elders. They may decide that the debt foisted upon them is simply too high. At that point painful, yet essential, benefit reductions may become part of the solution. Thus, it behooves current workers to recognize the accrued liabilities and start paying them off, while beginning the process of prepaying future benefits and thereby eliminating the accrual of additional unfunded benefits. As with other policies that benefit coming generations, reducing the entitlement burden will require a sacrifice from the current generation. That sacrifice is increased savings today. If we really care about our children and grandchildren, then tackling elderly entitlements ought to be near the top of our policy priorities.

Endnotes

[1.] Proposals for prefunding some Medicare benefits are discussed in Andrew J. Rettenmaier and Thomas R. Saving, "A Medicare Reform Proposal Everyone Can Love: Finding Common Ground among Medicare Reformers," National Center for Policy Analysis, Policy Report No. 306, December 2007; available at http://www.ncpa.org/pub/st/st306/st306.pdf. Proposals for prefunding some Social Security benefits are discussed in Andrew J. Rettenmaier and Zijun Wang, "Social Security Reform: Responding to the Critics," National Center for Policy Analysis, Policy Report No. 281, November 2005; available at http://www.ncpa.org/pub/st/st281/st281.pdf.

[2.] The Government Accounting Standards Board, in GASB Statements 43 and 45, provides new standards for state and local governments to report the size of their post-employment benefits other than pensions.

[3.] The distinction between the terms "obligation" and "liability" is addressed in the Social Security Administration's Actuarial Note No. 2008.1, July 2008, "Unfunded Obligations and Transition Cost for the OASDI Program." There it is noted, "The term obligation is used in lieu of the term liability, because liability generally indicates a contractual obligation (as in the case of private pensions and insurance) that cannot be altered by the plan sponsor without the agreement of the plan participants."

[4.] See Actuarial Note No. 2008.1 for additional definitions of terms.

[5.] The 75-year horizon is also the period used to estimate the actuarial balance or the immediate tax increase necessary to balance Social Security's finances over the next 75 years using the Trust Fund accounting method. Social Security's chief actuary, Stephen C. Goss, "Measuring Solvency in the Social Security System," in Mitchell, Myers, and Young, eds., *Prospects for Social Security Reform* (Philadelphia, Pa.: University of Pennsylvania Press, 1999), notes that before 1965, the long-run valuation period for the actuarial deficit was the infinite horizon. However, based on the recommendations from the Advisory Council at the time, the long-range horizon was changed to 75 years.

[6.] Thus, the internal rate of return of future participants is below the assumed 2.9 percent discount rate. Further, if these future taxpayers are called upon to pay even higher taxes to make good on promises to today's participants, their rate of return will fall well below 2.9 percent.

[7.] Because Medicare Parts B and D have payroll tax-generated dedicated revenue, the difference between projected costs and premium revenues and transfers from the states is referred to as a "general revenue contribution" rather than an "unfunded obligation."

[8.] As noted with respect to the Social Security Trust Fund, the small Part A Trust Fund, although an asset to the program, is nonetheless a liability of the federal government and does not provide income or assets that reduce the need for future taxes revenues.

[9.] The payroll tax base is different for Social Security and Medicare Part A, given the Social Security taxable maximum, currently at $102,000. As a result of the taxable maximum, the Social Security taxable payroll is about 80 percent of the Medicare Part A taxable payroll in each year reported in the *Trustees Reports*.

[10.] In addition to Actuarial Note 2008.1 referenced earlier, see *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2009,* page 183 for a discussion; available at http://www.whitehouse.gov/omb/budget/fy2009/pdf/spec.pdf.

[11.] One of the recommendations in the report of the 2007 Technical Panel on Assumptions and Methods was to reduce the emphasis on estimates summarizing the long run (75-year and infinite horizon) while increasing the emphasis on the "intermediate term of 25 years." See Technical Panel on Assumptions and Methods (2007), *Report to the Social Security Advisory Board,* Washington, D.C., October 2007.

[12.] See Actuarial Note 2008.1, page 3.

[13.] The accrued benefits reported by the Social Security Administration are net of income taxes. See Actuarial note 2008.1 and Stephen C. Goss, "Measuring Solvency in the Social Security System," for definitions of how the accrued benefits are determined. In particular, note that no accruals are credited to individuals who are younger than 22 in 2008. Those definitions were used in estimating the time path of the accrued benefit liabilities. However, rather than define accrued benefits based on the calculation of a disability benefit for each worker that is then adjusted by the accrual factor, the accrual factor is applied to projected benefits for each birth cohort, adjusting for early retirements and so forth. Potential income taxes on accrued benefits are not netted out in the estimates.

[14.] The accrual factor is equal to (age in 2008 − 22) / 40 with no accruals to current participants who are 22 and younger in 2008.

[15.] This is comparable with the $19.8 trillion in accrued benefits calculated by the Social Security actuaries using a different methodology. The methodology used here, which multiplies the accrual factor times projected future benefits in retirement, allows us to calculate accrued Medicare benefits in a similar way.

[16.] The cutoff at age 22 is adopted for comparability with the cutoff used to calculate accrued Social Security benefits.

[17.] The calculation applies an accrual factor equal to (age in 2008−22) / 43 for participants 23 to 64 years of age in 2008.

[18.] Note that the costs under Method 1 are equivalent to the net-of-premiums closed-group costs discussed previously, except for the youngest members of the closed group (ages 15 to 22 years).

The NCPA is a nonprofit, nonpartisan organization established in 1983. Its aim is to examine public policies in areas that have a significant impact on the lives of all Americans — retirement, health care, education, taxes, the economy, the environment — and to propose innovative, market-driven solutions. The NCPA seeks to unleash the power of ideas for positive change by identifying, encouraging and aggressively marketing the best scholarly research.

Health Care Policy.

The NCPA is probably best known for developing the concept of Health Savings Accounts (HSAs), previously known as Medical Savings Accounts (MSAs). NCPA President John C. Goodman is widely acknowledged (*Wall Street Journal*, WebMD and the *National Journal*) as the "Father of HSAs." NCPA research, public education and briefings for members of Congress and the White House staff helped lead Congress to approve a pilot MSA program for small businesses and the self-employed in 1996 and to vote in 1997 to allow Medicare beneficiaries to have MSAs. In 2003, as part of Medicare reform, Congress and the President made HSAs available to all nonseniors, potentially revolutionizing the entire health care industry. HSAs now are potentially available to 250 million nonelderly Americans.

The NCPA outlined the concept of using federal tax credits to encourage private health insurance and helped formulate bipartisan proposals in both the Senate and the House. The NCPA and BlueCross BlueShield of Texas developed a plan to use money that federal, state and local governments now spend on indigent health care to help the poor purchase health insurance. The SPN Medicaid Exchange, an initiative of the NCPA for the State Policy Network, is identifying and sharing the best ideas for health care reform with researchers and policymakers in every state.

NCPA President John C. Goodman is called the "Father of HSAs" by *The Wall Street Journal*, WebMD and the *National Journal*.

Taxes & Economic Growth.

The NCPA helped shape the pro-growth approach to tax policy during the 1990s. A package of tax cuts designed by the NCPA and the U.S. Chamber of Commerce in 1991 became the core of the Contract with America in 1994. Three of the five proposals (capital gains tax cut, Roth IRA and eliminating the Social Security earnings penalty) became law. A fourth proposal — rolling back the tax on Social Security benefits — passed the House of Representatives in summer 2002. The NCPA's proposal for an across-the-board tax cut became the centerpiece of President Bush's tax cut proposals.

NCPA research demonstrates the benefits of shifting the tax burden on work and productive investment to consumption. An NCPA study by Boston University economist Laurence Kotlikoff analyzed three versions of a consumption tax: a flat tax, a value-added tax and a national sales tax. Based on this work, Dr. Goodman wrote a full-page editorial for *Forbes* ("A Kinder, Gentler Flat Tax") advocating a version of the flat tax that is both progressive and fair.

A major NCPA study, "Wealth, Inheritance and the Estate Tax," completely undermines the claim by proponents of the estate tax that it prevents the concentration of wealth in the hands of financial dynasties. Actually, the contribution of inheritances to the distribution of wealth in the United States is surprisingly small. Senate Majority Leader Bill Frist (R-TN) and Senator Jon Kyl (R-AZ) distributed a letter to their colleagues about the study. In his letter, Sen. Frist said, "I hope this report will offer you a fresh perspective on the merits of this issue. Now is the time for us to do something about the death tax."

Retirement Reform.

With a grant from the NCPA, economists at Texas A&M University developed a model to evaluate the future of Social Security and Medicare, working under the direction of Thomas R. Saving, who for years was one of two private-sector trustees of Social Security and Medicare.

The NCPA study, "Ten Steps to Baby Boomer Retirement," shows that as 77 million baby boomers begin to retire, the nation's institutions are totally unprepared. Promises made under Social Security, Medicare and Medicaid are completely unfunded. Private sector institutions are not doing better — millions of workers are discovering that their defined benefit pensions are unfunded and that employers are retrenching on post-retirement health care promises.

Pension Reform.

Pension reforms signed into law include ideas to improve 401(k)s developed and proposed by the NCPA and the Brookings Institution. Among the NCPA/Brookings 401(k) reforms are automatic enrollment of employees into companies' 401(k) plans, automatic contribution rate increases so that workers' contributions grow with their wages, and better default investment options for workers who do not make an investment choice.

The NCPA's online Social Security calculator allows visitors to discover their expected taxes and benefits and how much they would have accumulated had their taxes been invested privately.

Environment & Energy.

The NCPA's E-Team is one of the largest collections of energy and environmental policy experts and scientists who believe that sound science, economic prosperity and protecting the environment are compatible. The team seeks to correct misinformation and promote sensible solutions to energy and environment problems. A pathbreaking 2001 NCPA study showed that the costs of the Kyoto agreement to reduce carbon emissions in developed countries would far exceed any benefits.

Educating the next generation.

The NCPA's Debate Central is the most comprehensive online site for free information for 400,000 U.S. high school debaters. In 2006, the site drew more than one million hits per month. Debate Central received the prestigious Templeton Freedom Prize for Student Outreach.

Promoting Ideas.

NCPA studies, ideas and experts are quoted frequently in news stories nationwide. Columns written by NCPA scholars appear regularly in national publications such as the *Wall Street Journal*, the *Washington Times*, *USA Today* and many other major-market daily newspapers, as well as on radio talk shows, on television public affairs programs, and in public policy newsletters. According to media figures from Burrelle's, more than 900,000 people daily read or hear about NCPA ideas and activities somewhere in the United States.

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"The NCPA generates more analysis per dollar than any think tank in the country. It does an amazingly good job of going out and finding the right things and talking about them in intelligent ways."

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"We know what works. It's what the NCPA talks about: limited government, economic freedom; things like health savings accounts. These things work, allowing people choices.We've seen how this created America."

John Stossel,
co-anchor ABC-TV's *20/20*

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former U.S. Senator

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Tommy Thompson,
former Secretary of Health and Human Services

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