POLICY BRIEF
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September 2004

The 2004 Report of the Social Security Trustees: Social Security Shortfalls, Social Security Reform and Higher Education

The 2004 Social Security Trustees Report continues to show that the current system is unsustainable. The looming retirement of the baby boom generation, increasing longevity and falling fertility combine to make the current tax rate too low for long-run solvency. The current reform debate centers around replacement of at least some part of the current pay-as-you-go system with defined contributions to either individual private accounts or to a centrally managed account. Either scenario will impact the university community, providing pressure to increase private contributions to retirement accounts.

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Executive Summary

Background

Social security is financed through FICA payroll deductions of 12.4 percent of an individual's covered earnings. At retirement, benefits are based on a formula that essentially holds replacement rates constant over time. Each generation "pays" for the retirement of the generations retiring before them. Furthermore, the Trust Fund is an obligation of the Treasury — not an asset — and provides no revenue.

The looming wave of baby boomer retirement (roughly 2008 through 2031) places an unsustainable strain on the current financing model. The 2004 Social Security Trustees Report indicates that by 2018 the costs to run the system will increase beyond revenue and continue to do so throughout the 75-year horizon and beyond. Estimates also indicate that the Social Security Trust Fund will reach exhaustion by 2042.

Fundamental Shift

All the current reform plans have one thing in common — shifting the fund structure from a defined benefit plan to a defined contribution plan. This shift transfers some of the economic risk from taxpayers to future retirees and creates a system based on real economic assets, not just federal financial obligations.

Implications for Higher Education

1. Because all current suggested reforms of Social Security will not provide people with as much money as they expected, an increase in required investment outside Social Security should be expected.
2. Faculty desiring to mitigate risks associated with defined contribution plans may put pressure on their employers to convert a portion of their defined contribution pension plan to a defined benefit plan.
3. TIAA-CREF is positioned to a) be a provider of portfolio management for the defined contribution portion of reformed Social Security for higher education, and b) supply all, or some portion, of any annuity income required by the final law authorizing reform.

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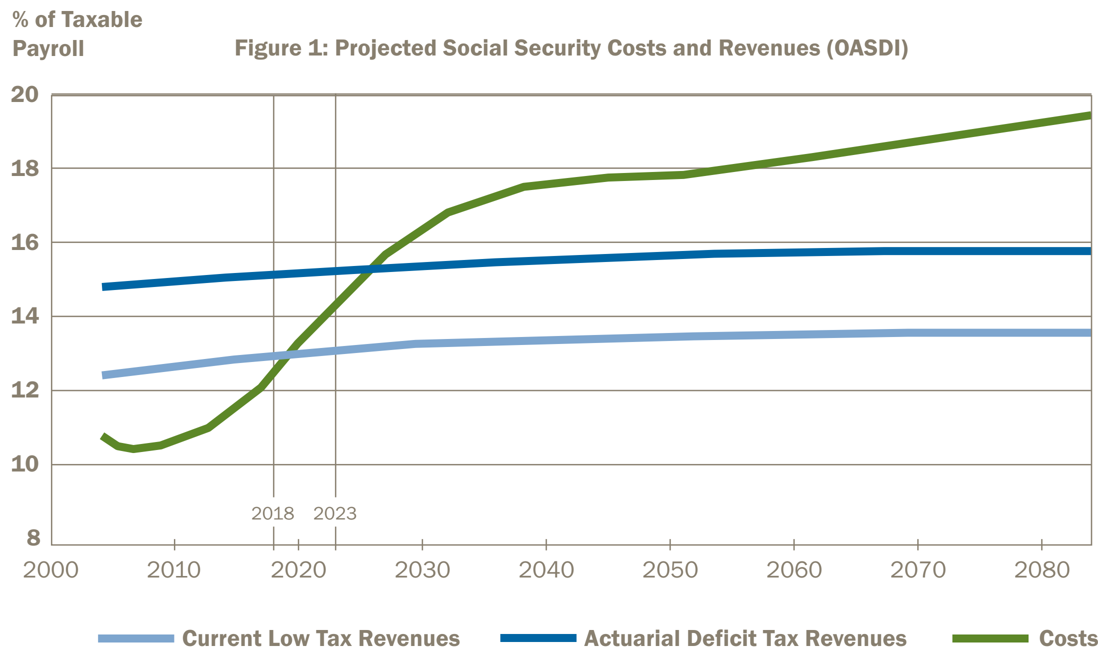
Social Security is not sustainable in its current format

Social Security is the government program that pays benefits to workers after retirement, to spouses and children of deceased workers, and to workers who become disabled before they retire. The program is financed through a payroll deduction (FICA) tax of 12.4 percent of covered earnings, and benefits are based on a formula that essentially holds replacement rates constant over time. Each year the Trustees evaluate the Social Security system and release a report. The 2004 Social Security Trustees Report, released on March 23, 2004, continued to show that the United States Social Security system is not sustainable in its current format.* The looming retirement of the baby boom generation, increasing longevity and falling fertility combine to make the current tax rate too low for long-run solvency. Moreover, the deficits, once they begin in 2018, grow larger each year throughout the 75-year horizon and beyond.



Source: 2004 Trustees Report (OASDI), Table IV. B1.

Starting in 2018, the current program faces a funding deficit

Social Security's funding requirements are commonly summarized by plotting its annual revenues and costs as a percentage of its tax base. As Figure 1 shows, the Old Age Survivors and Disability Insurance (OASDI) revenues are forecast to be relatively stable, growing from 12.71 percent of payroll this year to 13.39 percent in 2080, with the modest rise attributable to increased revenues from the taxation of

Note

* The report is available on the Social Security website, ssa.gov.

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Social Security benefits. Costs will begin growing rapidly when the first of the baby boomers become eligible for early retirement in 2008, and will continue to rise rapidly until 2031 when the last of the baby boomers reach the normal retirement age. Costs will then continue to rise steadily for the indefinite future. While the program's current tax revenues will exceed its costs until 2018, in every subsequent year thereafter, the program faces a funding deficit that continues to grow forever.

As predicted in 1983, it is time to rebalance Social Security's actuarial deficit

Traditionally, media reports have summarized Social Security's financial health by reporting two numbers, the 75-year actuarial deficit and the year of Trust Fund exhaustion. For 2004, these two numbers are 1.89 and 2042. The 1.89 actuarial deficit means that if the OASDI tax rate was raised immediately from its current level of 12.4 percent of payroll to 14.29 percent of payroll, Trust Fund exhaustion would occur in about 75 years, in 2078. However, as shown in Figure 1, even if this payroll tax increase was enacted immediately, the system would go into deficit in 2023, just five years later than currently forecast. Furthermore, there would be large deficits at the close of the 75-year window. The last time the Social Security system was brought back into actuarial balance was 1983. At that time the actuarial deficit was 1.82. Through a combination of an increased tax rate, gradual increase in full retirement age and partial taxation of benefits, the actuarial deficit was essentially eliminated (actually it was slightly negative at -0.02). However, it was fully anticipated at that time that there would be a significant actuarial deficit 20 years down the road, where we are today.

The Trust Fund is not an asset — it is a financial obligation of the Treasury

The relevance of the 2042 Trust Fund exhaustion date is that, according to current law, total benefit payments cannot exceed Social Security revenues after this date. However, as Figure 2 indicates, the program will require transfers from the rest of the federal budget beginning in 2018. Since the Trust Fund is an obligation of the Treasury, it is not an asset and provides no revenue. Thus, the redemption of Trust Fund assets requires some combination of increased federal taxes, reduced federal expenditures on other programs or increased debt sales to the public. At the last year of Social Security solvency, the year of Trust Fund exhaustion, continuation of Social Security payments will require a transfer of $375.2 billion in 2004 dollars. The current total cost of the program in 2003 was only $479.1 billion. Thus, the transfer required at the close of the period of Trust Fund solvency will represent more than 78 percent of the current total cost of the program. Importantly, the required transfer the year after Trust Fund exhaustion, $381.1 billion, is virtually identical to the transfer required in the Trust Fund exhaustion year. It would appear then, that if the Treasury has found the means to pay for the program in 2042, they have solved the funding problem for 2043 and beyond.

The level of general revenue transfers reported in Figure 2 are independent of the current or future Trust Fund level. In an accounting sense, since 1983, Social Security's surplus funds have been credited to the Trust Fund, as a sort of intergovernmental loan, along with (notional) interest payments on the Trust Fund bonds. These transfers will continue until 2018, when surplus funds run out and transfers back to Social Security begin. These past surpluses were not used to buy financial assets in the marketplace however. Instead, they have either been spent on other government programs or used to reduce the federal debt held by the public. As a result, the Trust Funds are actually an accounting record of past transactions rather than a financial reserve the federal government can use to pay benefits. The 2004 annual report's summary states on page 9,

"*Since neither the interest paid on the Treasury bonds held in the HI and OASDI Trust Funds, nor their redemption, provides any net new income to the Treasury, the full amount of any required Treasury payments to these Trust Funds must be financed by increased taxation, increased federal borrowing and debt, and/or a reduction in other government expenditures.*"

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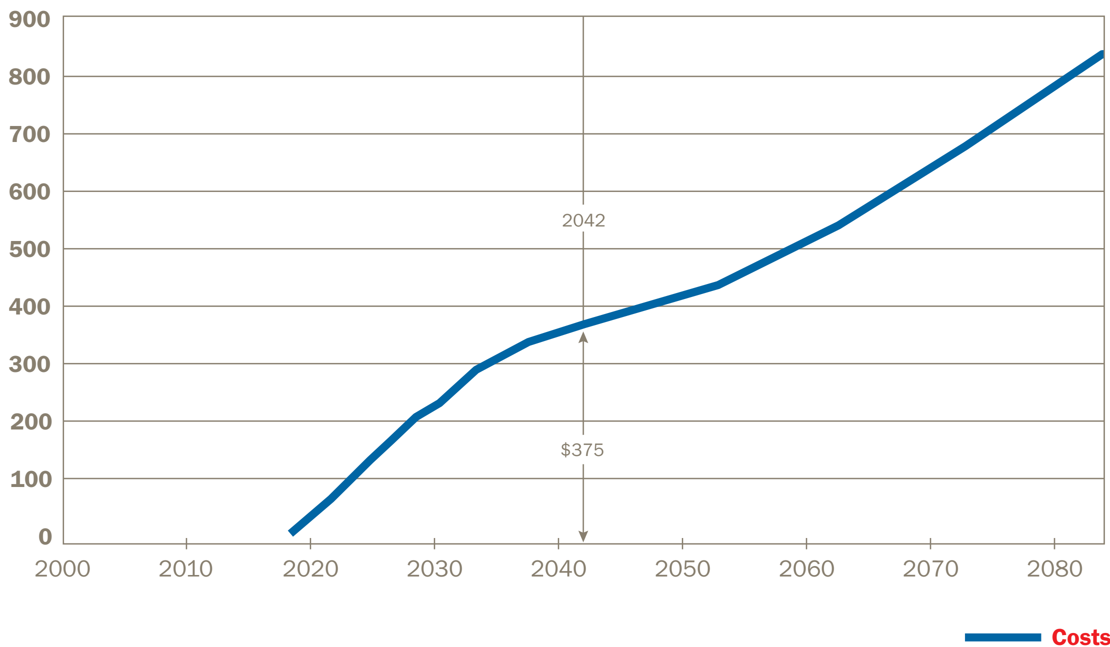

Source: 2004 Trustees Report (OASDI)

The trustees report shows an unfunded liability for the indefinite horizon

Historically, a 75-year horizon has been used to assess the program's financial position. However, that type of calculation understates the true magnitude of the problem. For example, it includes all the taxes paid by people who will retire in year 76, but ignores the benefits these taxpayers will expect to receive in return. Last year, for the first time, the Trustees reported the Social Security program's unfunded liability for the indefinite horizon. Coupled with the unfunded liability for the current generation, referred to by the Trustees as the 100-year closed group, this estimate allows us to separate the debt owed the current generation and the contribution that future generations will make to paying this debt, given current law taxes and benefits. Figure 3 summarizes these estimates for Social Security's annual revenue and expenses.

Figure 3 shows that current participants, defined as workers and retirees 15 years of age and above in 2004, will receive $12.7 trillion more in benefits than they will pay in taxes in all future years. That this current generation of participants will receive more in benefits than they will pay in taxes is not surprising and, in and of itself, is no cause for alarm. The current generation is made up of those already retired, who are collecting benefits and contributing little if any revenue; those who are soon to retire and will begin collecting benefits

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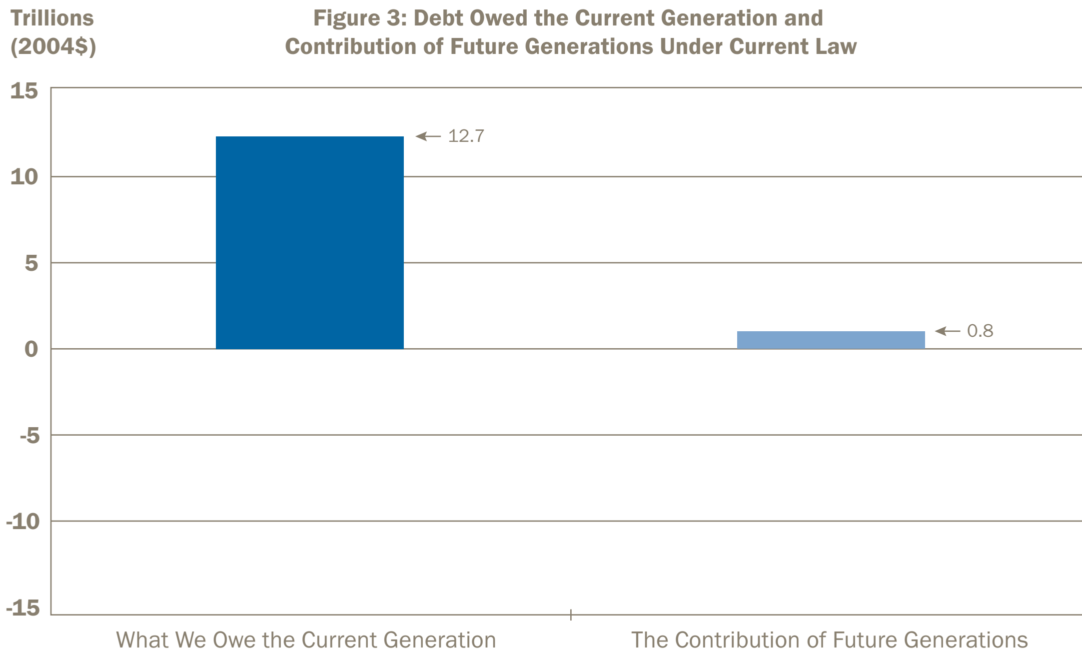

Source: 2004 Trustees Report

while only paying taxes for a short time; and all other workers — down to those just entering the system, who will pay a lifetime of taxes before collecting any benefits.

Beginning in 2005, the next generation of participants will begin work. The members of this new generation will pay taxes over their entire work lives before collecting benefits. Yet, as Figure 3 shows, future generations will pay only $800 billion more in taxes than they receive in benefits instead of the $12.7 trillion required for long-run solvency. Thus, if the current generation pays only the current law tax rate, the Treasury will have to transfer funds with a present value of $11.9 trillion to pay the current generation's benefits. Even this measure is optimistic, because it assumes that all surpluses between now and 2018 are actually invested in assets that yield a real rate of return of 3 percent per annum. The present value of these surpluses is $0.8 trillion, which essentially wipes out the net contribution of future generations and makes the required Treasury transfer equal to the full $12.7 trillion. Further, the $1.53 trillion OASDI Social Security Trust Fund is not an asset that can be used to pay benefits. Instead, it represents the government's commitment to make the required transfers through raising taxes, borrowing from the public or diverting funds from other programs.

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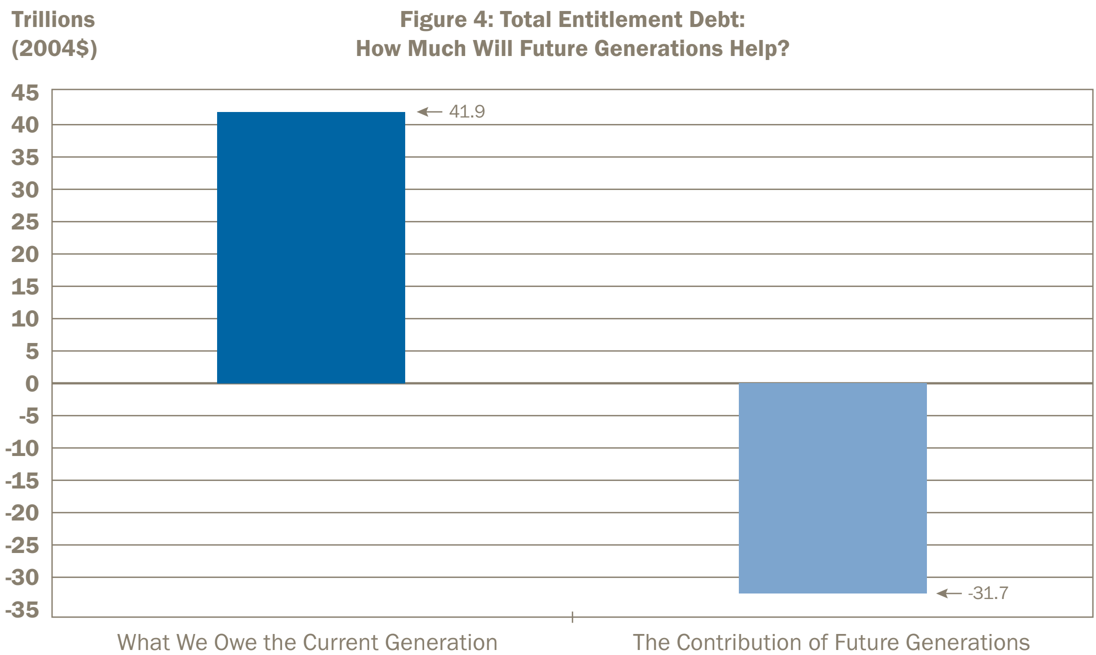
Reform requires revenue increases or spending reductions or both

Because we can forecast the amount and timing of revenue and expense flows over the next 53 years, government can implement policy changes that will provide the missing funding. To make the system solvent for coming generations, we need revenue increases or spending reductions or both. For example, a permanent 4.0 percentage point increase in the payroll tax rate today would produce a solvent system (excluding the Trust Fund from the calculation) — but only if government invests the proceeds of the new tax in assets that earn a real rate of return of at least 3.0 percent.

Figure 4: Total Entitlement Debt: How Much Will Future Generations Help?



Source: 2004 Trustees Report

In order to fully understand the burden that currently legislated elderly entitlement programs will place on future taxpayers, it is useful to combine Social Security and Medicare finances. As Figure 4 shows, funding the current generation's benefits will require Treasury transfers with a present value of $41.9 trillion. The present value of additional funding requirements for future generations is another $31.7 trillion. Together, current and future generations will require additional funding of $73.8 trillion. Even if we treat the Trust Funds as real funding sources rather than simply commitments to provide funding, the programs are still short $72.0 trillion.

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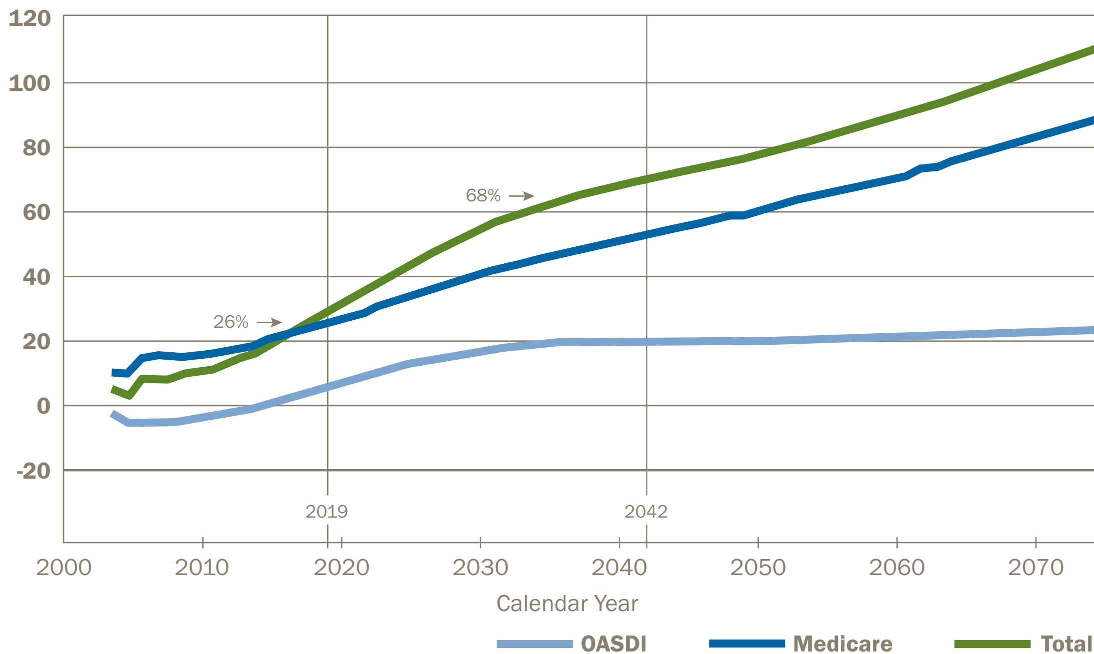
To put the challenge that elderly entitlement program financing presents in perspective, Figure 5 shows the share of future income tax revenues that will be required to provide the transfers necessary to continue providing current law benefits. This year, 2004, will be the first year in which the surpluses in Social Security and Medicare Hospital Insurance will not be sufficient to pay the transfer required to fund Part B of Medicare. As the figure clearly shows, the retirement of the baby boomers results in transfers that cannot be met. In just 15 years, funding these two programs will require more than one-fourth of projected federal income tax revenues, and by 2042, the year the Social Security Trust Fund is expected to reach exhaustion, more than two-thirds of all federal income tax revenues will be required to allow these two programs to pay current law benefits with only current law taxation. To put this in perspective, if Congress could today pass legislation, binding on all future Congresses, that set aside 75.2 percent of all federal income tax revenues beginning in January 2005 and continuing to eternity, we would have funds only sufficient to cover the future deficits in these two programs! Importantly, these funds cannot be spent on other programs as is currently done with such surpluses. Instead, the funds must be set aside and invested in real assets. Put another way, in order to solve the funding problems we have discussed in this paper, current federal expenditures must be reduced immediately and permanently by more than 50 percent.

Figure 5: Social Security and Medicare Funding Shortfalls as a Percent of Federal Income Taxes



Source: 2004 Social Security and Medicare Trustees Reports and author's estimates. Federal Income Taxes are estimated to be 10.89% of GDP which is the 50-year average.

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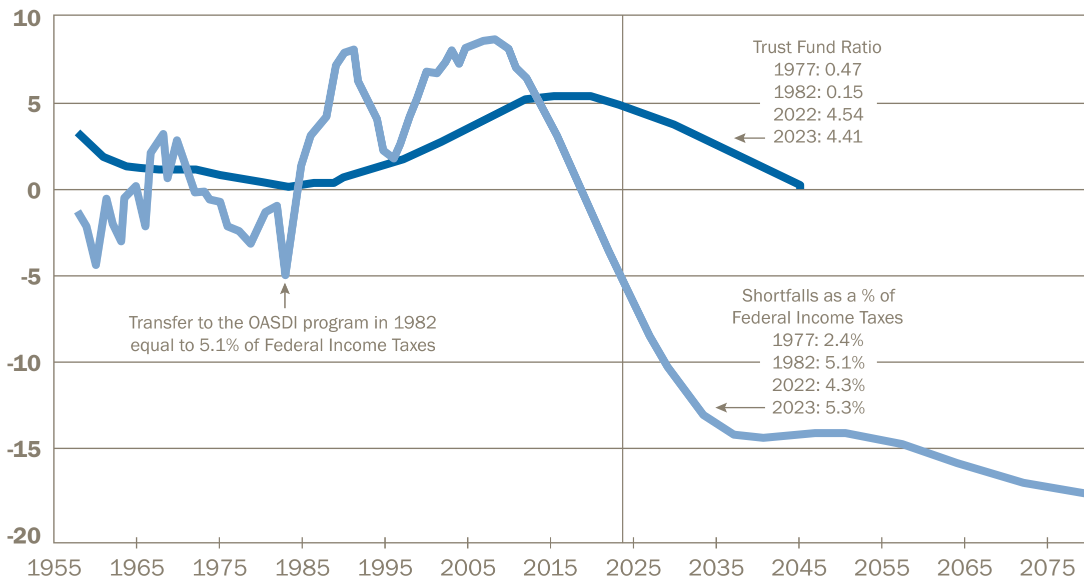
Social Security reform will be more effective if enacted early

Given the prospect of transfers that consume from one-fourth to two-thirds of projected federal income tax revenues, some changes in elderly entitlement programs must occur. Because Social Security's problem is the most manageable, and that reform has been and will be a serious issue on the political front, one would expect that reform would begin here. Moreover, past history suggests that whenever the transfers from general revenues to Social Security have become significant, reform did indeed take place. As an indication of when such reform might occur, Figure 6 shows the past history of Social Security transfers.

% of Federal Income Taxes and Trust Fund Ratio

Figure 6: Trust Fund Ratio and Social Security (OASDI) Funding Shortfalls as a Percent of Federal Income Taxes



Source: 2004 Trustees Report, historical budget tables and author's estimates.

The two most recent past periods where Social Security has required significant transfers from general revenues were in 1977 and 1982. In 1977, the Treasury transferred to Social Security the equivalent of 2.4 percent of federal income tax revenues and in 1982, transferred the equivalent of 5.1 percent of federal income tax revenues. In each instance, reforms were enacted. From Figure 6, the projected transfer required in 2022, just four years after Social Security is projected to have negative cash flow, will reach 5.1 percent of federal income tax revenues. In a recent release, the Congressional Budget Office (CBO) has a slightly more optimistic forecast of the future of Social Security but continues to confirm the long-run insolvency of Social Security. (Just as the Trustees have, the CBO projects a negative cash flow for

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OASDI, beginning one year later in 2019. Their projections suggest a required transfer that exceeds 5.1 percent of federal income tax revenues in 2024, just two years later than when the Trustees suggest a transfer will be required. Moreover, from Figure 5, by 2022, the combination of Social Security and Medicare will be consuming more than one-third (35.1 percent) of all federal income tax receipts. It seems clear then that something will be done within 20 years, but as most analyses of the cost of Social Security reform show, if we wait that long, we lose the contribution to the cost of the reform that can be made by the baby boom generation.

Reforms suggest a shift from defined benefit to defined contribution

All reforms being considered have one thing in common: transforming some or all of existing defined benefit Social Security to a system of defined contribution. Such contributions could be in individual accounts or in a central account with a common characteristic; all funds in the accounts would be invested in the real economy. Annual statements issued to individuals would represent real resources held in their name, and available to them upon retirement. In exchange for allowing individuals to place some of their current contributions to Social Security into these accounts, individuals give up some or all of their entitlement to current Social Security.

The transition from defined benefit, where the entire economic risk is borne by taxpayers, assuming that promised benefits are actually paid to defined contribution, where future retirees share in the economic risk, has important implications for supplemental retirement programs. Consider, for example, the reform suggested by the President's Commission. The first part of this reform is fixing the purchasing power of the entire defined benefit portion of the reformed package. The second part of the reform is the replacement of the difference between the fixed purchasing power defined benefit and the old replacement rate-based defined benefit with a private account. These private accounts, assuming a yield of 5.4 percent, will replace the difference between fixed purchasing power and replacement rate benefits.

Implications for higher education

The fact that, historically, TIAA-CREF account contributions have been a fixed share of earnings, suggests that individuals desire to replace some proportion of their work-life earnings during retirement. Further, current Social Security benefits can be achieved with a contribution rate of 4.6 percent of earnings, assuming that private accounts yield a 5.4 percent real rate of return, the long-run average of a 60 percent equity/40 percent bonds portfolio. Given that participants in TIAA-CREF expect to receive Social Security benefits on retirement, the somewhat typical combination of individual and university contribution to TIAA-CREF of 15 percent implies that this subpart of the population desires a retirement income replacement rate considerably above the 42 percent average replacement rate provided by Social Security. Some of the excess may be considered an insurance premium for the downside risk of a bad economy when one reaches retirement age, since terminal portfolio values are positively correlated with the economy.

Using the assumptions of the Trustees concerning future wage growth, replacing the current replacement rate-based benefit with a fixed purchasing power benefit would in just 25 years, reduce the average replacement rate of the defined benefit part of Social Security from 42 percent to 33 percent of work-life income. With the decline of the defined benefit replacement rate inherent in all current suggested reforms of Social Security, an increase in desired investment outside Social Security should be expected.

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If reform represents either the replacement of some of current Social Security's defined benefit with an equivalent expected value defined contribution benefit or a simple reduction in Social Security benefits to the level that can be provided by the current law rate, faculty and staff will desire to increase their own reserves for retirement. Given that universities respond to demand by staff, we should expect that any reform of Social Security, and some reform will certainly occur, will increase desired contribution rates to defined contribution retirement plans and perhaps bring pressure to convert some part of current defined contribution plans to defined benefit. Such a conversion would offset the increased risk associated with a Social Security reform based on defined contribution by transferring some of the risk to higher education employers.

In addition to the potential for an increasing role of individual and employer participation in existing retirement accounts, potential Social Security reform has at least two other aspects important to TIAA-CREF's role as provider of retirement benefits for higher education. First, TIAA-CREF is positioned to be a provider of portfolio management for the defined contribution portion of reformed Social Security for higher education. Second, given TIAA-CREF's experience as an annuity provider, it is in a position to supply all, or some portion, of any annuity income required by the final law authorizing reform.

Conclusion: Planning for reform makes good sense for higher education

Based on current law dedicated revenues, the 2004 Trustees Report shows that Social Security is severely under-funded. Paying scheduled benefits will require significant additional funding which implies increased taxation, reduced non-Social Security federal expenditures or increased outstanding federal debt. When we consider both annual revenue "flows" necessary to pay benefits and "stocks" represented by unfunded obligations, we can characterize the true size of this problem. Projected annual shortfalls indicate that just four years after the system first shows a negative cash flow, the transfer from general revenues will be a larger share of federal income tax revenues, over and above the program's dedicated revenues, than has ever occurred.

Although the calculation of these unfunded obligations span many years into the future, the search for solutions should not be postponed. Each year of delay reduces our ability to respond effectively and increases the likelihood that currently scheduled benefits will be cut. Thus, either reform will take place and the defined benefit portion of Social Security will be cut and replaced by an, on the average, equivalent defined contribution system or at some time in the future, taxes will be raised and benefits will be cut. The latter of these options was the path taken in the 1983 Social Security reform. Either scenario will impact the university community in a way that will provide pressure to increase private contributions to retirement plans. Planning for being part of any reform makes good sense from the perspective of that portion of the industry TIAA-CREF represents.

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