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Budget

Crisis
at the Door

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BUDGET CRISIS AT THE DOOR

In 1995 the Bipartisan Commission on Entitlement and Tax Reform concluded that “If we do not plan for the future, entitlement spending promises will exceed financial resources in the next century. The current spending trend is unsustainable . . . If we fail to act, we have made a choice that threatens the economic future of our children and our nation” (U.S. Congress 1995). Now, well into the next century, we have still failed to act. Yet the problem not only remains, but in many ways has intensified simply because we are years closer to the day of reckoning. Relative to both available revenues and societal needs, we have promised more than we can afford to an elderly and fairly well-off near-elderly population that will soon grow very rapidly as the baby boomers retire and life expectancy continues to increase.

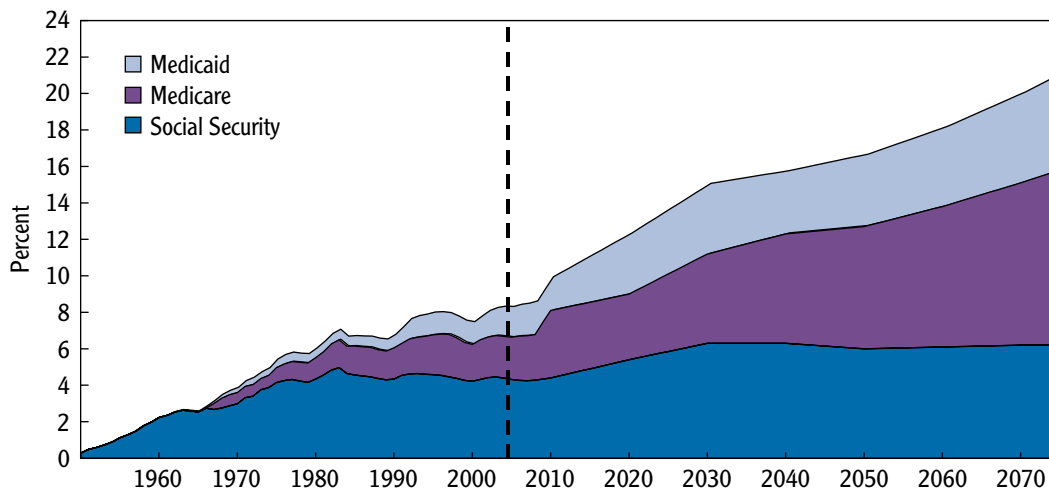
Sitting in the eye of the storm, some tend to believe that these problems, if they exist at all, are merely for some distant future. Yet the number of years available to undertake a reasonable transition is quickly shrinking as the leading edge of the baby boom population reaches Social Security eligibility age around 2008. But even citing 2008 creates a misleading impression that the problem is not with us already and that procrastination is costless. Though baby boomers are still working in the years before 2008, public financial support for older Americans is already placing an enormous strain on the federal budget. And declining revenues in recent years have only added to the pressure.

The economic health of the major programs for the elderly—Social Security and Medicare—is often discussed by examining the financial health of the related trust funds (Old-Age, Survivors, and Disability Insurance [OASDI], Hospital Insurance [HI], and Supplementary Medical Insurance [SMI]). However, focusing on the trust funds is misleading. Long before the OASDI trust fund is emptied around 2042 and the HI trust fund around 2016, Social Security and Medicare outlays will be rising much faster than the gross domestic product (GDP).¹ Combined with the rapid growth of Medicaid, which provides nursing home support for the elderly, these programs will be imposing severe pressures on the overall federal budget that will be large enough to threaten an economic crisis.

The revenues earmarked for the OASDI and HI trust funds currently exceed benefits, so those trust funds help finance the deficit in the rest of government. Before the end of the decade, this financial contribution will start to shrink relative to GDP and that shrinkage will start placing upward pressure on the overall deficit, a pressure that grows over time. The total trust fund surpluses are misleading, because total trust fund revenues also include interest on their debt holdings—payments from one part of government to another that merely shift the locus of responsibility for coming up with money and do not affect the government’s overall deficit. In other words, demographics will be exerting compounding pressures on the budget and the economy long before the OASDI trust fund is in intensive care, and even before the HI trust fund runs out of money. Moreover, all the growing expenses for Medicare, Part B, and Medicaid are currently absorbing increasing shares of a reduced part of general revenues. In a sense, the trust fund for Part B never goes broke, nor does any implied trust fund for Medicaid (there is none), but such permanent trust fund “solvency” does not make them more affordable any more than does the temporary trust fund ability to pay Social Security and Medicare, Part A, benefits.

Even though the growth of the elderly population slows temporarily in the last decade of the 20th and first decade of the 21st centuries—largely because of the low birth rates in the Great Depression and World War II—elderly programs have continually been absorbing ever-increasing shares of gross domestic product and the federal budget. Figure 1 shows the resources commanded by Social Security, Medicare, and Medicaid alone as a percentage of GDP. While almost three-quarters of Medicaid goes to the nonelderly, much of its growth is in long-term care. The total spending shown in figure 1 does not include the cost of many federal and veterans retirement and health programs for the elderly. Nevertheless, the Social Security, Medicare, and Medicaid projection is

Figure 1. Social Security, Medicare, and Medicaid Outlays as a Percentage of GDP, Fiscal Years 1950–2075



SOURCE: C. Eugene Steuerle and Adam Carasso, The Urban Institute, 2003. Based on data from the Congressional Budget Office, “A 125-Year Picture of the Federal Government’s Share of the Economy, 1950 to 2075,” July 3, 2002, table 2.

considered a good proxy for long-run spending on the elderly and disabled. As figure 1 shows, these programs combined have witnessed an almost inexorable rise for decades now, and the rate of increase threatens to accelerate past 2008.

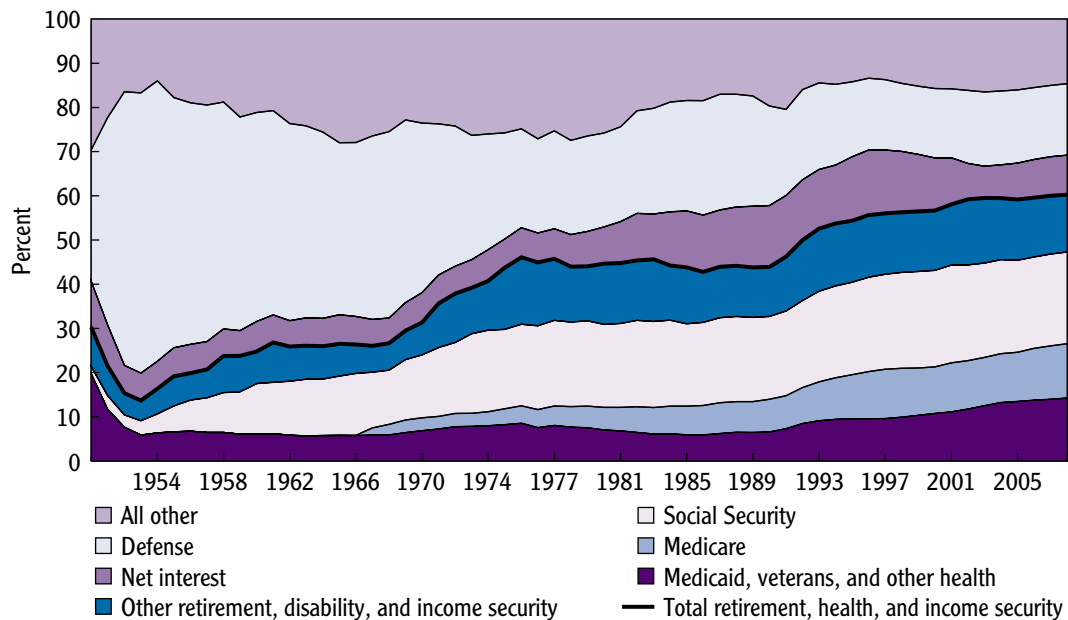
When the share of *GDP* or of *total federal expenditures* absorbed by elderly programs increases, the share spent on everything else must decline (see figure 2). When elderly programs rise from 50 percent to 70 percent of federal spending, for instance, then everything else falls from 50 percent to 30 percent. It is not necessarily true that the *share of GDP spent by the federal government on everything else* must decline as the burden of supporting the elderly rises, since the government can start absorbing ever-greater shares of GDP through increased taxes. However, that has not happened to a significant degree for over 50 years. Later, we shall examine in more depth just how other federal spending has been declining relative to GDP.

For now, note that as a share of the budget, close to one-half of total spending outside defense and interest on the debt goes to people 65 and over. Social Security is the single biggest federal program, having surpassed defense in 1993. Medicare is growing so rapidly that it will eventually overtake both defense and Social Security, even without the addition of a new prescription drug program.

THE THIRD RAIL?

Social Security and Medicare are as politically popular as they are expensive. One reason for their popularity is no currently retired or soon-to-retire generation has had to pay for

Figure 2. Composition of Federal Outlays, 1950–2008



SOURCE: C. Eugene Steuerle and Adam Carasso, The Urban Institute, 2003, from *Budget of the U.S. Government, FY 2004*.

its benefits, but instead was able to pass those obligations onto future generations. Because of the programs' popularity and because future costs are hidden, there has historically been little inclination to reform them, despite numerous warnings from commissions and public policy analysts that they are unsustainable. At one time the programs were called the "third rail of politics"—so sacrosanct that elected politicians could not even debate them. But as their lack of sustainability has become more apparent and as many younger voters have come to fear that the programs will collapse before their retirement, a debate has begun.

A few courageous members of Congress have introduced reform legislation, although many of the proposals lack detail or still tend to promise more than can be delivered. Republican President George W. Bush raised the issue during the last presidential election and appointed yet another commission that issued three options for reform. Democratic President Bill Clinton and presidential candidate Albert Gore proposed generating a larger budget surplus to help deal with a portion of the future problems associated with financing elderly programs—a surplus that has long since disappeared. Certainly, then, the issue is no longer "off the table." But it would be misleading to suggest that most, or even many, politicians are willing to compromise to achieve reform, much less contemplate a reform that leads to a fully sustainable system. Instead, many are strongly inclined to expand our commitments further by adding a prescription drug program to Medicare.

PROMISES, PROMISES: SOURCES OF GROWTH IN LIFETIME BENEFITS

If the Entitlement Commission had reported in 1960 rather than in 1995, it would not have been able to paint such an alarming picture of the nation's budget outlook. In 1960, limited automatic growth was built into the dominant entitlement programs—those for the elderly. In fact, Medicare and Medicaid had not yet been invented. Meanwhile, promises regarding Social Security pensions took a very different form than they do today. Although Congress had made a substantial commitment to enhance the economic security of senior citizens when it created Social Security during the Great Depression, the design of the original program did not necessarily imply that its costs would continually grow faster than the economy.

Consider the initial sources of growth in Social Security. When Social Security first came on stream, its benefit formula was set so that people would receive higher benefits as they paid in taxes for more years. Its initial payments were small because workers had contributed taxes for very few years. Another important source of growth in the first decades came through expanding coverage, such as adding farmers and other self-employed workers after World War II. During the early years of the system, legislation also increased costs through the creation of dependent and survivor benefits in 1939 and disability benefits in 1956. In some cases, the impact was not felt immediately but would grow over time. That is, just like the initial workers covered, benefits for newly covered workers would grow gradually but significantly as their years of coverage under the tax system increased.

Over time, Congress also passed legislation periodically that enhanced nominal benefits. Early in the program's history it became clear that the payroll tax revenues of the system exceeded the benefits to which the first retirees—those with only modest numbers of years of coverage—were entitled. While a debate ensued on whether to save more of these up-front tax revenues, it was soon decided that the system would be run more on a pay-as-you-go basis. As new retirees began to accumulate additional “rights” because of expanded numbers of years of coverage, tax rates were adjusted upward (Schieber and Shoven 1999).

An important event marking universal acceptance of Social Security occurred when President Eisenhower, the first Republican president since the initial enactment of Social Security, supported legislation providing a substantial increase in benefits. The increase offset much of the relative decline brought about by inflation and real growth in the economy in the years from the beginning of World War II to the end of the Korean conflict. But Eisenhower's actions set in motion a bipartisan competition to show which political party could do more for the nation's elderly citizens.

Automatic Benefit Increases for Each Generation

None of these factors meant that real benefits for each new generation of retirees would automatically be higher than for previous generations. For instance, once the newly eligible population achieved sufficient years of coverage under the tax system, that source of growth would stop. Two other factors—additional years of retirement support and indexed growth in benefits—are the main reasons that each generation is scheduled to be better off than previous ones.

Years of Retirement Support. With a fixed retirement age, as people live longer they draw benefits for more and more years of retirement support. Similarly, a larger share of people make it to retirement years, thus also adding to the *expected* number of years of support that each taxpayer receives (in other words, costs per taxpayer also increase because the share of taxpayers who never receive anything back for their contributions is continuously declining). Retirees are now living about four to five years longer than when Social Security was first established. While the normal retirement age is scheduled to increase from 65 to 67 between 2000 and 2022, future life span increases remain a source of growth in lifetime benefits for later cohorts of retirees.

A related factor must be considered. People are not only living longer, they are also retiring earlier. Men are now retiring almost five years earlier than they did in 1950. Under current law, the actuarial adjustment in benefits for earlier retirement has only modestly affected the promised level of lifetime benefits. That is, annual benefits go down when people retire earlier, and, although the actuarial adjustment is imperfect, it ends up providing roughly the same lifetime benefits for those who retire at different ages after 61. But such analysis is incomplete. Those who retire earlier essentially stop paying Social Security taxes, hurting the program's actuarial balance. They also pay less tax to government in the form of income and other taxes. Thus, Social Security benefits grow as a share

of the government's total revenues (and, generally, total expenditures). Because they earn less, retirees also have less of their own income and saving in later years. In short, an early retiree contributes less to national product. Therefore, the benefits-to-GDP ratio goes up because the growth in GDP goes down.

Indexing and the Automatic Growth in Annual Benefits. In earlier years of Social Security the progressive formula that related annual pension benefits to lifetime earnings was fixed in nominal terms. As individuals' earnings rose over time, the formula did not allow annual benefits to rise as fast as earnings (the formula varied, but generally higher earning levels over time would generate lower benefits relative to those total earnings). It took formal congressional action to increase annual benefits beyond this nominal formula for future generations, as well as to make adjustments (either real or for inflation) for already retired generations. Thus, without further congressional action, the formula effectively lowered the ratio of annual pension amounts to nominal lifetime earnings, which grew with inflation and real economic growth. Indeed, when the nation moved into a more permanent inflationary era from the beginning of World War II to the end of the Korean conflict, the budget was concentrated largely on the war effort or postwar rebuilding. As a result, despite other sources of growth such as expanded years of coverage and longer lives, total benefit payments under Social Security eroded significantly relative to the size of the economy.

In the 1970s Social Security pensions and survivor and disability insurance were indexed.² The benefits of the already retired were adjusted to rise automatically with the price level, but that simply meant that inflation would not erode the program as it had before (recall that Social Security was established when deflation prevailed and before inflation became endemic). However, another part of the indexing formula was technically flawed. Social Security was inadvertently indexed so that future annual benefits rose even faster than average wages (at least under then-prevailing economic conditions). The technical problem was solved in 1977 when the benefits provided to each new group of retirees were indexed to grow in line with average wages in the economy.³ Roughly speaking, if the children of one generation could be expected to earn annually 30 percent more than their parents because of growing real wages, then those children would also receive annual benefits that were 30 percent higher. This indexing of brackets to wages essentially kept the ratio of initial benefits constant relative to earnings. Thus each succeeding cohort of retirees was promised a higher average *annual* real benefit if the average wage also grew.⁴

Ironically, the indexation of Social Security pensions in the 1970s was initially considered a cost-saving measure. During the late 1960s and early 1970s, Congress passed discretionary benefit increases several times. A broad consensus of policymakers and Social Security experts believed that the program's popularity would make it impossible for politicians to resist excessive benefit increases whenever the issue was considered.

With the benefit of hindsight, it appears that the mid-1950s to early 1970s represented an unusual phase in the program's history. At times—mainly during the period from World War II to the Korean conflict—benefits were allowed to erode relative to wages. But this war period was followed by an easy financing period unlike almost any in our history

(Steuerle et al. 1998). Remember that World War II and the Korean conflict pushed the spending-to-GDP ratio to much higher levels than it had been before World War II. Starting with that unprecedented size of government, three additional factors made it very easy to enact domestic policy expansions, not just in Social Security. First, a very rapid economic growth rate essentially lasted from World War II until the early 1970s. Second, a long-term peace dividend appeared as the nation reduced its defense expenditures from about 14 percent of GDP at the end of the Korean conflict toward 3 or 4 percent by the end of the century. Since average tax rates were not cut over the same period, relative to the size of today's economy this translates to a shift of more than *\$1 trillion annually* from the military to the domestic side of the budget. The Vietnam conflict caused only a temporary halt in the growth of the peace dividend. Third, the movement to an inflationary economy and an unindexed income tax meant that revenues were often rising faster than GDP, although much of these revenues were returned in the form of legislated tax cuts. With inflation also eroding real benefits, legislated Social Security benefit increases were very easy to afford and extremely popular among politicians.

These easy financing sources ended only gradually. Slower economic growth in the 1970s was unanticipated, and people seemed reluctant to admit (or simply neglected to note) that defense spending could not be cut forever. Given the economic difficulties of the 1970s and the consequent depletion of the trust fund around that time, it now seems likely that benefits would have been allowed to erode somewhat relative to wages if they had not been automatically indexed. (For instance, the substantial unexpected wage growth at the end of the 20th century might not have translated into a legislated Social Security annual benefit increase as long as the trust funds had inadequate resources to meet future needs.) Thus, the indexing reform of the 1970s was really geared to an easy era of financing and meant to displace the constant legislative action that those finances made possible.

We'll never know entirely whether discretionary increases would have exceeded those provided by indexing, because just as the easy financing era was ending, automatic growth in Social Security annual benefits was made permanent. Possibly signifying that discretionary action had become less expansionary, the Social Security Amendments of 1977 and 1983 were the first ever to substantially cut back on benefits—indicating at least that we had moved into a new political era.⁵

It is possible to agree with the goal of keeping benefits growing as wages increase, but object to the precise way that the system is indexed. For example, Congress could have built in automatic protections against inflation while leaving it to discretionary actions to keep benefits growing with wages. This system would have made it much less painful to adjust the goal when adverse economic or demographic developments made apparent that achieving it was more burdensome to the working population than originally anticipated. Similarly, it would have allowed Congress to choose other ways of spending the money, such as providing more educational aid as the wages of teachers and the cost of education went up. Or even fixing up some of the inequities in Social Security itself, such as the very unfavorable treatment of working single mothers with children compared with nonworking spouses.

Health Care

The addition of Medicare and Medicaid to our system of social insurance in 1965 created a very different economic burden than that imposed by the original pension system. Health care benefits were now promised to the elderly, disabled, and poor, but, unlike with Social Security, benefits would not be set in dollar terms but would expand as technology advanced and offered new, often extremely expensive, health goods and services. Here was an unprecedented source of automatic growth in budgetary costs.

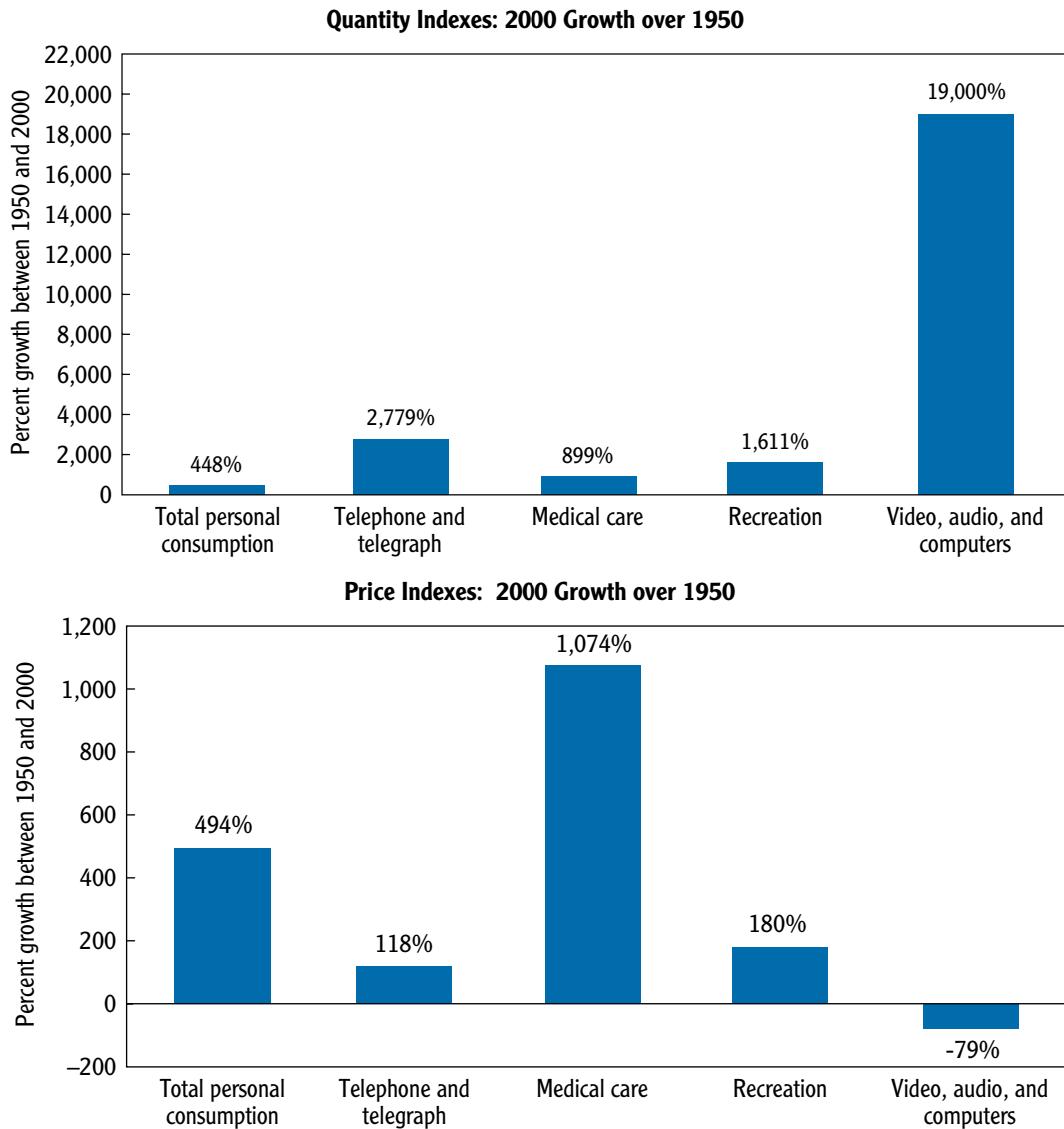
In many ways, Medicare and Medicaid adopted the model of health insurance used by the private sector—itsself still a relatively new phenomenon. Only 36 years earlier, the first Blue Cross insurance plan was established in Dallas, Texas. About the same time, a contract sometimes cited as the first prepaid group practice between an employer and a group of physicians was established between Los Angeles city government employees and two physicians who agreed to provide medical services for the employees and their families (Acs and Steuerle 1996).

Crucial to Medicaid and Medicare's design, and that of almost all other public and private health insurance plans, was a feature plaguing health costs to this day: Most individuals would receive, and most health care professionals would provide, benefits while paying only limited attention to cost. Essentially, the patient and doctor would negotiate over what was to be paid for by other insurance plan members—in the case of Medicare, by taxpayers. In effect, public benefits expanded without any real cap on cost except as laws and regulations attempted to limit the services eligible for reimbursement or the reimbursement rate. Consequently, the budget burden imposed by these programs automatically grows with the cost of health care, while the cost of health care rises faster than average price levels in the economy as more treatments become available and are demanded.

This lack of cost constraint is reflected in national income and product numbers. Unlike in other growth sectors of the economy, new technology and methods used in health care have not led to a substantial reduction in the prices of goods and services. This lack of price reduction can be seen by comparing the rise in quantity with the rise in price of the goods and services of various growth industries. As shown in figure 3, in industries such as telecommunications and even recreation, the presence of a higher-than-average rate of growth in quantity of services and goods is usually accompanied by a lower-than-average rate of increase in price. Among growth industries, only health care has large increases in the quantity demanded in the face of large price increases. To understand this anecdotally, one might compare the change in the price of routine drugs or standard features of a routine physical with the decline in the cost of phone calls or computer memory in other growth industries.

As a consequence of these various features, costs per person served by health insurance generally rise considerably faster than not just the overall inflation rate, but also the rate of growth of per capita income. Under existing insurance designs, this trend is expected to continue. Indeed, the trustees of the Hospital Insurance Trust Fund (Medicare, Part A) changed their long-range assumptions in 2001 and decided to project

**Figure 3. Quantity and Price Indices Over Time:
Medical Care versus Other Consumption Categories**



SOURCE: C. Eugene Steuerle and Adam Carasso, The Urban Institute, 2001. Data are from the Bureau of Economic Analysis, National Income and Product Account Tables, table 7.2.

continual and perpetual increases in the costs of that program relative to the economy (U.S. Board of Trustees of the Hospital Insurance and Supplementary Medical Insurance Trust Funds 2002). Reversing a past tendency to assume that at some future point health care expenses as a percentage of GDP simply had to level out, the trustees followed the recommendation of a technical panel reviewing economic and demographic assumptions made by the actuaries. The panel concluded that nothing would cause an eventual leveling out of costs, given the system's existing incentives.

Various reforms have attempted to control the growth rate of Medicare and Medicaid (including the substantial portion for long-term care). Many have effectively closed only one of several open sides of a box. Price and cost controls, the most common type of reform, often apply to a limited measure of output, and therefore allow relatively unimpeded growth through other means—for example, some price or quantity is restricted, but then new technologies, drugs, or procedures are introduced, or doctors earn as much by spending less time with each patient or procedure. Other attempts to introduce market mechanisms—health maintenance organizations, preferred provider organizations, voucher-like mechanisms—have also only been applied in limited markets and with limited success, partly because the beneficiary could fall back to the more open-ended core Medicare policy. In effect, where these market mechanisms were introduced, individuals often selected whichever system maximized the benefits they received from the government. Thus, they would switch only if they thought they were getting more from the alternative system, often raising costs to the government.

The Lifetime Value of Social Security and Medicare Benefits

The combination of higher annual cash benefits, more years of benefits, and the inability to control health care costs raises Social Security and Medicare benefits for each successive cohort of eligible people. To show the full effect on beneficiaries, it is necessary to turn to a lifetime perspective and estimate the total amount of benefits that households might expect. Tables 1A and 1B demonstrate the growth in Social Security and Medicare benefits from a lifetime perspective for different cohorts. Lifetime value of Social Security and Medicare benefits is here defined as the value of the benefit package (in 2002 dollars) that a household would get if, upon reaching age 65, it went to an insurance company and asked to purchase, up front, a policy that would provide all the future benefits promised. This measure assumes that the money put into this policy earns interest until it is paid out; hence, actual benefits received over the retirement years (the “undiscounted” benefits) exceed this lifetime measure of cost.

For a two-earner couple, one with average wages and one with low wages, annual benefits under Social Security grow from \$15,000 in 1970 to about \$30,000 in 2030 (after adjusting for inflation).⁶ Lifetime benefits, however, grow even more, from \$210,000 to \$460,000. The growth rate of lifetime benefits between 1970 to 2030 is misleadingly low compared with Social Security’s earlier history and its very long-term future because it includes the period from 2002 to 2017 when benefits are cut back because of the normal retirement age increasing from 65 to 67. No other period contains such a cutback, which temporarily limits the gains from longer life expectancies.

What would the value of Medicare be if at age 65 a household had to pay for the policy? Here benefits rise from about \$80,000 for a couple retiring in 1970 to a projected \$490,000 for a couple retiring in 2030. The rate of growth is much higher than Social Security because a rapid increase in health costs combines with an increasing number of years of support as people live longer.

Combining the calculations for Social Security and Medicare, the promised benefits for a couple with an average-wage and a low-wage earner reach close to \$1 million (in 2002 dollars). For a couple where both partners earn average wages, the value of the benefit package is scheduled to be slightly more than \$1 million (in 2002 dollars), when discounted back to their age of retirement, while for a high-wage/average-wage couple, it is more than \$1.1 million. On an undiscounted basis—that is, the actual amount of real benefits (in 2002 dollars) the couple will receive—the benefits in all these cases are much larger.

Although these numbers may at first appear astounding, they are not hard to understand once the number of benefit years is recognized. Social Security will already pay benefits to the longer living of a couple retiring at age 62 for about 25 years. If one spouse is much younger than the other, the number of years increases (and the average benefit increases since one is more likely to receive the more generous survivor benefits). If (on a undiscounted basis) \$40,000 of cash and medical benefits are provided each year for a quarter-century, the total reaches \$1 million.⁷

In addition, these figures significantly understate the expected value of government benefits to many elderly individuals and couples. In particular, they take no account of the value of other government programs for the elderly, including Medicaid, civil service and military pensions, and veterans benefits. Although less universal, many average-income individuals have some probability of receiving Medicaid should circumstances push them into a nursing home or create some other need for expensive long-term care that they cannot afford with their existing incomes. (Some elderly people purposely give assets to their children in order to qualify for Medicaid. The practice continues despite numerous congressional attempts to limit it.)

One reason these Social Security and Medicare programs have been popular for so long is retirees have never really had to pay for their benefits, but instead were able to shift costs forward to future generations. In Social Security, cost-shifting has become less true over time, and, as shown in table 1A, a high-wage/average-wage couple in the future will

Table 1A. Social Security and Expected Medicare Benefits for a Two-Earner Couple: High Wage/Average Wage (real 2002 dollars)

Year cohort turns 65	Soc. Security annual benefits	Soc. Security lifetime benefits	Medicare lifetime benefits	Total lifetime benefits	Soc. Security lifetime taxes	Medicare lifetime taxes	Total lifetime taxes
1960	\$16,000	\$180,000	\$0	\$180,000	\$26,000	\$0	\$26,000
1970	\$20,000	\$270,000	\$80,000	\$350,000	\$69,000	\$3,000	\$72,000
2000	\$28,000	\$450,000	\$240,000	\$690,000	\$355,000	\$65,000	\$420,000
2030	\$44,000	\$650,000	\$490,000	\$1,140,000	\$650,000	\$170,000	\$820,000

SOURCE: C. Eugene Steuerle and Adam Carasso, The Urban Institute, 2002.

NOTES: Expected rather than realized benefits. The “high” and “average” wage profiles are those hypothetical profiles routinely employed by the Social Security Administration in its analyses. Data are discounted to present value at age 65 using a 2 percent real interest rate. Table assumes survival to age 65. Projections based on intermediate assumptions of the 2002 OASDI and HI/SMI Trustees Reports.

just about pay for its Social Security benefits (lifetime benefits and taxes are each \$650,000) assuming that 2 percent real interest is earned on deposits. While we believe this discount rate is appropriate for an insurance program with so many protections—it is above the rate one can often receive when buying private annuity contracts with even fewer protections—at a higher discount rate the Social Security tax would exceed benefits for higher-wage couples.⁸ For singles also (not in table), the taxes rise relative to benefits since the system is much more generous to married people. Therefore, one can argue that Social Security is at least moving to a stage where some income groups will pay for what they get.⁹

When one adds in Medicare, however, no generation in the past and no generation currently working comes close to paying for its own package of elderly benefits. Benefits keep growing so quickly, while taxes only cover current retirees (despite a temporary build-up of a slight surplus in the HI trust fund) and do not come close to covering future costs. In table 1B, an average-wage/low-wage couple turning 65 in 2030 pays only \$460,000 for its \$960,000 benefit package, while even a high-wage/average-wage couple pays only \$820,000 for its \$1,140,000 package in table 1A.

Some analysts might want to add in some amount of income tax as a prepayment for SMI benefits. We do not make this difficult-to-estimate adjustment, but were we to, it would not dramatically change the story since monies are not collected currently, as in a normal private insurance or pension arrangement, to cover the dramatic rise in future costs. Moreover, we have not added in the expected value of Medicaid coverage for those many families who get hit with nursing home expenses and turn to the government for help. The basic fact remains: Almost no one of any generation now working is paying for their future public health benefits—in particular, Medicare. Instead, they continue to shift costs to their children and grandchildren.

Some other remarkable revelations come out of the data. First, more than 60 years after Social Security benefits were first paid, the net transfers (benefits in excess of taxes) promised to Social Security and Medicare recipients not only haven't declined, but will continue to increase for several more decades just as they did in the past. At some point someone will have to pay, and whether that payment is made by future generations, cur-

Table 1B. Social Security and Expected Medicare Benefits for a Two-Earner Couple: Average Wage/Low Wage (real 2002 dollars)

Year cohort turns 65	Soc. Security annual benefits	Soc. Security lifetime benefits	Medicare lifetime benefits	Total lifetime benefits	Soc. Security lifetime taxes	Medicare lifetime taxes	Total lifetime taxes
1960	\$13,000	\$150,000	\$0	\$150,000	\$16,000	\$0	\$16,000
1970	\$15,000	\$220,000	\$80,000	\$300,000	\$44,000	\$1,000	\$45,000
2000	\$20,000	\$330,000	\$240,000	\$570,000	\$210,000	\$40,000	\$250,000
2030	\$30,000	\$470,000	\$490,000	\$960,000	\$360,000	\$100,000	\$460,000

SOURCE: C. Eugene Steuerle and Adam Carasso, The Urban Institute, 2002.

NOTES: Expected rather than realized benefits. The "average" and "low" wage profiles are those hypothetical profiles routinely employed by the Social Security Administration in its analyses. Sums are discounted to present value at age 65 using a 2 percent real interest rate. Table assumes survival to age 65. Projections based on intermediate assumptions of the 2002 OASDI and HI/SMI Trustees Reports.

rent generations, or both depends largely upon the nature of whatever reform is undertaken. A second revelation: Even the rich continue to get large transfers. They were not scheduled to pay for their benefits even at the turn of the century, nor are they scheduled to pay as late as 2030.

NEW DEMOGRAPHIC PRESSURES

The previous calculations and discussion of benefits centered largely on the very large growth in future benefits per taxpayer or per couple. But they do not yet reflect the demographic crunch associated loosely with the upcoming retirement of the baby boomers. To understand this phenomenon, one must go beyond the usual language of both pundits and researchers when they comment on aging and its impact on elderly programs. “Aging” of the population is composed of two very different factors.

First, people are living longer. While longer lifespans may dramatically affect programs with a fixed eligibility age, they do not imply that the population is aging. What do we mean? Suppose that being elderly were fixed on some standard such as being in the last 10 years of life—that is, having an expected lifespan of 10 years or less. As people live longer and have more nonelderly years of life, a smaller, not a larger, percentage of the population would be defined as elderly over time.¹⁰ Similarly, if living longer were correlated with better health, then fewer would be “elderly” if by elderly we meant impaired beyond some standard. Thus, as people live longer, a definition of being elderly based on a fixed number of years from birth becomes highly questionable. As an extreme but not impossible example, what does it mean to be elderly when life expectancy increases from 62 years to 90 years? Does it make any sense to think of 62 as a permanent definition of “elderly” under those circumstances? If not, then does it make any more sense when life expectancy increases from 62 years to 76 years?

Second, birth rates have fallen. Here we get to the real heart of the aging issue. The decline in birth rates causes a larger portion of the population to be in the latter portion or last years of their lives. For example, a larger percentage will be in the last one-quarter or last 10 years of their lives, all other things being equal. Put another way, the relative decline in number of younger people is what makes the population “age.”

If a public program is geared to the needs of society, then the second factor is far more important than the first. A larger portion of the population in the last years of their lives probably implies a larger portion who are impaired. The costs of their needs in later years (often well beyond retirement ages like 65), whether paid for through private or public programs, are likely to increase relative to the output of the nation. This cost increase, then, can be counted on to add to the demands on health and retirement systems relative to the supply of available resources. A special case is the rising demand for nursing home care, which is projected to add substantially to Medicaid costs.

In Social Security, the decline in the birth rate combines with the longer life expectancy to substantially increase the cost of the system. Even if Social Security were indexed for life expectancy, the share of national income devoted to it would still rise for several decades (until the full impact of the lower birth rate became fully reflected across

time). Of course, this type of calculation starts from today, long after the system should have begun adjusting for demographic changes. It is worth noting that the existing tax rate for Social Security would cover the cost of the program well into the future if from its beginning the retirement age had merely been indexed for life expectancy. From 1940, when Social Security benefits were first paid, to 2000, life expectancy at age 65 increased 3.9 years for men and 5.5 years for women.¹¹

MUST REFORM REDUCE BENEFITS?

Reforming the imbalances in Social Security and Medicare does not necessarily mean that future retirees must receive lower real benefits. Take Social Security. It is useful to divide the official projections of growth in the annual cost¹² into two components—growth resulting from the increase in recipients and growth resulting from the increase in the cost of serving each person. The projected increase in total real costs of the Social Security pension, survivors, and disability system (OASDI) is 164 percent between 2001 and 2030. That percentage is the compounded consequence of multiplying an 84 percent increase in the number of beneficiaries by a 43 percent increase in the average per recipient annual benefit. Note again that total expected average lifetime benefits will rise faster than annual benefits because of rising life expectancy.

Focusing for the moment only on annual benefits promised by current law, they could be cut 30 percent ($1 - 1/1.43$) across the board in 2030 without reducing the average absolute real living standards of OASDI recipients from 2001 to 2030. Such a cut would bring benefit costs, now estimated at 17.24 percent of payroll in 2030, to 12.06 percent of payroll. That compares to 2030 revenues projected at 13.20 percent of payroll. Another way of putting the issue is that average annual real benefits could be increased by 9.5 percent without unbalancing the system in 2030.

On the one hand these numbers illustrate the absurdity of alarmist forecasts that future elderly populations will suffer mightily from Social Security reform. An absolute decline in living standards is clearly unnecessary. On the other hand, the numbers imply that if reform focuses on cutting traditional benefits without adjusting retirement ages, the average real benefit will decline relative to the living standards of the rest of the population. The decision in 1977 to index benefits to wages supported the idea that levels of annual Social Security benefits should be judged *relative to* the standard of living enjoyed by the working population.

In health care, of course, one reason for the rising cost is a rising level of benefits as health care improves over time. Again, those retiring tomorrow will almost assuredly garner more benefits than those retired today regardless of what reform is eventually enacted to balance the system.

This discussion of potential adjustments over time so far has focused on the real value of *annual* benefits. But since real expected lifetime benefits go up faster than annual benefits, the annual benefit cut could be made even smaller if the retirement age were adjusted further. Some adjustments were already made for the early part of the 21st century by the 1983 amendments, but the system as a whole eventually goes back to one with

a constant normal retirement age and greater increases in lifetime benefits than in annual benefits. Moreover, the early retirement age and the Medicare eligibility age have never increased since the inception of the programs, nor is any increase scheduled.

Often ignored but absolutely crucial is that adjusting the retirement age affects not only benefits but taxes as well. In table 2, a worker earning \$50,000 a year retires one year earlier at the same level of Social Security and Medicare benefits. Accordingly, he receives about \$23,500 in total benefits. But he also ends up paying \$7,700 less in Social Security taxes, \$6,600 less in federal income taxes, and about \$4,000 less in other state and local taxes. In effect, the net shift in transfers is \$41,800—the combination of getting \$23,500 more from others and contributing \$18,300 less to others. But we are not done yet. By retiring a year earlier, the retiree’s after-tax earnings fall by an additional \$31,700, the amount of reduced national product that would have been left to him rather than taxed away from him and transferred to others. Another way of saying this is that by retiring one year earlier, there is \$50,000 less for everyone to share (the fall in output and income); the worker loses \$8,200 (the drop in earnings less the \$41,800 net change in transfers and taxes), and the rest of society loses \$41,800 (the net change in transfers).

This example uses current costs of Medicare and Social Security and thus tends to understate the long-term problems of the former relative to the latter. For example, Medicare (HI plus SMI) costs are projected to rise 221 percent between 2001 and 2030. That percentage is the compounded result of the eligible population rising 94 percent and per capita costs rising 66 percent. Again, increased longevity causes total costs over a recipient’s lifetime to rise faster than annual costs.

Medicaid costs are not projected by the Social Security trustees. The Congressional Budget Office (CBO) makes long-run projections, but does not explicitly project the number of Medicaid recipients. Instead, it projects costs using a demographic index that reflects the age and sex composition of the whole population. But the basic story is the

Table 2. Example of Shift in Resources upon Retirement

For a worker who earns \$50,000. . .	
Increases in resources transferred from others	
Social Security benefits	\$18,500
Medicare benefits	\$5,000
Total 1	\$23,500
Decrease in resources transferred to others	
Social Security taxes	-\$7,700
Federal income taxes	-\$6,600
Other taxes (including state and local)	-\$4,000
Total 2	-\$18,300
Net change in transfers received (Total 1 - Total 2)	\$41,800
Addendum: Additional decline in retiree’s after-tax earnings otherwise available to meet current and future needs	\$31,700

SOURCE: C. Eugene Steuerle and Adam Carasso, The Urban Institute, 2002.

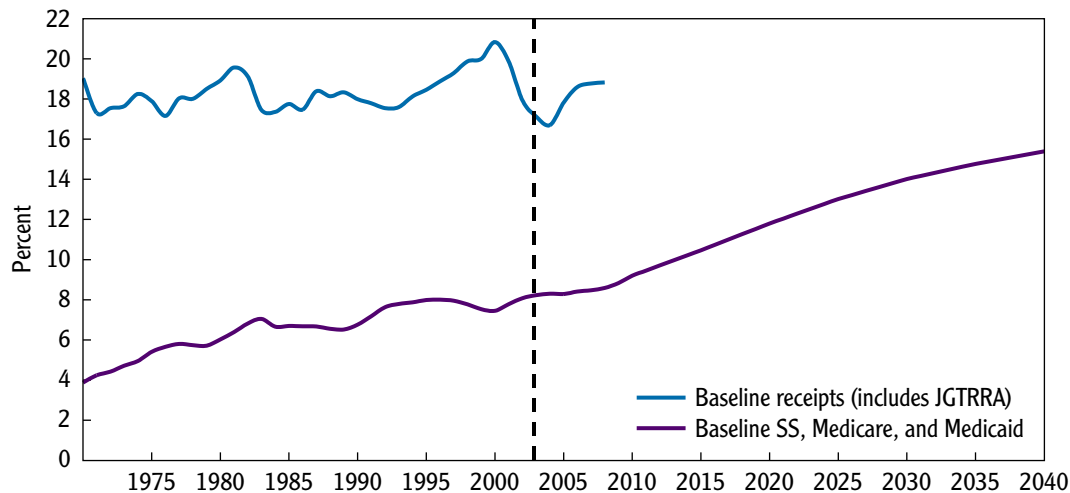
same. Costs rise much faster than wages and thus the economic burden imposed by the program rises rapidly over time. Part of the increase results from the aging of the population, because Medicaid covers nursing home care whereas Medicare does not. In fact, Medicaid costs are eventually projected to rise much faster than Medicare, especially when the baby boomers start reaching their late 80s and beyond. According to the January 2002 CBO Budget Outlook, Medicaid is already growing a few tenths of a percent faster than Medicare—over the FY 2003–13 period, Medicaid grows 127 percent while Medicare grows 94 percent. However, this projection does not take into account recent congressional efforts to boost Medicare spending with a prescription drug plan.

THE IMPACT ON THE REST OF THE BUDGET

If entitlements for Social Security, Medicare, and Medicaid for the elderly are forever increasing their shares of the national pie, then the remaining shares of the pie must be going down in aggregate. This is an incontrovertible proposition of logic and simple arithmetic. Similarly, if the share of total private and public spending devoted to these programs is going up, then the share devoted to everything else must be going down. From another vantage point, spending on the elderly has continually absorbed an increasing share of revenues. The “squeeze” between total receipts and growing Social Security, Medicare, and Medicaid spending is worth examining in more depth (see figure 4).

Of course, “everything else” in the budget is composed of a wide variety of functions and subfunctions. It will be useful, therefore, to see how these various areas have been pared historically as the entitlement budget has grown, and then to speculate on how they will continue to be pared under current law—barring either reform or some very large

Figure 4. Total Federal Receipts versus Entitlement Spending as a Percentage of GDP, 1970–2040



SOURCE: C. Eugene Steuerle and Adam Carasso, The Urban Institute, 2003. Based on data from *Budget of the United States, FY 2004* and CBO’s “Analysis of the President’s Budget, FY 2004.”

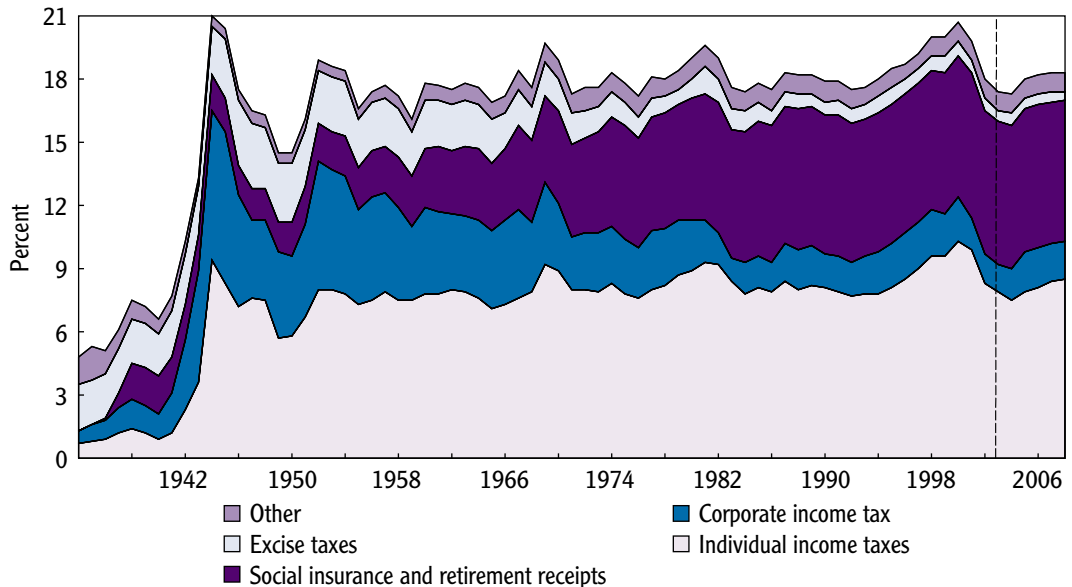
NOTE: “SS, Medicare, and Medicaid” is combined spending on Social Security, Medicare, and Medicaid.

increase in taxes. Since 1995 alone, events and circumstances have changed significantly—not the least of which is the nation’s commitment to combating terror at home and its sources abroad.

The expenditure side of the budget can be divided into a few major functions. Over almost 50 years, the share of the budget devoted to retirement and health issues has increased enormously. Retirement programs have grown from about one-twentieth of the budget to over one-quarter of it, while health programs have also grown accordingly. The vast majority of these programs are devoted to the elderly, near-elderly, and disabled. Even Medicaid has a large share of its funds devoted to long-term care programs for the elderly and disabled. Note, by the way, that one must include in these retirement and health programs not only the obvious ones—such as Social Security and Medicare, which are more universal and apply to the vast proportion of the population—but also other specialized programs for retirees, such as civil service, military, and veterans’ pensions, as well as health care for the same retirees.

The growth has been almost inexorable, in good years and bad, and in Republican and Democratic administrations. But how was it paid for? Figure 5 makes clear that the source of payment was not an increase in overall tax rates. When measured as a percentage of GDP, receipts since the end of the Korean conflict have only varied between 16.1 percent in 1955 and 20.8 percent in 2000. After 2000, receipts dropped steeply relative to GDP, reaching 17.9 percent in 2002. They are projected to drop to 16.2 percent in 2004. This drop results more from a dramatic non-legislated fall-off in the ratio of revenues to GDP

Figure 5. Federal Revenues by Source as a Percentage of GDP, 1934–2008



SOURCE: C. Eugene Steuerle and Adam Carasso, The Urban Institute, 2003. Historical data based on *Budget of the United States Government, FY 2004* and projections based on CBO’s January 2003 budget projections. Includes effects of JGTRRA (May 2003).
 NOTE: “Excise taxes” includes receipts from highway, airport, telephone, alcohol, and tobacco. “Other” includes estate and gift taxes, customs duties, and miscellaneous receipts.

than from enacted tax cuts. Although the revenue drop is not yet fully understood, it is most probably largely related to the collapse of the stock market bubble—falling capital gains revenues, reduced use of stock options, and a fall in bonuses for high-bracket taxpayers on Wall Street (Congressional Budget Office 2002c).

If taxes as a percentage of GDP changed little over the very long run, but retirement and health programs grew from about 2 percent to over 10 percent of GDP (see figure 6A), what took the hit? The simplest story is defense did, for most of the past few decades. Starting at about 14 percent of GDP at the end of the Korean conflict, it fell in various stages to close to 3 percent of GDP in 1999–2001 before rising again. The Vietnam War and the Reagan defense buildup interrupted the powerful downward trend only briefly in the early 1980s. More recently, the campaign against terror and states harboring terror interrupted the trend, but it is not yet clear whether this upswing will last, and, if so, what its eventual dimensions will be.

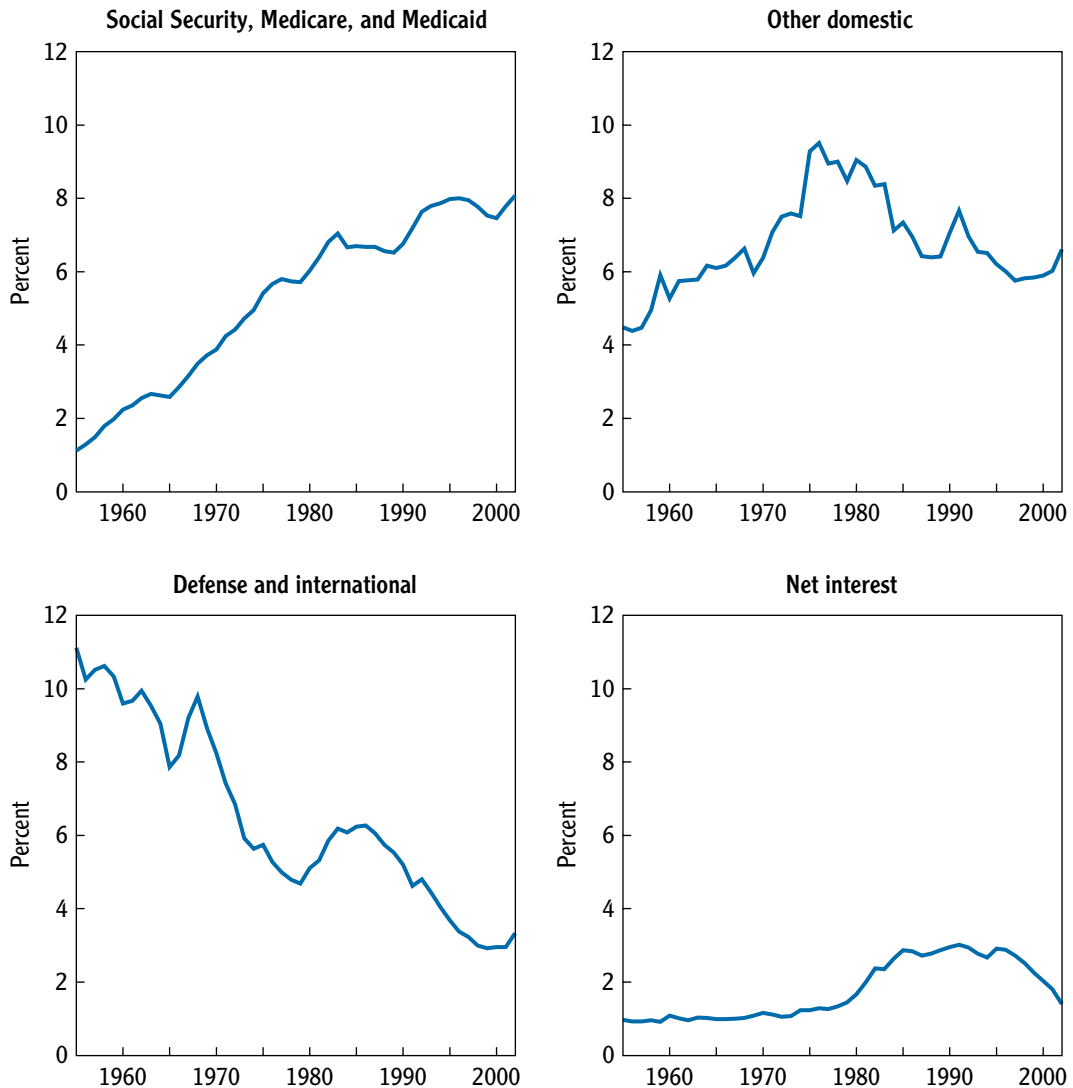
The story, of course, is more complex than revealed in the very large trends. The priorities given to various types of domestic spending change over time. In the 1960s and early 1970s, especially under President Richard Nixon but also Lyndon Johnson, a large number of new domestic initiatives were adopted and expanded, including housing, training, Food Stamps, and many others. Public physical civilian capital investment expanded rapidly relative to GDP with Eisenhower's interstate highway program in the 1950s, but then declined through the late 1960s and has remained roughly constant relative to GDP ever since.

Domestic spending other than Social Security, Medicare, Medicaid, and interest on the debt actually hits its peak as a percentage of GDP in 1976 at 9.7 percent of GDP, and then declined slightly throughout the rest of that decade. By the end of the 1970s, Congress and President Carter were no longer able to sustain domestic discretionary spending growth. A temporary ending of peace dividends also occurred as a defense buildup started in the Carter administration and then accelerated under President Ronald Reagan.

By the mid-1970s to early 1980s, the bite of the entitlement budget was being felt ever more intensely. With much of its growth now made automatic and permanently built into the law, it now began to take its toll on other items automatically. Nonelderly shares of the budget were no longer declining mainly because of discretionary decisions. Instead, at a relatively constant tax rate (the Reagan tax cuts only temporarily reduced revenues as a percentage of GDP), the toll *had* to be imposed as long as elderly programs were automatically absorbing larger shares of GDP, while defense, international, and interest spending were not declining enough to protect other domestic programs.¹³

Thus, the size of entitlement programs began to matter more and more. A growth rate several percentage points faster than the growth rate of revenues meant one thing when elderly programs made up only a small share of the budget. It meant a lot more when the higher-than-average growth rate applied to a much larger base. As a simple example, suppose government revenues are growing at 3 percent real per year. If automatic entitlement growth is 6 percent real per year, then no additional revenues are left over for other programs when entitlements are one-half of spending.

Figure 6 A. Federal Outlays as a Percentage of GDP, 1955–2002



SOURCE: C. Eugene Steuerle and Adam Carasso, The Urban Institute, 2003. Based on data in the Congressional Budget Office's *Economic and Budget Outlook FY 2004–13*, Appendix F: Historical Budget Data. All graphs exclude Social Security, Medicare, and Medicaid.

The issue came to a head when Ronald Reagan accelerated the defense buildup started under Carter and, more importantly, put forward a significant tax reduction to offset the tax increases (measured as a percentage of GDP) that occurred under President Carter, largely due to inflationary increases in taxable income moving people into higher tax rate brackets. Reagan was also unable to contain continued growth in entitlements. As one consequence, the squeeze was reflected initially in substantial growth in the deficit and interest payments. Reagan also presided over the most significant decline in non-Social Security, Medicare, and Medicaid domestic spending outside interest of any president

since World War II (see “other domestic” graph in figure 6A). Such spending fell from 9.0 percent of GDP in 1980 to 6.4 percent in 1988.¹⁴

Domestic spending other than Social Security, Medicare, and Medicaid resumed an upward growth path in the early years of the presidency of George H. W. Bush—hitting a new partial cyclical peak of 7.7 percent of GDP in 1991. In 1990, however, Congress passed a major deficit-reduction effort, including rules under a Budget Enforcement Act that government began to follow fairly strictly. Legislated spending caps made it difficult to increase discretionary domestic spending much more than the growth rate of inflation. New programs could more easily be defeated by being declared a violation of the rules. These rules did not apply to automatic growth already built into entitlement programs, although new entitlement programs were put into a pile with tax receipts and also subject to a separate set of restrictions. The Clinton administration used these same rules along with an explicit deficit reduction package that raised taxes and imposed spending restraint, and, as a consequence, other domestic spending fell to 5.8 percent of GDP by 1997.¹⁵

In 1998, a budget surplus emerged by surprise and growing surpluses were projected for the long run. Congress became more lax and began to evade the budget rules of 1990. Other domestic spending grew slightly to 5.9 percent of GDP for 2000 and 6.0 percent for 2001. Then, partly because of the September 11, 2001 attack and partly because of a recession, spending discipline continued to erode and other domestic spending grew 0.6 percentage points to 6.6 percent of GDP in 2002—even more proportionately than the defense increase from 3.2 percent of GDP in 2000 to 3.6 percent of GDP in 2002. At the same time that spending was being increased, even more significant tax cuts were enacted.

The collapse of budget discipline accompanying the emergence of surpluses and the subsequent spending response to September 11 and the Afghan and Iraqi wars may be temporary. Almost all projections beyond 2004 suggest considerable stringency in future years outside defense and entitlements for the elderly.

A somewhat different look at spending suggests substantial changes in the nation’s priorities over time. Table 3 shows the size of cuts in many major spending categories of the federal budget relative to when those programs were at their peak. The comparison is as a percentage of GDP, or share of the national pie. Thus, a drop from 2 percentage points of GDP to 1 percentage point of GDP shows up as a drop of 50 percent.

To give some examples of the extent to which programs have dropped since their peak in the 1961–2002 period, defense has dropped by about 64 percent since the Vietnam peak year 1968; international development and humanitarian assistance by 86 percent since peak year 1964; general science, space, and technology by 77 percent since peak year 1966; energy conservation by 64 percent since peak year 1981; natural resources and environment by 44 percent since peak year 1977; transportation by 29 percent since peak year 1965; and higher education by 42 percent since peak year 1981. While spending in some budget functions was cut relatively more than defense, the large size of defense at its 1968 peak during the Vietnam War means that subsequently it was by far the most important category in releasing resources for elderly programs.

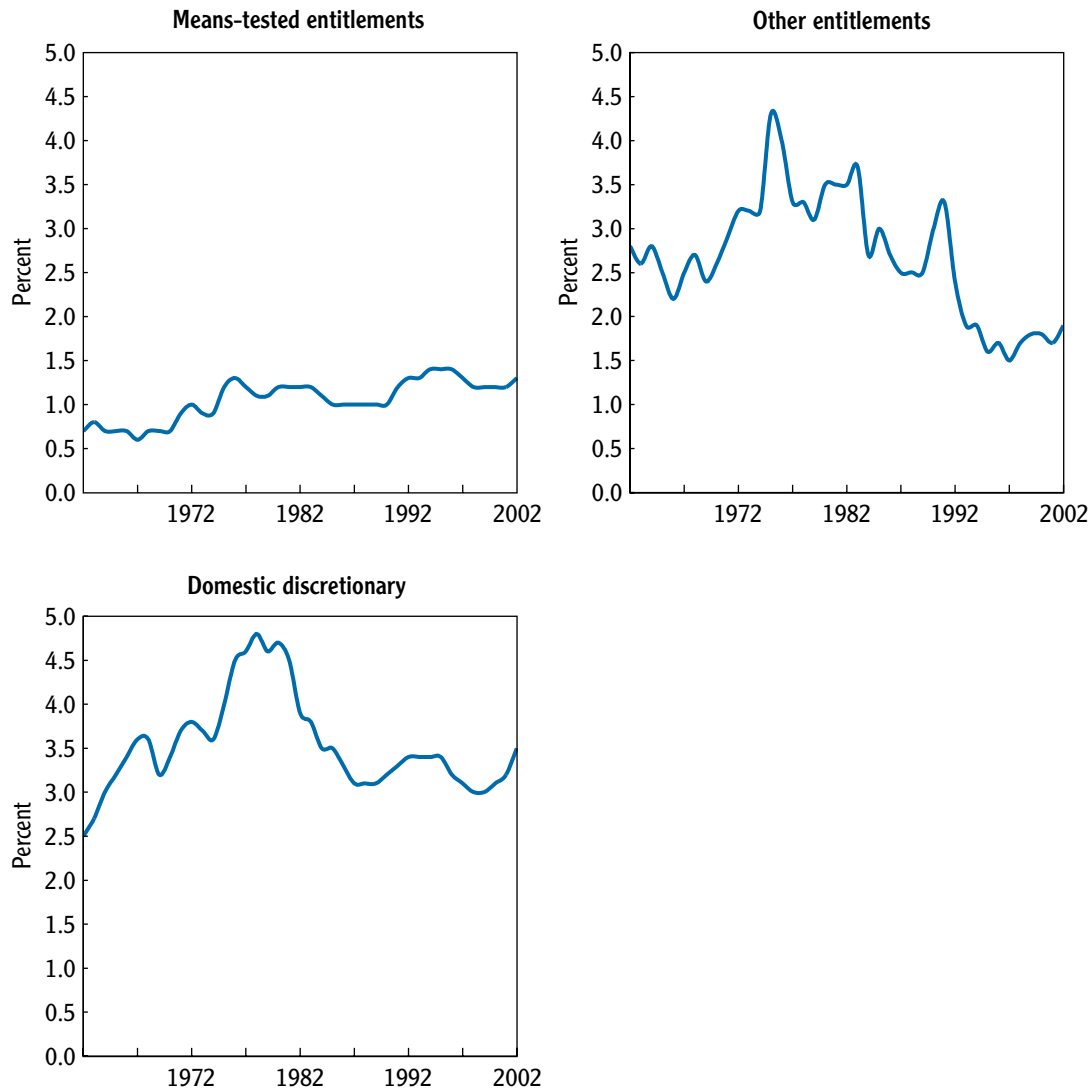
Table 3. Reduction in Outlay Category as a Percentage of GDP, 1961–2002

Function and subfunction	Maximum	2002	Change	Peak year
National defense	9.43%	3.37%	–64%	1968
International development and humanitarian assistance	0.53%	0.08%	–86%	1964
General science, space, and technology	0.89%	0.20%	–77%	1966
Energy conservation	0.02%	0.01%	–64%	1981
Natural resources and environment	0.51%	0.28%	–44%	1977
Transportation	0.84%	0.60%	–29%	1965
Higher education	0.29%	0.16%	–42%	1981

Figure 6B breaks down the change in domestic spending (other than Social Security, Medicare, and Medicaid), which has been declining since the mid-1970s. Means-tested entitlements (other than Medicaid, which continues to grow) basically were able to maintain their share of GDP. New programs or growth in some programs in this category essentially offset declines in others. For instance, old age assistance was federalized by creating the Supplemental Security Income program in the early 1970s and, more recently, the refundable portion of the earned income tax credit (EITC), which is counted as an outlay, has grown markedly. However, these programs are now a much larger part of the domestic residual, and they are less likely in the future to be immune from the squeeze between revenues and the elderly budget.

One missing factor has not yet been discussed. Some spending pressures from elderly programs may have been partially financed for years, even decades, by an upward drift in the budget deficit. Historically, the United States has been highly responsible fiscally. For most of the nation's history, budget deficits only emerged during wars and recessions or depressions. This discipline showed some signs of eroding in the late 1960s and 1970s and deficits rose further in the 1980s and early 1990s (see figure 7). The story is complicated by the fact that Congress again got religion in the 1990s, giving a balanced budget a high priority. The 1990s were characterized mainly by overall spending restraint (especially with new programs) and moderate tax increases in 1990 and 1993. The effort met with success and together with a major economic boom produced four surpluses in a row from 1998 through 2001. But the nation has once again slipped into deficits. Curiously, conservatives are generally arguing that deficits do not matter while Democrats and moderate Republicans are urging fiscal restraint. It is unclear who will win this political battle in the longer run, but if the nation drifts into financing the coming surge in spending on the elderly by increasing the deficit, the result will be truly frightening. Deficits draw down national saving, thus reducing capital formation and economic growth, which in turn reduces the growth of revenues needed to finance government programs. As revenue growth decreases, deficits tend to grow faster. The problem can get completely out of hand when deficits are sufficiently large to cause the debt-to-GDP ratio to grow rapidly. The interest bill then also grows relative to incomes and the deficit begins to feed upon itself. Eventually the debt threatens to explode and the impending blast imposes strong

Figure 6 B. Other Domestic Outlays Excluding Social Security, Medicare, and Medicaid as a Percentage of GDP, 1962–2002

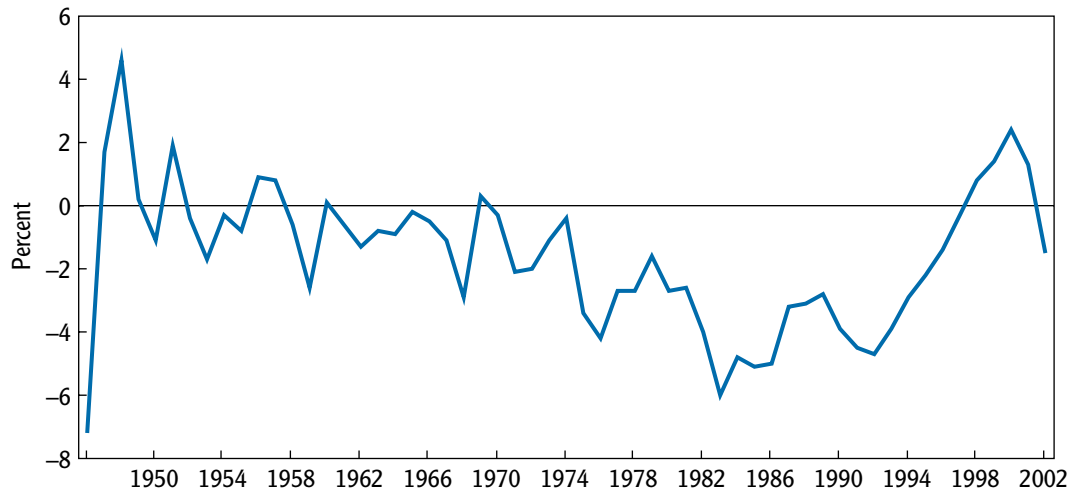


SOURCE: C. Eugene Steuerle and Adam Carasso, The Urban Institute, 2003. Based on data in the Congressional Budget Office's *Economic and Budget Outlook FY 2004–13*, Appendix F: Historical Budget Data. All graphs exclude Social Security, Medicare, and Medicaid.

pressures to begin financing government by creating money rather than by borrowing. The inevitable result is hyperinflation.

How much can the past history of spending, taxes, and deficits be used to predict the future? We know today that the increased deficits must eventually be paid for. As a percentage of GDP, however, they are not as large as they were in the early 1980s—at least so far. Even that comparison understates how quickly we are moving back to past practices; during higher rates of inflation in earlier decades, the deficit could be viewed as partially offset by the inflation-induced decline in the value of outstanding debt. In any case,

Figure 7. Budget Deficit as a Percentage of GDP, 1946–2002



SOURCE: The Office of Management and Budget, *Budget of the United States, Fiscal Year 2004*, Historical Tables, table 1.2.

the free-wheeling days of 1997 to the recent period cannot last indefinitely, and how Congress and the president react is yet to be determined.

Regardless, the basic point of this analysis is that past trends are not sustainable in the long run. Past trends generally involve a relatively constant tax burden relative to GDP, and growing support for the elderly offset by a strong downward trend in defense. Means-tested entitlements have barely held their own, although other domestic spending on many specific civilian budget functions, such as education, natural resources, and the environment, is considerably below peak levels. Total domestic discretionary spending relative to the GDP, in fact, is back down to the level of the early 1960s after rising faster than GDP through the late 1970s. Perhaps programs will be spared from the squeeze for a short time if the deficit is put on a long-run upward trend. But that is not clear at this time, and eventually deficit increases lead to a squeeze anyway through an increase in interest costs.

Long-run budget models (examined below) will show that Social Security, Medicare, and Medicaid will absorb about 6 percent more of the GDP in 2030 than they do today. Clearly, we are coming to the end of the most important trend of past decades—paying for increased elderly programs with declines in defense. Even after a recent buildup in response to September 11, defense spending is still only about 4 percent of GDP today. In other words, bringing it to zero, which is implausible, would only pay for two-thirds of the expected increase in the main programs for the elderly. Paying for the entire increase in the elderly burden with tax increases seems equally implausible. Even if some recently passed tax cuts are left only temporary, it would still involve about a 30 percent increase in every tax in the system when today's debate is about how much to cut taxes, not how much to increase them. The main budget categories remaining are civilian and military pensions, domestic discretionary spending, and entitlements targeted to the poor outside Medicaid. If all these spending categories were taken to zero, the expected growth in

Social Security, Medicare, and Medicaid for the elderly and disabled could barely be paid for,¹⁶ with a bit more than 0.5 percent of GDP to spare.

Clearly, the projected increase in the three main entitlement programs overwhelms all other major budget categories. Even if the necessary funding is spread out among different major categories, the changes would be draconian. For example, the 6 percent of GDP increase in costs might be covered by increasing every tax by 15 percent (roughly 3 percent of GDP), cutting defense by roughly one-third (a bit over 1 percent of GDP), cutting domestic discretionary spending and civil service and military pensions by over 30 percent (1.5 percent of GDP), and cutting means-tested entitlements by 20 percent (0.5 percent of GDP). Leaving aside whether such changes are politically plausible, it would be a huge cost to bear just to avoid reforming Social Security, Medicare, and Medicaid. Moreover, these calculations do not account for the further conversion of the budget into one mainly financing consumption rather than one financing items such as education that might be more likely to enhance growth.

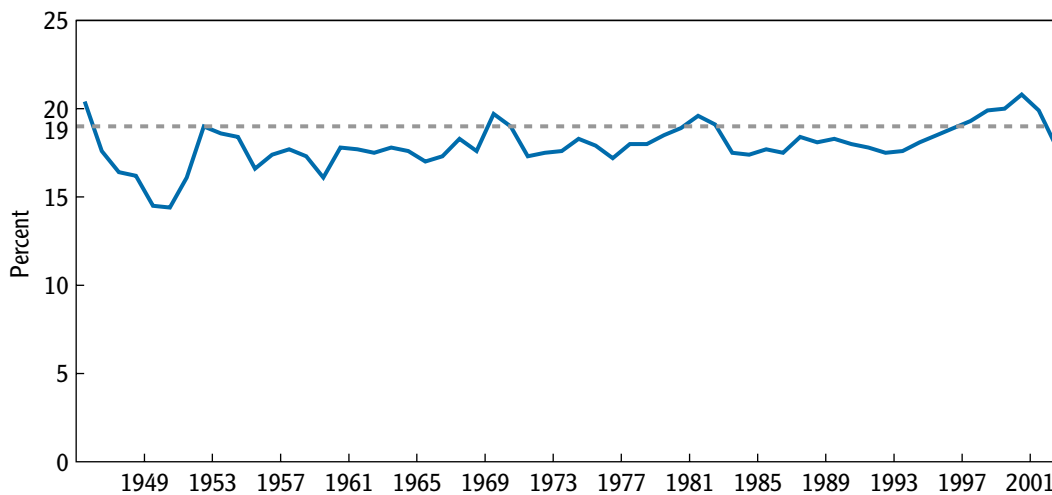
LONG-RUN BUDGET MODELS

OMB, CBO, and GAO have created long-run budget models that project economic growth and examine the evolution of spending on Social Security, Medicare, and Medicaid relative to GDP over the long run. These models are worth examining to check the validity of budget projections and the potential crisis we believe they imply. The projections place these programs in the context of an entire budget under different specified policy assumptions. Although the models differ slightly in their assumptions, they are similar in their basic structure and provide similar results through 2030 when making the same policy assumptions.¹⁷ We shall focus our discussion on the results of the CBO model as published in the summer of 2002 and on recent variants of the GAO model discussed in recent testimony by the Comptroller General.¹⁸

When making long-run projections, it would not be realistic to assume that current law remains unchanged for decades. But what is realistic? In their base model, CBO assumes that revenues are held constant at 19 percent of the GDP after 2010. This means, first, that the tax cut of 2001 is very likely extended beyond its sunset date of 2010 but that other cuts are not extended. Second, Congress will allow economic growth to push individual income tax payers into higher tax brackets, but eventually it will halt that growth, especially in the millions of taxpayers that will soon be pushed onto the alternative minimum tax (AMT). Although the AMT was initially intended to go after tax shelters, it never hit that target very well. If not reformed, it will eventually hit most middle-income families with children, since dependent exemptions and state and local tax payments are treated like preferences under the AMT. Third, Congress will also have to offset the effects of the maturation of tax-favored retirement accounts. Thus, the assumptions allow some tax increases, limited to the near term.

History provides some support for the CBO revenue assumption. After slightly exceeding 20 percent at the end of World War II, the federal tax burden has seldom been allowed to exceed 19 percent (see figure 8). Every time that level has been breached, taxes

Figure 8. Receipts as a Percentage of GDP, 1945–2002



SOURCE: The Office of Management and Budget, *Budget of the United States, Fiscal Year 2004*, Historical Tables, table 1.2.

have been cut significantly. The brief exceptional period starting in 1997 when the 19 percent barrier was exceeded for five years was in large part owing to a booming stock market's effect on capital gains realizations and a surge in the incomes of the very rich. CBO's assumption looks realistic now that we have reverted to a more normal percent of GDP in taxes—the result of tax cuts and falloff of the revenue boom from capital gains and the rich. That period was followed by one in which there was a dramatic post-bubble, nonlegislated collapse in revenues relative to GDP. CBO's long-run assumptions require that capital gains return to normal and the incomes for the rich are restored to pre-bubble levels.

Another significant assumption by CBO has less historical support. After the end of the 10-year baseline projection over which discretionary spending is held constant in real terms, CBO assumes that discretionary spending and entitlements outside Social Security, Medicare, and Medicaid will remain constant relative to GDP. As previously documented, total discretionary spending has, in fact, been on a strong downward trend relative to GDP for about 50 years largely because of declines in defense and international assistance. Domestic discretionary spending grew faster than GDP on average for the three decades following World War II, but has grown more slowly than GDP in the two decades following the Carter administration. In the very late 1990s and early 2000s, domestic discretionary spending again soared relative to GDP, but it is unlikely that a new trend is in place. Entitlements outside Social Security and Medicare that are not means-tested have been on a slight downward trend since the mid-1970s, while means-tested entitlements outside Medicaid are only slightly above the level of 30 years ago.

Although discretionary and other entitlement spending may not grow as rapidly as GDP after 2012 or even before 2012, discretionary spending is almost certain to grow in real terms between 2002 and 2012. Thus, CBO is very probably understating spending growth for the first 10 years of their projection period and may be overstating it later. CBO's assumption implies that discretionary spending plus entitlement spending outside

the three largest programs will absorb at least 7.1 percent of the GDP after 2012. That compares to 8.5 percent absorbed in 2001. The time pattern of spending growth implied by the CBO assumptions may be somewhat artificial with too little growth early and too much growth later, but the implications for, say, 2030 seem quite reasonable. Of course, “reasonable” does not necessarily mean “highly likely.” Any major new need, demand, or emergency—defense, terrorism, disease control, education—could affect the result significantly, as would long-term reversion to the spending stringency of the 1990s.

By 2030, CBO has Social Security, Medicare, and Medicaid absorbing 13.9 percent of GDP compared with 7.9 percent in 2001—a year in which GDP was depressed because of recession. The ratio was 7.6 percent in 2000 (see figure 1).

Under current law, all members of the baby boom generation have qualified for Social Security and Medicare by 2030. As noted previously, the programs continue to grow relative to GDP after 2030 because of rising life expectancy and health cost growth. While Social Security, Medicare, and Medicaid are projected by the Trustees and CBO for a 75-year period, the numbers become increasingly artificial well before then. Essentially the budget as whole begins to explode. For example, even under fairly optimistic assumptions about the near term, by 2030, the budget is in deficit while the debt starts growing faster than GDP. The larger deficits rob the economy of saving and investment causing GDP to grow more slowly, thus causing the deficit and debt to grow more rapidly. The implied growth in interest costs begins to dominate total spending growth. Carried out to 2075, interest becomes a large part of the explosion—rising to 11.5 percent of GDP compared with 2.0 percent in 2001. At that point, the system is on the verge of exploding.

It is very unlikely that such a situation would actually emerge. There are both good and bad options for avoiding it. The three main entitlements may be reformed (good). Defense, other discretionary spending, and entitlements for the poor may be squeezed out (bad). Or we may use inflation to rid ourselves of debt (very bad).

GAO has recently provided projections that combine a variety of policy options, but we shall focus on two extreme packages—one leading to smaller and one to larger long-run deficits than CBO’s. In a set labeled “baseline extended,” GAO makes CBO’s assumptions regarding discretionary spending, but assumes that the tax cut of 2001 is allowed to sunset as legislated in 2010. It then carries revenues forward at 20.5 percent of GDP. In the projection that leads to larger deficits, the tax cut does not sunset and discretionary spending grows at the rate of GDP growth after 2002.

The differing policy and economic assumptions make very little difference to the basic conclusion. Spending on Social Security, Medicare, and Medicaid rise at an unsustainable rate and ultimately lead to a rapidly growing budget deficit and an exploding debt. However, the timing of the disaster is affected significantly by the policy assumptions. In the case where discretionary spending rises more rapidly from the beginning and the 2001 tax cut (or its acceleration in 2003) does not sunset, the debt reaches 200 percent of GDP (compared to today’s 34 percent) by 2048. In the baseline extended case, this level is not reached until 2074. Although the latter scenario provides much more time to adjust, adjustment is essential in either case and it might as well be sooner than later. If no adjustment is made, the difference between the scenarios is analogous to the difference

between jumping off a 40- or 60-story building. The end result is the same though the time taken to reach it is a little different.

The reliability of the various projections is assessed in more detail in the appendix. Any projections of the long-run budget future will be wrong to some degree and may be wrong by a large margin. But the size of the disaster portrayed in various analyses is so large that it will not disappear, even if the assumptions underlying the analyses turn out to be far too pessimistic. After all, the problem does not lie entirely in some long-distant future. The squeeze on the nonelderly parts of the budget and on the deficit is already occurring. We may not know exactly when the problem will reach crisis proportions, but a crisis seems inevitable without reform. And of course, the uncertainty inherent in our projections means that it could happen much sooner than now expected.

APPENDIX: RELIABILITY OF THE PROJECTIONS

The recent record of budget forecasts has been abysmal. Over the 20 month period beginning in January 2001, CBO's estimated budget balance for fiscal 2002 was changed by well over \$300 billion, or 3 percent of the GDP, because of errors in forecasting the GDP and other technical problems having nothing to do with legislation. If we cannot forecast the budget balance within 3 percent of the GDP 20 months ahead, what credence can we give to a projection that forecasts an increase in spending of 6 percent of GDP over 28 years?

Although the long-run future is extremely uncertain, there are a number of reasons for paying close attention to long-run projections. First, they are not as unreliable as the short-run record might imply. The bulk of recent forecasting errors have come from the revenue side of the budget and are probably related to the effect of the recent stock market decline on capital gains realizations and on the income of taxpayers (including items such as stock options) in the top individual tax bracket. The long-run models assume that Congress corrects for surprise changes in the revenue-to-GDP ratio over most of the projection period. This assumption could be wrong, but as already noted, it gets considerable support from past history.

It has to be admitted that although recent revenue forecasts have been unusually bad, the average record for both revenues and expenditures since the early 1980s is not reassuring. Five years out the combined average error for projecting the budget balance equals about 4 percent of GDP with revenue and outlay forecasts contributing about equally to the error (Penner 2001).

There is strong reason to believe that forecasts of Social Security spending relative to GDP will be more accurate than forecasts of absolute spending. The program is already designed to grow slower when GDP growth is slower and faster when GDP growth is faster. As we have seen, initial benefits are indexed for nominal wage growth and benefits after retirement are indexed for inflation. Thus, mistakes in forecasting productivity growth and inflation move the numerator and denominator of the spending-GDP ratio in the same direction.

The issues are more complex in assessing the probable errors in projecting Medicare and Medicaid spending relative to GDP, but there are reasons to believe that

the mistakes involved in projecting the numerator and denominator of the ratio are positively correlated. To the extent that health care is produced by labor, increased productivity growth in the economy as a whole will increase both health costs and GDP. (Although technology has greatly improved the quality of health care, the resulting improvement in expected life and the quality of life does not show up directly in the official productivity figures.) Increased GDP growth will also increase the demand for health care. If the increase in demand is disproportionate, the relative cost of health care may actually increase with increased income. However, many related factors affect the cost of health care, the most important of which is technological change, which is difficult to forecast in the long run. We have seen how health care is an unusual sector, maintaining growing prices in the face of substantial technological improvements. Whether that continues in the future depends not just on public-sector but also on private-sector reforms and reactions. Therefore, we cannot be as confident of projections of Medicare and Medicaid costs relative to GDP as we are of projections of the long-run burden imposed by Social Security.

The Trustees Projections

The Social Security trustees deal with uncertainty in three ways in their reports. First, they promulgate two projections that bracket their “intermediate” projection. A low-cost projection combines a higher fertility and productivity growth rate with a more pessimistic estimate of life expectancy at 65 along with other assumptions that tend to lower cost compared with the intermediate projection. A high-cost projection varies assumptions the other way.

While the intermediate projection of 2002 shows the OASDI trust fund running out of resources about 2042 and the high-cost projection has the cupboard bare about 2031, the low-cost projection does not show the trust fund emptying during the entire 75-year projection period. Nevertheless, the economic burden imposed by Social Security in the low-cost projection does increase as outlays rise by 0.8 percent of GDP between 2002 and 2030. Under the intermediate assumptions, the increase is 2.2 percent of GDP over the same period.

The second approach to uncertainty involves so-called stochastic analysis that attempts to assess the probability of the actual outcome being outside or within the two extreme paths. The trustees provided a full-blown stochastic analysis in their 2003 report. This approach was pioneered by the CBO. Stochastic analysis involves performing a historical time-series analysis of the major inputs to the trustees’ assumptions and using it to compute a probability distribution of possible future values of the inputs.¹⁹ The following results refer to CBO’s 2001 analysis, but do not differ markedly from the trustees’ 2003 discussion. The analysis takes account of the fact that some economic variables are closely related. Values of inputs are drawn at random in a stochastic process guided by the probability distributions and run through CBO’s Long-Run Actuarial model. The process is repeated many times and a distribution of the key outputs—OASDI benefits, payroll tax receipts, etc.—is computed for each year. The degree of uncertainty increases rapidly as

the projection period is extended and becomes enormous by 2076. All that can be said about 2076 is that it is almost certain that benefits will exceed revenues, but the excess may be trivial or gigantic. However, the analysis indicates that it is highly probable that the difference will be large.

The analysis suggests that there is a 90 percent chance that the trust fund will last only through 2029, the year that it would now be emptied under the trustees' 2002 high-cost projections. There is, however, only a 10 percent chance that the fund will last through 2054 and a 1 percent chance that it would last through 2075. By this analysis, the probability of doing better than the trustees' low-cost path is very low. Also, even if the trust fund lasts until 2030 it will likely be paying out much more in benefits than it is receiving in taxes—thus causing the overall budget balance to deteriorate rapidly. And it is almost certain that costs will be rising as a share of GDP, thus ensuring some type of budgetary pressure.

It should be noted that there are various approaches to assessing future uncertainty and performing stochastic analyses. However, CBO feels that its methodology probably understates the degree of uncertainty that must be attached to the trustees' projections.

The third way that the trustees illustrate the uncertainty of their projections is to provide a sensitivity analysis of the effect of varying their input assumptions one by one. For example, the trustees will report the impact on the actuarial balance of a change in the average real wage or of the average annual death-rate assumption of 0.75 percent. Although this provides useful information, it suffers from the same flaw afflicting their three paths. One does not know what probability to attach to a particular variation in an input and the data provided force one to accept a particular range for the variable for the whole projection period (e.g., the same rate of annual change for 75 years). The effect on the actuarial balance of the system of changing the variable over the specified range is provided for 25-year subperiods of the 75-year projection.

It is also useful to look backward to test the accuracy of forecasts. There have been few significant legislative changes in Social Security in the past 15 years.²⁰ Therefore variation in forecasts of the benefit-GDP ratio is largely due to economic and demographic forecasting errors. Because errors in benefit and GDP forecasting are likely to be in the same direction, forecasts of the benefit-GDP ratio made for 2000 since 1985 have been quite stable. The most pessimistic forecast, made in 1993, was 4.87 percent. The actual outcome at 4.19 percent was better than any forecast during the period, largely because the denominator, GDP, was bloated by an unusually exuberant boom. The range of forecasts, therefore, differed by only 0.7 percent of GDP. Forecasts for 2030 are likely to vary over a more significant range over the next 28 years, but as suggested by CBO's stochastic analysis, it is extremely unlikely that forecast errors could be as large as the currently predicted increase of over 2 percent of GDP.

Medicare and Medicaid Forecasts

Health programs are much more difficult to forecast. In the five years that CBO was forecasting Medicare outlays for 2000, projections became steadily more optimistic by more

than 1 percentage point of GDP. The process was helped by cost-saving legislation in 1997 that proved more effective than expected, but most of the change in the forecast was due to unexpected changes in the rate of growth of health costs that were not related to legislation. The actual outcome for the Medicare-GDP ratio in 2000 was lower than any forecast for that year had predicted. Again, that was mainly due to the surge in the denominator caused by the boom. CBO forecasts of the Medicare-GDP ratio for the intermediate term have continued to improve slightly for the long-run. The January 2001 forecast for 2010 was 2.8 percent; the January 2003 forecast was 2.7 percent.

Could projections improve so radically that there is no Medicare problem in the distant future? No one has performed a stochastic analysis for Medicare comparable to that done for Social Security by the trustees and CBO.²¹ However, it can be said that while forecast errors tend to be larger for Medicare and Medicaid than for Social Security, forecasts of the relative growth in the ratios of spending to GDP are also larger. The share of Medicare in GDP is forecast to grow from 2.2 percent in 2000 to 4.9 percent in 2030 while the share of Medicaid goes from 1.2 to 2.8 percent. The possibility that these cost shares would not rise at all seems extremely remote. More important, for both Social Security and the health programs, past errors imply that things could turn out much worse than now forecast.

Policy uncertainty with Medicare is considerable. In the summer of 2003, the House and Senate passed bills providing a prescription drug benefit under Medicare. Both bills contain complex cost-saving measures, but both cost roughly \$400 billion over the 2004–13 period and both have costs rising at double-digit rates at the end of that period.

Long-Run Budget Models

No one has done complete stochastic analyses of the CBO and GAO long-run budget models. However, no doubt the probability distribution of forecasts would look very much like that derived for the Social Security trustees' projections. It could even reflect greater uncertainty if current law were not assumed as given and certain.

One can, however, get some sense of the problems inherent in such models by examining different CBO estimates of the "fiscal gap." This gap is the overall tax increase or spending cut necessary to end up with the same debt-to-GDP ratio 70 years from now as prevails today. Between 1997 and 1999, CBO's estimate of the fiscal gap changed from 4.1 percent of GDP to 0.4 percent—a huge difference. An estimate has not been provided recently, but the deteriorating medium-run budget outlook would now probably cause estimates of the gap to increase.

How could a forecast for the next 70 years change so radically in two years? The answer lies in the inherent structure of such models. The estimate of the end point depends crucially where you start the analysis. For example, if you start with a budget surplus, virtue is at first its own reward. The surplus reduces the interest bill for the debt and that provides upward momentum for the surplus, which reduces the interest bill further and so on. This effect is eventually overwhelmed by the growth of Social Security, Medicare, and Medicaid, but the transition into deficit spending is much delayed. If, in

contrast, you start with a deficit, the growth in the interest bill soon exceeds the growth in GDP. You have to finance the growing interest bill with additional borrowing thus causing the interest bill to grow faster. Eventually, the system explodes, but when one starts with a surplus, the explosion is put off for a good long time. Therefore, the tax increase or spending cut necessary to avert it is much smaller.²²

CBO has provided some sensitivity analysis to show how their results would change using different assumptions about the rate of productivity growth, the age composition of the population, and the rate of growth of health costs. Health cost growth is assumed independent of productivity growth. The analysis suffers from the same flaw as the sensitivity analysis done by the Social Security trustees. It is difficult to know the probability that the key input variables will be within the range tested by the analysis. Health cost growth per employee is assumed to vary through 2030 from the rate of growth of wages to 2.0 percent per year above the growth of wages. The ratio of those 65 and over to the 18-to-64 population in 2030 is assumed to vary from 32.9 percent to 38.1 percent. The annual rate of productivity growth varies from 2.1 percent to 1.1 percent. Using the high-cost end of the inputs implies that Social Security, Medicare, and Medicaid costs would absorb 16.9 percent of GDP in 2030.²³ The low-cost assumptions lead to a ratio of 12.8 percent. The optimistic end of the range still implies a substantial increase from the 7.6 percent that prevailed in 2000. However, it is difficult to judge the probability that the true outcome will fall outside the range of 12.8 to 16.9 percent.

NOTES

1. Throughout most of its history, Social Security and Medicare laws have been enacted in a way that keeps taxes and benefits more or less equal. One modest exception has been the period since the 1983 amendments, when the tax rate was set at a constant rate sufficient to bring about a modest, although temporary, buildup in funds. Even when OASDI Trust Fund assets peak at \$7,233 billion in 2026, however, they cover only a fraction of total future liabilities and will be rapidly spent down after the peak. In Medicare, this buildup is smaller and even more misleading, since a substantial infusion of general revenues already finances Part B or Supplementary Medical Insurance (SMI). Only Hospital Insurance has a dedicated payroll tax.

2. The automatic indexing provisions were first adopted in 1972 and effective in June 1974. The 1977 provisions cleaned up the methods adopted in 1972 (which often provided for more than wage indexing) and became effective for those eligible for OASDI in 1979.

3. More technically, past earnings were indexed to grow with average levels of earnings to determine the average indexed monthly earnings, to which a benefit formula was applied. The dollar figures defining brackets in the formula were also indexed to grow according to the same wage index.

4. The way of adjusting for average earnings had several factors that tended to make benefits grow faster and also slower than average compensation rates per hour. Two will be mentioned here. First, the measure of average earnings was taken for all workers in the economy. Hence, if more part-time workers came on board, then it would grow more slowly than the average hourly compensation rate. On the other hand, if workers increased their number of hours worked, then the average Social Security wage would increase faster than the average hourly wage. Second, the measure used was cash earnings, so as employee benefits grew relative to cash compensation, the average Social Security (cash) wage would grow more slowly than average hourly compensation.

5. Of course, one could argue that automatic growth made legislators more cautious as well. While the evidence is mixed, certainly there is no clear-cut case that we would have continued with discretionary action the same way as had occurred when Social Security was smaller and there was substantial slack in the overall federal budget.

6. Low wages and high wages are defined, respectively, as 45 percent and 160 percent of the average wage.

7. For an existing retiree, the discounted value of cash benefits at some future date will be worth less than the same real benefit provided today. However, medical costs likely will rise even faster than a modest discount rate like 2 percent, so that their value will be worth more each successive year in retirement, even on a discounted basis. Thus, although the example is simplistic, it is not far from the mark in describing how total benefits can rise to such a high level.

8. There is no “right” answer on the appropriate discount rate. Some would argue that a higher rate, more relevant to the return on productive capital, should be used. Others would want to “risk adjust” that number back downward. Still others might argue that the popularity of Social Security indicates that people have a very low discount rate—in no small part because their taxes cover benefits for their parents, which they may be glad to pay at some level no matter what they get back.

9. See Cohen, Steuerle, and Carasso (2003), and Leimer (1999).

10. This would not necessarily be true at any point in time, but over time, by assumption, there would be an addition of more years of life in years other than the last 10 years.

11. Authors’ calculations based on Life and Mortality Tables from the Social Security Administration, Office of the Actuary (2002).

12. Unless otherwise stated, all projections in this section are based on the 2002 intermediate projections of the Social Security trustees. See U.S. Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds (2002).

13. Of course, the deficit could be increased temporarily, but that would only add to interest costs in later years, thus making the impact on other domestic programs often worse.

14. Undistributed offsetting receipts are not subtracted from gross expenditures in these charts.

15. About half the fall occurred as the heavy costs of the thrift crisis of the late 1980s and early 1990s began to produce net revenues when bad debts acquired during the crisis were sold.

16. Note that Medicaid growth would be reduced to the extent that means-tested entitlements were reduced proportionately.

17. CBO and GAO models differ from that of OMB in that budget deficits in most variants of the CBO and GAO models depress GDP growth by lowering the level of saving and investment. The lower GDP growth causes deficits to worsen more rapidly in the very long run, but this effect is not very large through 2030. See Congressional Budget Office (1997).

18. See Congressional Budget Office (2002 a, d).

19. See Congressional Budget Office (2001).

20. The elimination of the earnings test in 2000 for people 65 or over would not have had a significant effect on benefits until 2001.

21. A variety of panels of experts have been called upon to review the assumptions and methodology underlying the Medicare Trustees Report. Four separate panels have recommended considering alternative analytical techniques, with the 1999 Social Security Advisory Board Technical Panel members stating that “They follow previous panels in strongly recommending efforts toward stochastic modeling or similar techniques that are better able to capture the interrelationships among assumptions.” *The 2002 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds* includes an appendix that gives projections representing a “preliminary” application of stochastic modeling to short-range (10-year) SMI costs only. See U.S. Board of Trustees of the Hospital Insurance and Supplementary Medical Insurance Trust Funds (2002), pp. 129–38.

22. For an alternative discussion of the fiscal gap, see Auerbach et al. (forthcoming).

23. See Congressional Budget Office (2002b). Note that these data were computed in January 2002. The calculations are based on slightly different assumptions than were used for the results of the CBO long-run model discussed above.

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