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Can Social Security Be Saved?

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"Saving" Social Security was perhaps the most important issue addressed by President Clinton in his State of the Union Address. Apparently, the president and Congress agree that projected budget surpluses should first be directed to saving Social Security before other uses of the surplus can be considered. While not all observers have agreed with the president's plan, there is widespread agreement that he is on the right track. [1]

In this paper, we will first examine the view that the Social Security program faces a "crisis" in the years to come, arguing that the assumptions used by the Social Security Trustees are far too pessimistic. We understand the natural inclination to be conservative when making projections over periods as long as 75 years. However, as we will show, relatively minor adjustments to the assumptions used, lead to very different assessments of Social Security's long-term financial soundness. One should be careful about proposing major reforms to deal with problems that may never unfold. Second, we will question whether it is even possible to resolve problems that may arise far into the future through financial reforms made today. We will show that most analyses, including that conducted by the Trustees, have confused financial issues with the real burden of caring for retirees in the future. Indeed, if the problems were only financial, then they can be fixed today or at anytime in the future through relatively simple and easy accounting procedures. Financial problems neither require higher taxes now, nor lower benefits in the near future, nor do they require running budget surpluses now. On the other hand, if there will be real problems involved in producing a sufficient quantity of resources to care for future retirees, then this can be resolved only by increasing productive capacity between today and the future, and by ensuring that a sufficient share of resources will be transferred to the elderly when the "babyboom" retires. The first is accomplished by increasing the rate of private and public investment, while the second is best accomplished through the tax system at the time that the babyboom retires. We would then conclude that all the major proposals currently being discussed, ranging from calls to "invest" the Trust Fund in the stock market, to the president's plan to "lock away" projected federal budget surpluses in the Trust Fund, will do nothing to ameliorate real problems of caring for the aged in the next century, should the fairly pessimistic assumptions of the Trustees come to pass. At best, these proposals can deal with superficial financing problems as some writers (Friedman, Eisner, Stein) have long suggested and can be easily resolved with less disruptive financial "fixes".

We will proceed as follows: We first analyze the assumptions used by the Trustees in their projections, which provide the basis for current claims that Social Security faces a financial crisis. We will show that the assumptions used are overly pessimistic and that small changes to the assumptions can be sufficient to eliminate the financial problems. While we agree that reasonable analyses may differ on these assumptions, we will argue that a national social program, such as Social Security, should not be biased toward pessimism–especially when projections are so sensitive to small changes. We next turn to an analysis of the real burden that might be faced by future workers who will have to produce the goods and services required by future retirees. We make the point that this issue is quite separate from the supposed financial crisis, and that most analyses fail to distinguish between the two. Analyses also confuse *distributive* issues with concern over financial matters.We show that the real burden of caring for the aged will indeed rise, but that this increase is

relatively small and apparently manageable even on the rather pessimistic assumptions used by the Trustees. This leads us to a discussion of policies that might be put into place to ease the future burden. None of the major Social Security reforms advocated–whether by the president or by his critics–will significantly reduce that burden. Indeed, many would merely increase the burden on today's workers and retirees without reducing future burdens at all. Such "pain without gain" is bad social policy. At the end of this brief, we provide a list of policy recommendations that reduce burdens today and that will relieve future burdens. Most importantly, we advocate returning Social Security to a "pay-as-you-go" system by lowering payroll taxes today, which would allow today's workers to retain more income without in any way reducing our ability to care for tomorrow's retirees. It may well be true that payroll taxes will have to be raised in the future–regardless of today's tax rates–but burdens can be more fairly shared by increasing the tax base. Future burdens can also be reduced by increasing the rate of growth of the labor force, that is, by increasing employment opportunities and by attracting new workers–for example, by making it easier for women to participate and by allowing more legal immigrants. We also argue against other major changes to Social Security, such as privatization, reduction of benefits, or extension of retirement age. Those who have advanced such proposals have used faulty analyses, often confusing financing with real issues, or distribution with productive capacity matters.

Overview of Social Security Present and Future

When most people think of Social Security, they think of it as a retirement program. In reality, Social Security is comprised of several different programs: the Old Age and Survivors Insurance program (OASI), the Hospital Insurance (HI) portion of Medicare, the Supplemental Medical Insurance program (SMI), and the Disability Insurance program (DI). By and large, most economic analyses combine OASI and DI (into OASDI) since financial operations of both programs are handled through special trust funds (the Federal Old-Age and Survivors Insurance Fund and the Federal Disability Insurance Trust Fund) established at the Treasury. Many of the programs included under the rubric of Social Security, it must be remembered, are not targeted to the retired. Indeed, even OASI includes large numbers of beneficiaries who are not retired. For example, in 1997 nearly 10.5 million (almost 28 percent) of the 37.8 million beneficiaries of OASI were spouses or survivors of covered workers. This must be kept in mind when evaluating Social Security as if it were nothing more than a pension fund as is often done in "moneys worth" calculations (briefly discussed below). In this brief, we will focus on OASDI as a retirement program, even though we are fully cognizant of the fact that it is much more than that. Our interest in this aspect of the program is based on the remarkable volume of written and oral debate about the prospects of affording pension benefits payable to the "baby—boom" generation at retirement.

It has been argued before that a looming demographic imbalance would face the United States (and most other developed economies) by 2020 or 2030 as a result of declining fertility rates, rising longevity, and the "baby boom" bulge. Together these factors will increase the number of retirees relative to the working population at the end of the first quarter of the next century. Largely for this reason, revisions in benefits and revenues were made in 1977 and 1983 that fundamentally changed the Social Security program from a "pay-as-you-go" system to one that is "advance funded." An advance-funded system aims at accumulating vast financial reserves on the belief that these reserves could partially support retiring "senior boomers" when Social Security revenues begin to fall short of expenditures.

Section 201(c)(2) of the Social Security Act requires that the Social Security Board of Trustees report on the operations and status of the OASI and DI Trust Funds. This includes a requirement that the Trustees estimate the status of the Trust Funds for the ensuing five years, as well as a requirement that the annual report include "a statement of the actuarial status of the Trust Funds." In recent years, the Trustees have provided a statement of the financial situation of the previous year, as well as a detailed projection of the financial situation–as indicated by its "actuarial balance"–for the next ten years (its "short—range" forecast), and for the next 75 years (its "long—range" forecast) to capture the effects of demographic shifts of both working and retiring cohorts. In their own words, the choice of the 75-year horizon "will include the entire working and retired life span of the great majority of workers now contributing to the program, as well as those now receiving benefits"(Annual Report of the Board of Trustees, 1998, p. 9). Because the Trustees recognize the inherent difficulties in making projections over such a long time span, three sets of assumptions are included to provide three different projections: "high cost" (pessimistic), "intermediate", and "low cost" (optimistic).

It is important to note, however, that the Social Security Act does not require "actuarial balance" for the 75—year period used in the long—range projection; the Trustees have established their own methods for assessing "actuarial status" and rules for solvency and liquidity of the fund. These are rather complex, but essentially require that the Fund's projected income (expressed as a percent of taxable payroll) does not fall below 95 percent of its projected expenditures (also expressed as a percent of taxable payroll) over the 75—year period. In addition, the liquidity needs of the program require a contingency reserve of 8-9 percent of program expenditures to ensure timely payments, although the Trustees want to maintain a Trust Fund level equal to one year's expenditures to meet unforeseen contingencies (such as a multi-year recession).

In recent years, the Trustees have reported the actuarial balance as the difference between the "summarized income rate" (the ratio of the present value of payroll taxes to the present value of taxable payroll) and the "summarized cost rate" (the ratio of the present value of expenditures to the present value of the taxable payroll) over the valuation period. When the summarized income rate equals the summarized cost rate, this essentially means that the discounted expenditures equal the discounted revenues over the evaluation period. If the difference between the summarized income rate and the summarized cost rate is a positive number, the OASDI is said to be in actuarial balance while a negative number indicates an actuarial imbalance. The Trustees have traditionally allowed some tolerance due to the inherent difficulty in making long-range projections. Thus, the program is said to be in "close actuarial balance" if estimated income over the 75-year period is within 5 percent of the estimated cost of the program. Currently, that would equal 0.75 percent of taxable payroll (1997b Advisory Council, p. 80). In other words, if OASDI had an "actuarial gap" of negative 0.75 it would still be found to be in "close actuarial balance."

Table 1 shows the income rate, cost rate, and the resulting actuarial balance for each of the three projections.[2] The intermediate—cost projections show actuarial balance for the first 25—year period only; the low—cost forecast also shows actuarial balance for the second 25—year period, and the entire 75—year period as well. The intermediate forecast, however, shows a negative actuarial balance of 2.19 percent for the long-range, 75—year period, while the corresponding high—cost actuarial balance estimate for the same period shows a negative 5.42 percent. What these estimates indicate is that, if payroll taxes were immediately increased by 2.19 percentage points in the intermediate case, or by 5.42 percentage points in the high—cost case, OASDI would be in actuarial balance for the 75—year, long-range period. For example, if the tax on both employees and employers were raised by 1.095 percentage points today, on intermediate projections the coming "financial crisis" would vanish. Furthermore, if we take into consideration the tolerance rule which permits a shortfall of 0.75, the intermediate projection of actuarial balance is within 1.44 percent (2.19 less 0.75) of close actuarial balance. In other words, rather than increasing the tax by 1.095, it need be increased by only 0.72 percent each on employer and employee to bring OASDI into close actuarial balance. We will return to our assessment of the usefulness of such calculations later.

The OASDI program's operating surplus for 1997, as Figure 1 shows, amounted to $88.6 billion (left scale). The Trustees' intermediate projections show a surplus rising to just over $100 billion in 1998, and rising steadily to about $164 billion by 2007, the last year of the short range forecast, (see Table 2 for more detail). By the end of 1997, Figure 1 shows (right scale) that the Trust Fund had accumulated $656 billion. This will grow to approximately $2 trillion by the end of 2007, representing well over three times total program expenditures for the year 2007. That is, the Trust Fund would be sufficient to finance the program for over three years even with no tax revenues at the end of the first decade of the next millennium. By comparison, the low—cost estimate for 2007 projects a surplus of $231 billion (left scale) and a Trust Fund of $2.28 trillion (right scale), while the corresponding high—cost estimates for 2007 forecast a surplus of $94 billion and a Trust Fund of $1.63 trillion. Thus, regardless of the assumptions used, OASDI is projected to run very large surpluses, and to accumulate a huge Trust Fund, throughout the next decade. Even the most pessimistic assumptions conclude that the Trust Fund, by the end of 2007, would be well over what would be required to fully finance the program for two years.

Indeed, the Trustees project that the OASDI Trust Funds will grow through 2020, to $3.78 trillion under the intermediate assumptions (see Table 2). Beginning in 2021, program revenues will fall short of expenditures, requiring sales of Trust Fund assets. On intermediate—cost assumptions, the assets would be exhausted by the year 2032, after which projected revenues would meet only three-quarters of expenditures. On the basis of low—cost assumptions, however, the OASDI Trust Funds will rise to nearly five times program expenditures

in 2018, then fall to 345 percent (over three times annual spending) in 2060, but remain fairly constant thereafter. By 2075, the Trust Fund would hold more than $50 trillion in assets according to these more optimistic assumptions.

What is important to notice, is the apparent incongruity between a balanced federal government budget, as projected by the president's CEA and a growing Trust Fund which on current practice must buy government securities. Each year that Social Security runs a surplus, that surplus adds to total government revenue–(thus reduces a deficit or adds to a general budget surplus)– because Social Security funds are put in the general budget in exchange for Treasury securities and the Trust Fund is credited with non-marketable Treasury securities that earn interest. Even on the intermediate—cost projections, by year 2020, the Trust Fund would have to invest $3.8 trillion in government securities–equal to most of the currently outstanding, publicly—held government debt. Correspondingly, on low—cost projections, it would have to purchase $50 trillion of government securities by 2075! To meet this higher goal, the federal government will have to issue new debt in excess of a $100 billion a year by 2000, rapidly rising to $1 trillion a year by 2060 and to more than $2 trillion annually by 2075. Thus, even if the federal budget remains balanced from this day forward, the Treasury will become increasingly indebted to OASDI. If the federal budget actually runs a surplus over the next 25 years, as the president believes it will, the debt in the hands of the public will be retired but it will be replaced by debt held by Social Security. This is essentially a debt the government owes to itself. We will return to this point later, as it relates to the President's plan for saving Social Security.

Analysis of the Forecasts

Many participants in the debate have pointed to the retiring baby boomers as the source of the looming "crisis" of Social Security. However, conventional mortality estimates show that a large portion of baby boomers will have died before Trust Fund assets are exhausted in 2032. According to intermediate—cost assumptions, total income will begin to fall short of expenditures after 2020, but the shortfall will increase rapidly throughout the 75—year, long-range forecast. For example, in 2025 OASDI program revenues will fall short of costs by 11.5 percent, and the shortfall will grow to 23 percent in 2030 and to 32.5 percent in 2075. Thus, not only does the babyboom create a financing crisis, but so does the retiring babyboom "bust" (or "Gen X"), and even the retiring "echo" of the babyboom. The babyboom generation, then, is really only a minor demographic "blip", rather than being the cause of the "crisis".

The problems result from several factors. Recall that according to the intermediate forecast, the long range actuarial shortfall is equal to 2.19 percent of taxable payroll. It is useful to estimate how sensitive that imbalance is to changing assumptions. First, the fertility rate, which is currently 2.03 children per woman, is projected to fall to 1.9 under the intermediate assumptions (or to rise to 2.2 under the low—cost assumptions). Historically, the fertility rate has been subject to wide fluctuation. After World War I, it was 3.3 children per woman, but it fell to 2.1 during the Great Depression then rose to 3.7 in 1957. Each increase of 0.1 in the fertility rate augments the long-range actuarial balance by about 0.13 percent of taxable payroll. If the fertility rate were to rise by 1.68 (that is, to just over 3.7 children per woman–where it stood in 1957), all else equal, the financial problems of OASDI would be resolved (given all other intermediate assumptions). Given the present demographic patterns, this is unlikely. However if the fertility rate rose only slightly to 2.2, then over 17 percent of the projected "actuarial gap" would be eliminated. It should be noted that a fertility rate of 2.1 is consistent with "zero population growth," if death rates remain constant and net immigration is zero. Thus, the Trustees' assumption of a fertility rate of 1.9 would actually generate depopulation of the country in the absence of death rate reductions and net immigration inflows.

Second, the Trustees have assumed a very slow growth of the labor force–which is of course related to low fertility and low net immigration. However, the size of the labor force also depends critically on labor force participation rates. In 1996, the labor force participation rate for men was 75.3 percent; by 2075, the age-adjusted participation rate is assumed to fall to 73.6 percent in the low—cost projection, to 73.3 percent in the intermediate case, and to 73.1 percent in the high—cost forecast. For women, the labor force participation rate has been rising sharply in recent years, reaching 59.3 percent in 1996. This is expected to increase by 2075 to 61 percent for the low—cost forecast and to 60.1 percent in the intermediate case, but it is projected to fall to 58.3 percent in the high—cost case. The Trustees did not perform a sensitivity analysis for the labor force participation rate. However, the effects of adding population to the labor force should not be too

dissimilar to net immigration–adding half a million to the labor force each year might close the actuarial gap by at least 14 percent (see point four below).[3]

Third, increased longevity, or more accurately, a lower death rate, increases program costs more than it increases revenue (holding all else equal). The intermediate projections assume that the death rate will fall by 35 percent over the 75—year period. If the death rate fell by only 16 percent, the actuarial gap would be reduced from 2.19 percent of taxable payroll to 1.56 percent– a fall of 29 percent. Each additional 10 percentage point reduction in the death rate, relative to the assumed 35 percent level, decreases the long—range actuarial balance by about 0.35 percent of taxable payroll.

Fourth, net immigration increases program revenue more than it raises program costs. The intermediate projection assumes net immigration of 900,000 per year. For 1997, net legal immigration was estimated to be 660,000 while illegal immigration was estimated to be 300,000.

Each additional 100,000 immigrants per year increases the long-range actuarial balance by about 0.06 percent of taxable payroll. If net immigration were to reach 1.5 million per year, 0.36 percentage points of the "gap" would be closed–or by about 16 percent. Note that if net immigration fell to 900,000 in the year 2000, this would be equal to about 0.32 percent of total projected population. If annual net immigration then remained at 900,000, this would represent only 0.24 percent of the intermediate population projection by 2075. If net immigration were to remain at 0.32 percent of population, it should rise from 900,000 in 2000 to something closer to 1.5 million per year by 2075.[4]

Fifth, growth of the nominal wage relative to inflation increases program revenues relative to costs. The Trustees have assumed that the CPI will grow at 3.5 percent per year. According to the intermediate assumptions, the nominal wage will grow at 4.4 percent per year, or 0.9 percent faster than the CPI. This is called the "real-wage differential." Each 0.5 percentage point increase in the assumed real-wage differential increases the long-range actuarial balance by about 0.53 percent of taxable payroll. If the nominal wage were to grow at a rate of two percentage points above the CPI rate of inflation (so that the real-wage differential was 2.0), the actuarial gap would be closed by nearly 1.2 percentage points, representing 53 percent. That is, if the real wage grew at 2 percent per year, rather than the assumed 0.9 percent, more than half of the long-range actuarial shortfall would be made-up. In addition, the higher the rate of growth of the CPI, the better the long-range actuarial balance becomes because tax revenues are increased more than CPI-indexed benefits are increased. Holding the real-wage differential at 0.9, each percentage point increase of the CPI will increase the long-range actuarial balance by about 0.2 percent of taxable payroll.

Growth of real wages is linked to productivity gains and to the relation between wages and productivity growth. The Trustees assumed that productivity growth will be 1.6 percent, 1.3 percent and 1.0 percent for the low, intermediate, and high—cost projections, respectively. Interestingly, it is assumed that wages will grow much more slowly than productivity, that is, by 1.4 percent, 0.9 percent and 0.4 percent for each of the three cases. This is because it is assumed that hours worked will fall and that a larger share of worker compensation will take the form of benefits rather than wages. Fringe benefits such as private group health insurance, private pensions, profit sharing plans, and private group life insurance are exempt from payroll taxes. These currently make up about 9 percent of employee compensation. If, however, this exemption were eliminated, then it would increase both income and outgo (by increasing the base on which benefits and taxes are calculated), but with a large net benefit for the actuarial balance. According to 1995 projections, the long-range actuarial deficit of Social Security would have been reduced from 2.17 to 1.15 percent of payroll–in other words, by nearly half–if the tax exemption for such fringe benefits were eliminated (Report of the 1994-1996 Advisory Council, Vol 1, p. 139).[5]

Productivity gains plus growth of the labor force together determine growth of real output. Given assumptions regarding low productivity growth as well as low population growth and falling labor force participation rates, it is not surprising that the Trustees have projected very low growth of real output. Over the past 75 years, our economy has achieved an average real rate of growth of GDP equal to nearly 3.5 percent per year. Note that this period included the Great Depression as well as the slow growth that followed the "oil price shock" of the early 1970s. The Trustees project that over the next 75 years, real growth will average less than 1.5 percent–less than half of the rate achieved over the previous 75 years. Again, this follows from assumptions of

low productivity growth *and* slow growth of the labor force–which may not be consistent. As Pigeon and Wray (1999) have shown, countries with the slowest growth of the labor force since 1970 have high growth of productivity, while countries with rapid labor force growth have the lowest growth of labor productivity. For example, between 1970 and 1996, the American and Canadian labor forces increased by nearly 25 percent, while the labor force in Western Europe did not increase at all and the labor force of Japan increased by only 5 percent. Over the same period, labor productivity increased by less than 20 percent in the U.S., by about 30 percent in Canada, but by a whopping 100 percent in Japan, and by 80 percent in Western Europe. Note also, that real per capita GDP growth was *slowest* in the U.S., which had the fastest growth of the labor force. Western Europe and Japan, with essentially no growth of the labor force, actually had more rapid growth of real output per person. Thus, there is no necessary relation between labor force growth and growth of real GDP. The Trustees' pessimistic projections with regard to economic growth result from the assumption that *both* labor force and productivity will grow slowly. However, if the experience of other countries with slow labor force growth can shed any light on future trends, we believe that should the U.S. labor force grow as slowly as the Trustees project, then labor productivity is likely to grow much faster than the pace used in the Trustee's calculations.[6] This, in turn, will increase real wage growth, and thereby close the actuarial gap.

Clearly, the Social Security program's income and outgo depend on taxable payroll. In 1997, the ratio of taxable earnings to earnings in OASDI—covered employment was 0.871. This ratio has been falling since 1984, mainly due to the rising proportion of covered wages earned by those with wages above the contribution and benefit base. The base is the amount of annual earnings subject to payroll tax–$68,400 in 1998–and 90 percent of all wages used to fall below the contribution base. However, due to rising inequality of wages (with faster growth at the high end), today only 84.5 percent of all wages fall below the base. Indeed, the ratio of OASDI taxable payroll to GDP is projected (on intermediate assumptions) to fall from 0.41 in 1998 to only 0.351 in 2075. In other words, the total base on which taxes are calculated for the purposes of supporting rising number of aged will amount to only 35 percent of GDP by 2075. Again, the Trustees did not perform a sensitivity analysis on these factors for the 1997 report. However, the Advisory Council estimated that gradually increasing the OASDI contribution and benefit base beginning in 1997 so that by the year 2000, 90 percent of covered earnings would be taxable (and indexed as under current law thereafter), would reduce the actuarial gap by 0.50. Increasing the base in the same manner, but then using indexation to maintain a constant ratio of taxable earnings to compensation, would improve the actuarial balance by 1.21–that is, this one change would eliminate over half of the intermediate case actuarial shortfall (Advisory Council 1997a, Vol 1 p. 238). Thus, if OASDI were to eliminate the contribution base entirely (to increase the ratio of taxable earnings to OASDI earnings to 1.00), the actuarial status of the program would be improved so significantly that even on intermediate assumptions, it would perhaps be in close actuarial balance. Similarly, if Social Security taxes were imposed on a broader base–rather than on OASDI taxable payroll (which, as noted, is only 41 percent of national income and falls to 35 percent on intermediate assumptions by 2075)–the actuarial gap could be eliminated.

Other factors affecting the long-range actuarial balance include the "real interest rate" (nominal interest rate less CPI inflation–higher real interest rates increase program revenues because earnings on Trust Fund assets are higher), the disability incidence rate (a higher rate increases the actuarial shortfall; the Trustees assume incidence rates will rise for women on all three sets of assumptions, and will rise for men on all but the low—cost set of assumptions), and disability termination rate (the Trustees assume termination rates due to death or recovery will fall significantly, adding to the actuarial shortfall). However, we will not examine these issues in more detail.

In short, the long-range financing problems of OASDI result primarily from assumptions regarding low fertility rates, falling death rates, low net immigration, low growth of real wages, and a falling portion of wages that are taxable. In large part, the difficulties arise from a combination of pessimistic assumptions about the long run growth of real wages (real wages grew at a rate of 2.2 percent throughout the 1960s, but are assumed to grow at only 0.9 percent over the long run), and very low growth of the labor force (which grew at a rate well above 2 percent per year previous to 1980, but is projected to grow at only 0.1 percent in 2020, rising slightly to 0.2 percent in 2030, but falling back to 0.1 percent after 2050). On the basis of these assumptions, financial problems will persist even after the demographic "anomaly" of the baby boom is long gone.

On the other hand, policies that would increase fertility rates, increase immigration, raise real wage growth rates,

and increase the portion of wages subject to OASDI taxes would ameliorate the financial problems–in the sense that the gap between program revenues and costs could be reduced without resorting to higher payroll taxes or reduced benefit payments. Very small changes to each of these factors would alter the intermediate forecast sufficiently that OASDI would be in close actuarial balance. If real wage growth were increased, if the portion of compensation received in wages did not fall as much as assumed, if fringe benefits were taxed and if the contribution base were increased the actuarial gap would be closed. Moreover, if immigration were increased and the labor force participation rates did not fall as much as projected, and if fertility rates increased, much of the actuarial gap would be closed. Indeed, if real wage growth rose to 2.2 percent, if an extra 600,000 immigrants were added per year, and if fertility rates rose to 2.2, then 89 percent of the intermediate case actuarial gap would be eliminated.

We thus agree with many other commentators who have argued that the assumptions used are biased toward a pessimistic view of the future. For example, David Langer, a consulting actuary, has recently argued that the Trustees "have relied almost exclusively on macroeconomic speculation based on a dismal view of the future economy. The actuarial assumptions produced are thus overly conservative, generate higher costs than warranted and result in an unjustifiedly large imbalance of costs (benefits and expenses) over income over the 75—year measuring period"(Langer 1999, p.1). He questions whether the Trust Fund actuaries have followed the guidelines established in the Actuarial Standards of Practice (ASP) by the Actuarial Standards Board of the American Academy of Actuaries. In particular, ASP No. 27 recommends use of "appropriate recent and long-term historical economic data," and ASP No. 32 requires that "If assumptions differ from recent experience....the report should discuss [the factors] that led to the choice of assumptions used." Langer argues that the assumptions used in the forecast, especially those associated with forecasting real GDP growth, are far more pessimistic than recent experience and long-term historical trends would suggest. However, the report of the Trustees does not provide a detailed justification for the use of such pessimistic assumptions. Langer shows through examination of assumptions used in annual reports since 1979 that the Trustees have consistently adopted more pessimistic assumptions in each succeeding report. Furthermore, even the early reports adopted assumptions about the period from 1979 to the present that proved to be overly pessimistic (the real world outcome consistently proved to be better than the Trustees' projections). Indeed, on March 30, 1999 just as we were finishing this brief, the Trustees issued a report that projected the Trust Funds would not be exhausted until 2034–two years later than projected in the 1998 Trustee report (Trustees Annual Report 1999). This is because economic growth continually exceeds the pessimistic assumptions adopted in the forecasts (White House Office of the press secretary, March 30, 1999).

Langer acknowledges that private programs must use conservative assumptions to build up greater reserves "as a precaution against a major adverse event, such as a bankruptcy or a poor economy, so that there will be adequate funds available to cover the benefit values accrued to date should the program have to be terminated"(Langer 1999, p.1). However, a "national social insurance program such as Social Security...does not share these concerns... [because] our federal government, as opposed to a private employer or insurer, will continue indefinitely. Workers and employers are required by law to participate and thus cannot opt out of paying the Social Security payroll taxes; further, if the economy sours as it did during the depression, the taxing power of the government will be available to sustain benefit payments"(Langer 1999, p. 1-2). In other words, while private programs should be biased toward conservatism, there is no such bias required for a public program. The Trustees have not provided a compelling argument for their assumption that the economy of the future will be far worse than the economy of the past.

Is There a Real Crisis?

The crisis atmosphere surrounding the debate about Social Security financing apparently is not well-founded. Leaving aside reasonable questions about the assumptions used in the forecasts, we can obtain a measure of the relative size of the "financial gap" by comparing projected OASDI income, outgo, and balance with GDP projections. Figure 2 shows that on intermediate assumptions, OASDI income (excluding interest) is currently just above 5 percent of GDP, outgo is just above 4.5 percent of GDP, and the surplus is 0.62 percent of GDP. In 2013, income (excluding interest) will just cover outgo–at about 5 percent of GDP. By the year 2030, outgo will exceed income by about 1.8 percent of GDP–and the shortfall will stabilize at about 2 percent of GDP for the remainder of the 75-year period. The "looming financial crisis" therefore, represents a bit more than 2 percent of GDP. One can, then, ask: if things play out as assumed for the intermediate projections, will our

economy be able to increase the percent of GDP devoted to OASDI beneficiaries by about 2 percent by the year 2030? If the past is any guide, we believe the answer is clearly yes. As Dean Baker notes, between 1960 and 1995, "Social Security actually increased by more as a share of GDP...than it will increase over the 35 years from 1995 to 2030 (Baker, "Saving Social Security in Three Steps", p. 4)."

The coming "crisis" can be examined from one other vantage point: rather than looking at program costs and revenues, one can project changes of the ratio of the number of workers to the number of retired over the 75—year span. Not surprisingly, given assumptions about increased longevity and low fertility rates, future workers will have to support relatively more aged. As Figure 3 shows, the number of OASDI beneficiaries per 100 covered workers reached 31 in 1975, and will hold relatively steady until 2010. It will then rise steadily throughout the remainder of the 75—year period, reaching 56 in 2075. Thus, while we currently have just over 3.3 workers per beneficiary, this will fall to less than 1.8 by 2075. In some sense, the "burden" on future workers will thus increase by something less than a factor of two. On the other hand, as the right-hand scale shows, if we add the under age 20 population to the 65 and over population to obtain a "dependent" population, workers in 1965 supported more dependents than any generation will support through the year 2075. The ratio was nearly 0.95 in 1965, indicating that each person of "normal" working age supported about one person who was not of normal working age. That ratio fell to 0.71 by 1995, and will continue to fall slightly through 2020; it will rise to only 0.83 in 2075. Thus, while it is true that the number of aged–most of whom will be supported by people of working age–will rise relative to the number of workers, the combination of lower birth rates plus increasing numbers of women in the labor force has actually reduced the "burden" of supporting those under age 20 by more than enough to offset the growing "burden" of supporting the aged. We realize, of course, that the dependent aged have different kinds of requirements than do the dependent young. Furthermore, the working population probably has different attitudes about paying payroll taxes to support "grandma and grandpa" than it does about using net income to care for "Sally and Joey" at home. On the other hand, there can be no doubt that the "real burden" of providing for the educational, housing, recreational, and medical needs of the young baby boomers in the 1950s and 1960s represented a very large transfer of real resources toward production of the goods and services consumed by those under age 20–and much of that transfer was accomplished through the tax system as workers and property owners were taxed whether they had children or not (for example, property taxes paid for new schools). Further, it must be remembered that the "typical" family that was supporting baby boom children under age 20 in the 1950s and 1960s often had only one breadwinner. The typical family that will be paying taxes to take care of retired baby boomers will have two wage earners.

Continuing with this analysis, we can look at the "real burden" of providing the goods and services that will be needed by retirees. In 1910, it took nearly 15 farmers to produce the food consumed by 100 Americans. If one had projected in 1910 that by 1990, only 1 farmer would be available to produce food for each 100 consumers, one might have projected famine and mass starvation. Of course, that projection would have been grossly far of the mark. Today's consumers are far better fed, with the vast majority of Americans getting sufficient quantities of food even as American farmers export as much as possible. As Figure 4 shows, farm workers fell rapidly from 15 percent of the population in 1910 to about 1 percent today–with no adverse effects on food consumption. Indeed, the major problem facing farmers is that they can produce far more than they can sell–at least at profitable prices.

In the mid 1940s, it took about 13 manufacturing workers to produce all the manufactured goods consumed by 100 Americans; in 1990 that number had fallen by nearly 50 percent to 7. Here the decline is not nearly so sharp, but the typical consumer's basket of manufactured items is much larger today than in 1945. Of course, many items in that basket are imported, and things are further complicated because the United States exports many manufactured goods. We can get a better idea of the extent to which each worker can support more nonworkers by looking at rising labor productivity. As Figure 5 shows, over the past 40 years, worker productivity has doubled or more-than tripled, depending on the sector of the economy examined. Leaving aside the financing of OASDI, if labor productivity doubles over the next 40 years, there will be no problem in producing the basket of goods and services that will be required by the rising numbers of aged. Again, on current projections, OASDI will require about 7 percent of GDP from 2030 through 2075, up from a bit less than 5 percent today. It appears reasonable to assume that our society will be able to increase the portion of goods and services going to OASDI beneficiaries by two percentage points in the middle of next century. Thus, ignoring the financial gap there does not appear to be any real crisis looming on the horizon. Indeed,

even the Trustee's own intermediate projections show that the real wage of workers will increase by 75 percent over the next half-century. Even if tax rates would have to rise to cover the expected shortfall, tomorrow's workers would still have much higher standards of living in spite of projected demographic shifts. In other words, no matter what one thinks of the "financial" burden on future workers, the real "burden" does not appear to be excessive at all. Even after moving a greater share of total GDP to OASDI recipients, workers will be left with a much larger real basket of goods and services than they consume today–even on what might be overly pessimistic assumptions about real growth rates.

We will return later to additional considerations concerning the burden that will be placed on future generations of workers, after taking a broader look at how the retiring baby boomers can be provided with the necessary means of subsistence, a matter with which we deal next. In other words, let us presume that the pessimistic assumptions used by the Trustees are reasonable, and that the future does unfold more-or-less as they have projected. The question then arises: Can we, or should we, do anything *now* to reduce the burden of caring for the elderly in the future?.

How Can We Best Ensure That We Will Be Able to Care for Retiring Baby Boomers?

As we have noted earlier, the current philosophy behind the operation of OASDI is the belief that a large Trust Fund can help to ease the burden created by demographic changes combined with slow projected growth of taxable real wages. The purpose of a trust fund is to accumulate financial reserves now, which can be depleted in later years when Social Security program expenditures exceed the revenues that will be generated from a shrinking taxable base. In other words, the saving represented by the annual surpluses will be accumulated over the next 20 years in order to provide for the future "consumption" of retiring baby boomers. Clearly, the retiring babyboomers will not be able to "consume" a trust fund (which consists solely of Treasury debt backed by the full faith and credit of the US government)–they will need a real basket of consumer goods when they retire. The question is this: Can the current generation, as a whole, save in real terms for its future retirement?

If the current generation were to abstain from consumption, dig holes, and bury goods and services to be excavated and consumed thirty or forty years hence, we could clearly provide for future consumption by saving (in real terms) today–provided that there is little deterioration of the inventory of underground goods and services. Presumably, the pharaohs had something like this in mind when they buried goods, as well as those who would provide services with them, in the pyramids. However, today, outside of a handful of survivalists this sort of real saving is not significant, with the notable exception of owner-occupied housing. That is, most of the consumption that occurs in, say, 2020 will have to be provided for by production in that year. In other words, the Social Security Trust Fund (as well as all public and private pension funds) are saving only in financial terms, on the hope that retirees will be able to purchase real goods and services at the time that they retire, for consumption at that date.

Is it possible for society to do anything today to increase the quantity of goods and services that can and will be produced in, say 2020, relative to what otherwise would have been produced (that is, in the absence of a policy change) for the consumption not only of retirees, but also of all the workers as well as all the non-retired who will not be working? If not, then the financial savings represented by the Social Security trust fund (as well as all the other public and private pension savings) can only affect the distribution of the goods and services that will be produced in 2020. This is not an insignificant issue. Society may well want to increase (or reduce) the amount of goods and services over what would otherwise have been distributed to the elderly, or to other demographic groups. The thinking behind much of the debate over Social Security seems to be based on the belief that if we do not increase financial savings, then the distribution that otherwise would occur will not provide a sufficient share to the elderly to meet their needs. The current debate, then, seems to center around a fear that if we do not reform Social Security, then the retiring babyboomers will not get a sufficient distribution of society's output in, for example, 2020 or 2030.

However, if this is really what the debate is all about, almost all of the solutions proposed thus far have at best an ambiguous probability of succeeding. This is because most proposals center around increasing the size of the Trust Fund in the next few years (by some combination of reduced benefits or increased tax rates), and increasing the rate of growth of the Trust Fund over the future (for example, by investing it in the stock market

to obtain higher returns than those expected to be earned on its stock of government bonds). The larger Trust Fund is supposed to postpone the "day of reckoning" since its earnings will supplement payroll tax receipts, and assets can be sold when total revenues fall short of expenditures.

Let us first examine the thinking behind proposals that would increase the distribution going to the elderly in say 2020 through accumulation of a larger trust fund. Indeed, this is exactly the path recommended by President Clinton in this year's State of the Union Address. The president proposed that just over 60 percent of projected surpluses over the next 15 years be set aside for the Trust Fund. Essentially, the Treasury would use the surpluses to retire outstanding debt currently held by the public. The Treasury would then issue an equivalent amount of debt (that is, 62 percent of the total budget surplus each year) to be held by OASDI in the Trust Fund. However, unless accumulation of the Trust Fund actually enhances society's ability to produce goods and services in the year 2020, the amount of goods and services to be distributed will be exactly the same whether the Trust Fund is larger or smaller. In this case, the only economic justification for a larger Trust Fund is the belief that this will increase the distribution going to the retiring babyboomers.

After 2020, the Trust Fund would begin to sell its assets to increase the nominal income of the beneficiaries beyond the income that can be provided out of payroll taxes. If these sales were to workers (and other non-elderly income earners) who otherwise would have used income to purchase consumption goods and services, then Trust Fund asset sales could achieve the desired result of shifting the distribution of consumption toward the elderly. However, this is by no means a foregone conclusion. The Treasury debt held by OASDI is nonmarketable–it cannot be sold to the public. OASDI must convert this debt to cash to cover spending. The Treasury will then have to issue checks to cover this conversion. If the Treasury's total revenue from all taxes is not sufficient to cover its non-Social Security spending, plus the nonmarketable bonds redeemed by OASDI (equal to OASDI's deficit), then the Treasury will incur a general budget deficit.

Let us ignore for a moment the possibility that the Treasury would increase taxes in an attempt to balance its budget, so that it issues new debt equal to its deficit. It is possible that Treasury bond sales might simply depress asset prices (not only of the government bonds being sold, but also of other public as well as private assets) either directly or because the Fed decided to increase interest rates on the belief that budget deficits would cause inflation. In other words, the primary effect could be to cause asset price deflation. Or, it is possible that the sales might be to individuals or institutions that do not reduce consumption commensurately. In this case the increased income going to the elderly recipients of OASDI would simply compete with consumer demand that had not been affected by the asset sales. The primary result could be inflation of prices of consumer goods and services. There could be very complex secondary and tertiary effects set off by the asset sales, which are very hard to estimate in advance.

For this reason, we believe there is no way to guarantee that accumulation of the Trust Fund will actually result in the desired result of shifting distribution toward the beneficiaries–and it isn't clear that a larger Trust Fund will result in a more desirable distribution. Is there a better and more direct way to ensure that the distribution will be shifted toward retiring babyboomers? Yes–through use of the tax system. In the year 2020, if it is decided that the elderly should get a larger share of the distribution, then payroll taxes would be increased (reducing disposable income of workers) and benefit payments to the elderly would be increased. According to intermediate projections, it would be necessary to achieve a shift of just under 2.4 percent of GDP by 2075 relative to the share devoted in 1998 to meet all OASDI obligations, including those that go to the nonelderly. Note that if one wants to use the tax system to affect distribution in the year 2020, it is far more direct and preferable to raise payroll taxes in the year 2020, than to raise them today in an attempt to accumulate financial assets to be sold in the year 2020 on the hope that this might indirectly affect distribution. Note also that even if a Trust Fund exists, held in the form of nonmarketable Treasury debt, in order to convert that to cash, the Treasury will either have to issue new debt or generate tax revenue in excess of what will be required for other government spending to avoid a deficit. But this is exactly what would be required even if there were no Trust Fund at all.

This analysis casts doubt on the Trustees' calculation of actuarial balance, which presumes that a tax today can affect the distribution going to OASDI beneficiaries 75 years into the future. We see no reason to suppose that an increase of the tax rate by 2.19 percentage points today would in any direct way shift the distribution of resources toward retirees in 2075. We believe it is inherently counter-productive to attempt to maintain

long-range actuarial balance as the Trustees are attempting to do. It would be far preferable to return to the Social Security Act's requirement that the Trustees simply report the actuarial status for the ensuing five years. As Langer correctly argues, a public program does not need to be run like a private program. While a private program must plan far into the future and must accumulate a fund to deal with contingencies, this is not necessary for a public program that uses involuntary taxes (such that one cannot choose to leave the program) as its revenue source.

Running a surplus today generates several levels of market distortion that may not be desired: payroll taxes are higher than what is required to meet OASDI expenditures, which distorts labor markets (this makes American labor more expensive than necessary, putting domestic production at a competitive disadvantage, and it also encourages substitution of capital for labor, displacing workers and possibly raising unemployment); and asset prices may be higher today than they would be in the absence of an OASDI program surplus. Similarly, asset sales that would take place as the babyboom retires could distort asset markets; it is likely that the flood of retirements would already depress asset prices (as private and public pension funds sold assets to meet expenditures) so that Trust Fund or Treasury sales would only make matters worse. Further, the Social Security surplus obfuscates government accounting–leading to constant debates about whether the surpluses should be carried "on-" or "off-" budget, about whether they should be "set aside" from general budget revenues, and, indeed, about whether the federal government is really running a balanced budget. We do not wish to enter the debate about the wisdom of balanced budgets, but it is difficult to argue that the OASDI programs ought to run surpluses to offset deficits in the rest of the budget.

Milton Friedman has recently made a similar argument. He pointed out that paying taxes today to build up a Trust Fund cannot help to provide for future retirees. Indeed, the Trust Fund is little more than an accounting gimmick.

Taxes paid by today's workers are used to pay today's retirees. If money is left over, it finances other Government spending–though, to maintain the insurance fiction, paper entries are created in a "trust fund" that is simultaneously an asset and a liability of the Government. When the benefits that are due exceed the proceeds from payroll taxes, as they will in the not very distant future, the difference will have to be financed by raising taxes, borrowing, creating money or reducing other Government spending. And that is true no matter how large the "trust fund" (Friedman, "Social Security Chimeras", *The New York Times* , 11 January 1999, p. A-17).

Herb Stein ("How to Solve Almost Everything," *The New York Times* , February 3, 1999) has also seemed to reach the same conclusion, when he humorously recommended that Social Security be saved simply by issuing $10 trillion in Treasury securities today–why wait for accumulation of an OASDI surplus? And why save Social Security only through 2055 (as President Clinton's plan is supposed to do) or through 2075? If $10 trillion is not enough, the Treasury can immediately issue $50 trillion, or $50 quadrillion, to the Trust Fund to save it through eternity.

In summary, it would be far more straightforward to simply increase the tax on workers in the year 2020 and increase the benefits paid to retirees at that time, rather than trying to accumulate financial reserves over the next 21 years in the hope that the OASDI Trustees (or the Treasury) could sell financial assets in the year 2020 and thereby affect the distribution of real goods and services going to the elderly. This could work smoothly only if those who obtained income from working in the year 2020 decided to reduce consumption in the year 2020 in order to buy the assets being sold by the retiring babyboomers in the year 2020. It is possible, perhaps likely, that the asset sales would merely depress asset prices, and that the competition for consumption by workers and retiring babyboomers would drive up prices of goods and services. While it is conceivable that the net result would be a greater distribution going to the elderly, that is not a foregone conclusion. Why not simply use the tax system in the year 2020, or the year 2030, or the year 2075 to guarantee the desired result? The burden of providing real goods and services to retirees in 2020, 2030, or 2075 will be born by workers in those years regardless of the tax imposed today. And if the level of goods and services to be produced cannot be increased by actions taken today, then the burden that will be born cannot be reduced by anything we do today.

This argument hinges on the assumption that accumulation of a Trust Fund does not directly impact the quantity of goods and services that will be produced in, say, 2020. To those who are unfamiliar with

conventional economic thinking, this might appear to be a severe assumption. In a moment, we will examine the case for the belief that actions taken today can affect real economic growth over the period used in the long-range forecasts (that is, from 10 to 75 years into the future). However, most conventional theory and, indeed, most economists conclude that the long- run growth path of the economy is not easily changed. Most economic analysis presumes that long run growth cannot be affected by government policy. Thus, at the very least, one must conclude that the argument for accumulation of a Trust Fund as a means of providing for some of the needs of OASDI 35 years into the future rests on shaky theoretical grounds. And if this is accepted, then all proposed reforms boil down to schemes that would merely shift the distribution to retirees. But if this is all that reformers intend, then that can be accomplished much more simply and effectively through use of the tax system at the time the shift is desired.

If we believe there is something like a "natural" long run growth rate, then we must advocate a "pay-as-you-go" system for the long run, and we must conclude that payroll taxes should be reduced now so that program revenues and costs would be more closely aligned; payroll taxes would then have to be increased in the future to maintain the desired distribution of resources to beneficiaries. In conclusion, conventional theory must advocate a "pay-as-you-go" system for the long run. Since accumulation of a Trust Fund is not likely to greatly impact long-run growth, it cannot assure the desired future distribution of resources, and it distorts current and future market prices, we conclude that it makes little sense to accumulate a huge Trust Fund.

What about Private Pension Plans?

If it makes little economic sense to accumulate an OASDI Trust Fund to provide for retiring babyboomers, does it make sense for private and non-Social Security public pension funds to accumulate trust funds? The answer here is yes. Let us briefly examine the difference between private plans and Social Security. Most pension plans today are defined contribution, with benefits that will be paid later determined by contributions and successful management of the funds. When an employee retires in 2020, her nominal benefits will depend to a large extent on the decisions made by fund managers, and also by the performance of asset markets around the time that she retires. Her real benefits will depend on the basket of goods and services that she will be able to purchase on markets. Unlike the case of Social Security, her pension fund will not be able to increase nominal benefits by taxing payrolls throughout the country in the year 2020. At best, her pension fund could raise contributions required of its working members–a small subset of the total workers in the country, and a risky proposition on which most of today's contributors would not wish to rely. The individual pension fund can affect the distribution going to its retirees only by changing the nominal benefits paid out, that is, only indirectly as beneficiaries try to purchase on the market the goods and services desired.

In contrast, Social Security can more directly affect distribution because it can levy a tax on all payrolls; it need not rely solely on nominal purchases by beneficiaries to affect distribution. In effect, it has both blades of the scissors (benefits and payroll taxes) to redistribute real consumption to beneficiaries. Thus, quite apart from any accounting rules imposed on private pension plans by public law, these really must behave differently from the way in which a social, or economy-wide, retirement plan can operate. Even if it is true that accumulation of trust funds cannot affect the quantity of goods and services to be distributed in the year 2020, private pension plans as well as non-OASDI public plans, must accumulate trust funds for liquidity and solvency reasons.

This does not mean that private plans may not experience a crisis when the baby boom retires. Long-term demographic changes do have effects on markets. The very strong asset markets of the 1990s are due in part to the fact that babyboomers are in their peak earning years, purchasing assets for their retirement years–either individually or through pension plans. Similarly, the build-up of inflation in the 1960s and 1970s around the developed world may have been fueled in part by the babyboom bulge and its needs for increased infrastructure (schools, hospitals, transportation) and consumer goods. In the next century, as the baby boom retires and tries to sell assets, it is possible that asset prices may be negatively affected–with real impacts on the quantity of goods and services that pensions will be able to purchase. Thus, while an individual can, and should, save for future retirement, exactly what that saving will be able to purchase in the future will depend on macroeconomic factors, including those that result from demographic trends. Society's response to projected trends can be, and should be, different from the response of individuals or even from the response of large subsets of the population. Indeed, Social Security will provide a "safety net" to such private pension plans precisely because it will be able to use both blades of the scissors as necessary to impact distribution in a

manner that no private plans can.

Can We Enhance Our Future Ability to Produce?

Proponents of reform probably believe that actions taken today can affect the quantity of goods and services that will be available in the year 2020 to distribute among all groups in society–even though most economists would not agree with this position. However, once we focus on this issue, it becomes clear that debates about whether returns in the stock market can beat the returns on government bonds are completely beside the point. What is at issue is the best means of stimulating production in the year 2020. How we go about answering that question depends on our view of the nature of the constraints on economic growth. These can be summarized as demand constraints or supply constraints.

The supply—constrained system

It is possible that our economy has grown relatively slowly since 1973 because it is supply constrained; it is possible that supply constraints will be the deciding factor that generates the slow growth in the future that even the low-cost forecasts presume. A supply-constrained system needs greater capacity to produce: either more resources, higher quality resources, or better technology. Our capacity to produce could be increased, for example, through more investment today, and in the future. This would include both investments in physical capital (public infrastructure, private infrastructure and machinery), and human capital (more education and training to increase labor productivity). In addition to policies that would spur resource extraction, the quantity of resources could be increased by encouraging resource mobility (for example, to increase international flows), including loosening of immigration restrictions. In a supply-constrained system, non-investment spending can "crowd-out" investment, thus, leading to lower growth. Policies to reduce consumption (either by households or by government) would allow both private and public investment to increase–generating higher growth. While government spending (whether deficit-financed or not) is generally believed to lower long-run growth, this depends first on whether the system is supply-constrained, and second, on the nature of the government spending. As Aschauer (Aschauer 1998) and others have shown, much government spending actually enhances productivity and increases potential growth.

Even if we know the system is, and will continue to be, supply-constrained, this does not mean that it is clear that Social Security reform can reduce these constraints. Shifting to the advanced— funding model in 1983 raised tax rates and lowered benefits to generate large surpluses. This does not directly encourage creation of more or higher quality resources. It is possible that the higher tax rates have reduced current consumption, releasing resources that can be used for investment. On the other hand, the lower current consumption might depress the incentive to invest–simply generating unemployed resources and thereby removing supply constraints while creating demand constraints.

The main justification for the Trust Fund is the belief that it will increase national savings, and thereby stimulate investment. There are many reasons to doubt this result, but a primary problem is that it requires that the rest of the federal budget does not move toward deficit in compensation (that is, either because the surplus slows the economy and lowers other tax receipts, or because policy-makers increase other types of spending, or reduce other taxes, as they "spend" Social Security's surplus). Further, even if it is true that a government surplus can add to national saving and encourage investment, it is not at all clear that this should be the responsibility of OASDI. OASDI, as noted above, is not a broad-based program; the taxable OASDI base is far less than half of national income. If government surpluses can be used to stimulate growth, this would be more properly undertaken as a general fiscal policy rather than as the policy of OASDI; as such, the entire federal tax system should be used to generate general budget surpluses to stimulate growth. If this does work, the benefits of faster growth would then be shared across society, with OASDI also sharing in the benefits. Even a small increase in the growth rate of GDP would bring OASDI into close actuarial balance, but the benefits of growth would be spread throughout society and thus any costs (such as higher taxes today) should be shared by all of society rather than imposed only on payrolls. The objection might be that Congress and the president do not have the political will to undertake such measures, but this is no justification for reforming Social Security to do what our elected representatives won't do.

A related justification for generating the Trust Fund is that it can be used to directly increase investment, for

example, by purchasing private equities. Many objections have been raised to this plan, and we do not intend to repeat these (Baker 1998). However, it is important, again, to question whether this should be the responsibility of OASDI. If it is true that direct investment in the stock market can stimulate growth, then this is better accomplished as a general fiscal policy–that is, it should be done out of the general budget. By extrapolation, policies to increase human capital, or to encourage resource mobility, or to finance research and development are all better left to general government revenues and spending than to OASDI revenues and expenditures.

In conclusion, even if we live in a supply-constrained system, and even if we can do things today to increase long-run growth, it is difficult to make the argument that this should be done through levying payroll taxes greatly in excess of what is required to finance OASDI benefits today.

The demand constrained system

In a demand-constrained system (that is, one which operates with substantial excess capacity), any type of spending can raise demand, which stimulates output and raises economic growth. This will encourage investment and thus potential output. Simply trying to encourage investment by itself may not work in a demand constrained system because it may just lead to excess capacity. It may be better to stimulate other spending that then creates the private incentive to invest. Government spending, even if it results in a deficit, will raise demand and thus stimulate investment. On the other hand, a government surplus actually hinders demand (by taxing more than it spends) and reduces growth. If our system is demand-constrained, then accumulating a Trust Fund would depress growth unless this were offset by a deficit on the rest of the government's budget. A "pay-as-you-go" Social Security system would be preferable to an "advanced funded" system for any demand-constrained economy. One could even argue that OASDI deficits in the future would be good precisely because they would stimulate demand. However, for the reasons we examined above, it is better to leave such aggregate demand stimulation to the rest of the government's budget–this should be a matter for general budget policy rather than for a particular government program.

Is our system demand constrained or supply constrained? We believe that on balance, the evidence is that our economy is usually demand constrained. In coming years, we expect that demand constraints will be even worse than they have been since 1973. As evidence we point to chronic downsizing of firms, falling commodity prices, stagnant intermediate goods prices, high unemployment rates in most of the world, and unused capacity throughout the world. The burgeoning Asian crisis, now spreading to Latin America and threatening Europe and the United States, is in part due to excess capacity or inadequate world demand. At least in the near future, we see little reason to fear that the constraint will be one of insufficient capacity to produce.

Finally, in our judgment it makes little difference for the debate over Social Security reform whether we are supply- or demand-constrained. Achieving faster economic growth is a matter of good fiscal and/or monetary policy, and not the responsibility of OASDI. This means that OASDI ought to be run as a "pay-as-you-go" system whether our economy is supply constrained or demand constrained.

Other Issues

There are many other issues related to Social Security that are being debated, most of which fall outside the purview of this brief. Some reform proposals would "invest" part of the Trust Fund in the stock market. Many good arguments have been raised against this plan including the argument that projections of high stock market returns are wildly optimistic (See Baker 1998, Cadette, Ball et al 1997, Advisory Council). However, from our analysis above, it should be clear that the thinking behind this proposal is flawed. No matter how large the Trust Fund, it cannot directly ease the burden of providing for babyboomers in the future, nor can it directly increase the share of distribution going to retirees. Thus, proponents of "privatization", who argue that stock returns will be higher than the return on Treasury debt held by the Trust Fund, simply have not come to terms with the nature of the future burden. Tax hikes will be necessary, in the future, if Trustee projections concerning economic growth and demographics prove correct.

Other analyses have been concerned with equity issues. Two of the most important concern money's worth estimates and intergenerational equity. The first analyzes Social Security as if it were a pension plan, calculating the amount of contributions of each cohort, as well as the benefits they can expect, and thus, the

return on contributions. Not surprisingly, the rate of return varies greatly by income class and by retirement date. Low income earners generally get a much better return on their "investment" than do earners close to the contribution base. This represents a redistribution within a generation. Social Security has always had a significant redistribution component (indeed, many of those who receive even OASI benefits never paid into the program directly); on the other hand, by setting a contribution base and by eschewing means-testing for most benefits, payroll taxes are not progressive and benefits are widely distributed across income classes. We do not intend to examine this issue in more detail; arguments that would preserve intra-generational redistribution can be found in Advisory Council reports.

However, the money's worth issue and inter-generations equity deserve more attention. We agree with Ball (Ball et al 1997) etc. that ensuring that each generation obtains a good return on its contributions should not be a high priority. Indeed, we do not believe this is an obtainable goal given the changes in demographic patterns. The first Social Security retirees obtained very high returns on their investment due to highly favorable demographics: there was a relatively small aged population, but a large and rapidly growing population of working age and an economy that performed very well ensuring a high- wage growth. As a result, low payroll taxes generated sufficient income to meet benefits. This result will be obtained in any economy with these demographics. In a sense, it is similar to a "Ponzi finance" or "pyramid" scheme–with high but unsustainable returns, that is, returns that are high for the early entrants, but unsustainable for later entrants because the base cannot continue to expand as rapidly as at times past. All mature societies face a similar problem–generous living standards and rising status of women contribute to lower fertility rates and lower death rates which lowers population growth and increases the proportion of elderly. The burden of supporting the elderly will have to rise in such a society. However, against this cost must be weighed the advantages of slow population growth. Fewer resources have to be devoted to increasing the stock of housing, schools, roads, government buildings, and so on (partially offset by the need to increase the stock of hospitals and long-term care facilities): Social unrest and crime tend to fall; The pace of environmental degradation can slow. When money's worth is viewed in this broader context, it becomes clear that slow population growth creates problems, but also comes in concert with substantial benefits.

Complete privatization has also been advanced as a solution. Obviously, this will not reduce the burden placed on future generations unless it somehow increases the long run growth rate. This is possible. It can also be argued that even if burdens on future generations are not reduced, privatization is still desirable. However, we believe that the objections that have been raised overwhelm any possible benefits of privatization. For example, Baker has argued that supporters of the plan to "invest" Trust Funds in the stock market have wildly overestimated net returns. Further, if benefits are closely tied to stock market performance, then retirees who happen to come of retirement age when the market is low will suffer from low benefits throughout their retirement. There are also questions about the wisdom of increasing government involvement in the equity market. In addition, it is clear that Americans prefer to retain Social Security as a public program. We do not have anything consequential to add to the arguments of Baker (Baker 1998), except to note that if public investment in the stock market is such a great idea, then why doesn't the Treasury play the arbitrage to its advantage, issuing debt to the public at a low interest rate and taking positions in the stock market to earn high returns? Why limit the government's involvement to the Social Security Trust Fund? Indeed, unless the government does something like this, the stock market may be doomed to poor returns as the baby boomers retire leading to sales of stocks both by private funds and also by a partially privatized Social Security.

Policy Recommendations

Our analysis leads us to conclude that the OASDI portion of Social Security does not face a financial crisis. While we believe that the Trustees have been overly cautious in their intermediate long-range forecast, even on the basis of these assumptions we find no reason to suppose that a financial crisis looms in the future. We have also argued that there is no apparent real crisis that would unduly raise the burden on future workers of providing real goods and services that will be required by the elderly. Even with the rising numbers of aged relative to the working population, the trustees project that real wages of future workers will be much higher than those enjoyed today, in spite of assumed low growth rates of real output. Further, we see no compelling argument that changes made today could ameliorate any problems that might be encountered long into the future. Still, it is probable that tax rates will have to be increased in the future–perhaps even before 2020. However, the increases will be relatively small. After 2030, perhaps 2 percent more of GDP will have to be

devoted to the OASDI beneficiaries than is now devoted. While not insignificant, this is surely feasible without causing an undue burden on future workers. Thus, we are encouraged to make the following recommendations:

1. OASDI should gradually be returned to a pay-as-you-go system. We find no reason to suppose that accumulation of a huge Trust Fund is a proper way to provide for future retirees. Thus, over the next few years, payroll tax rates should be reduced. As required in the future, they may have to be increased later.

2. A discussion should begin over the proper tax base to be used to generate revenue for OASDI. Given demographic changes, which will reduce the working population relative to OASDI beneficiaries, a broader base will be preferred. This is particularly important given that covered payroll is expected to fall significantly relative to GDP. Discussion should include the possible elimination of the contribution base–or at least, of adjustments to this to ensure that a constant percent of payroll falls below the base. Inclusion of fringe benefits in the taxable base might also be pursued.

3. We should reconsider immigration policy. As our nation moves to negative natural population growth, we may wish to significantly increase the numbers of legal immigrants to provide us with a growing labor force.

4. The Trust Fund should be capped at no more than 100 percent of expenditures–which is thought to be sufficient to see the programs through back-to-back recessions. We would actually prefer to cap the Trust Fund at a much lower figure, since a reserve of 8-9 percent is sufficient to meet liquidity needs. General budget funding could be provided in severe recessions as necessary.

5. General fiscal policy should be biased to encourage faster growth, greater employment, and higher labor force participation (especially of women). This would not only benefit OASDI but it would also provide wide benefits to our society. However, we repeat that this should be undertaken as part of general fiscal policy, rather than as the policy of OASDI.

6. The Trustees should abandon its use of long-range forecasts of actuarial balance. These result from a flawed understanding of the way in which society provides future benefits. We propose that the Trustees report actuarial balance for no more than a five-year period. For the long-range, it is sufficient to report projections of annual program income, outgo, and balance.

Finally, we believe other major changes to OASDI, such as partial or complete privatization, reduction of benefits, or extension of retirement age have no place in the reform of Social Security. These, too, result from a flawed view of the extent and nature of the Social Security "crisis".

Figure 1: Short-Range Estimates of OASDI Surpluses adn Accumulated Trust Fund

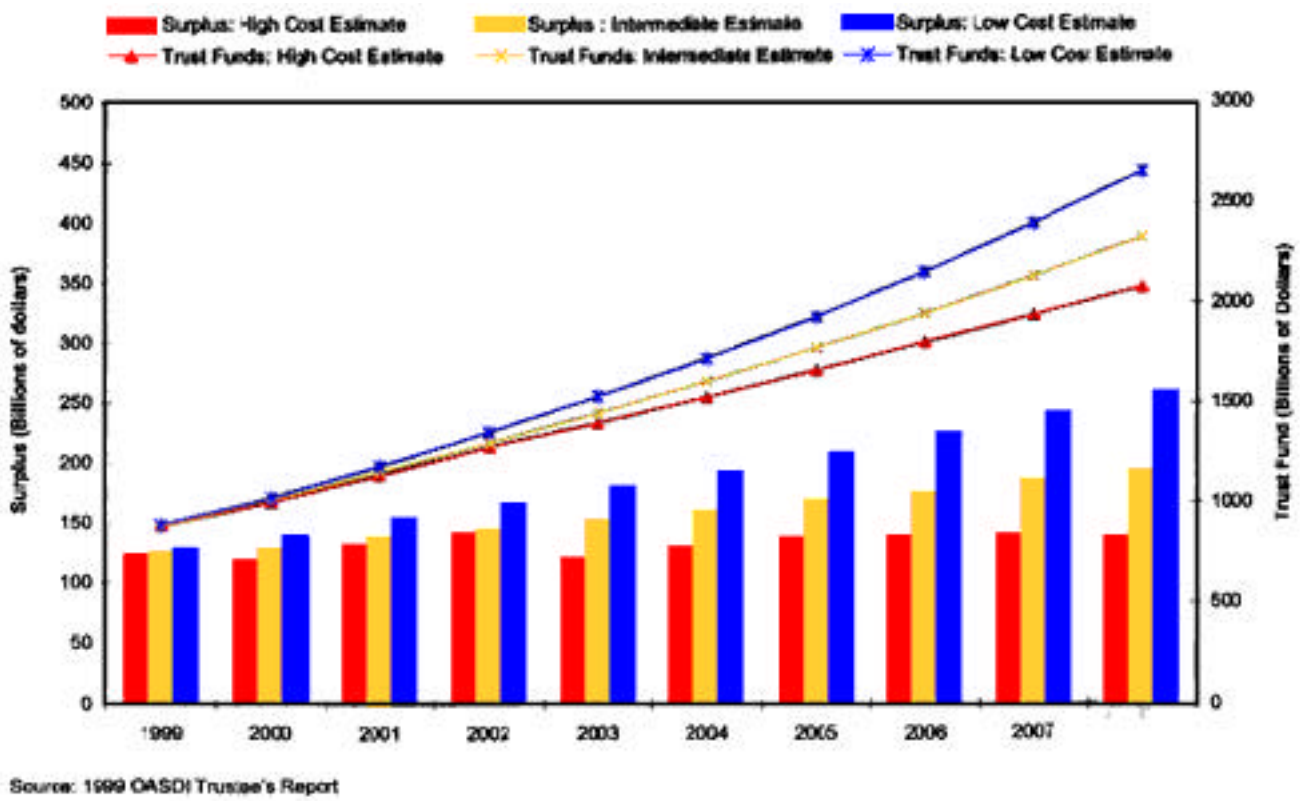


Figure 2: OASDI Income, Outgo, and Balance as Percent of GDP (Intermediate Assumptions)

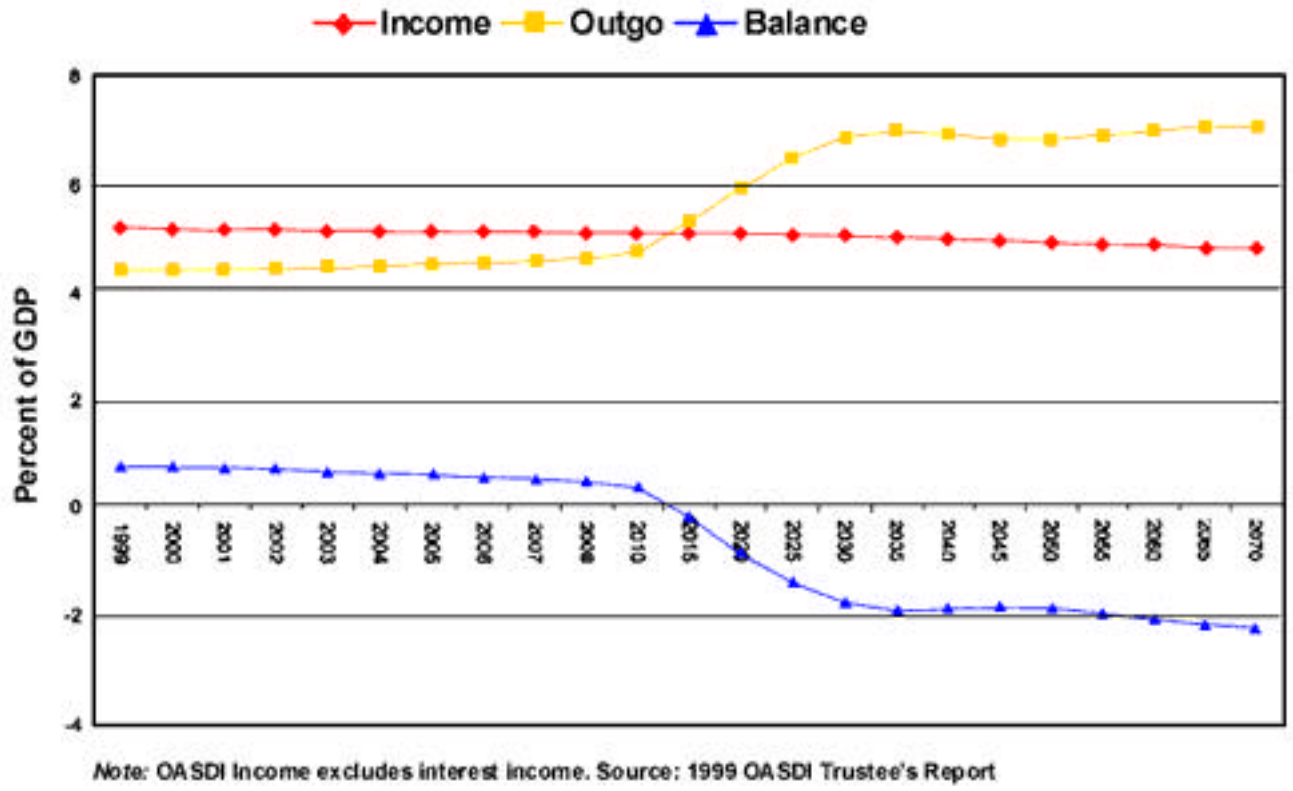


Figure 3: Beneficiaries and Depemdents

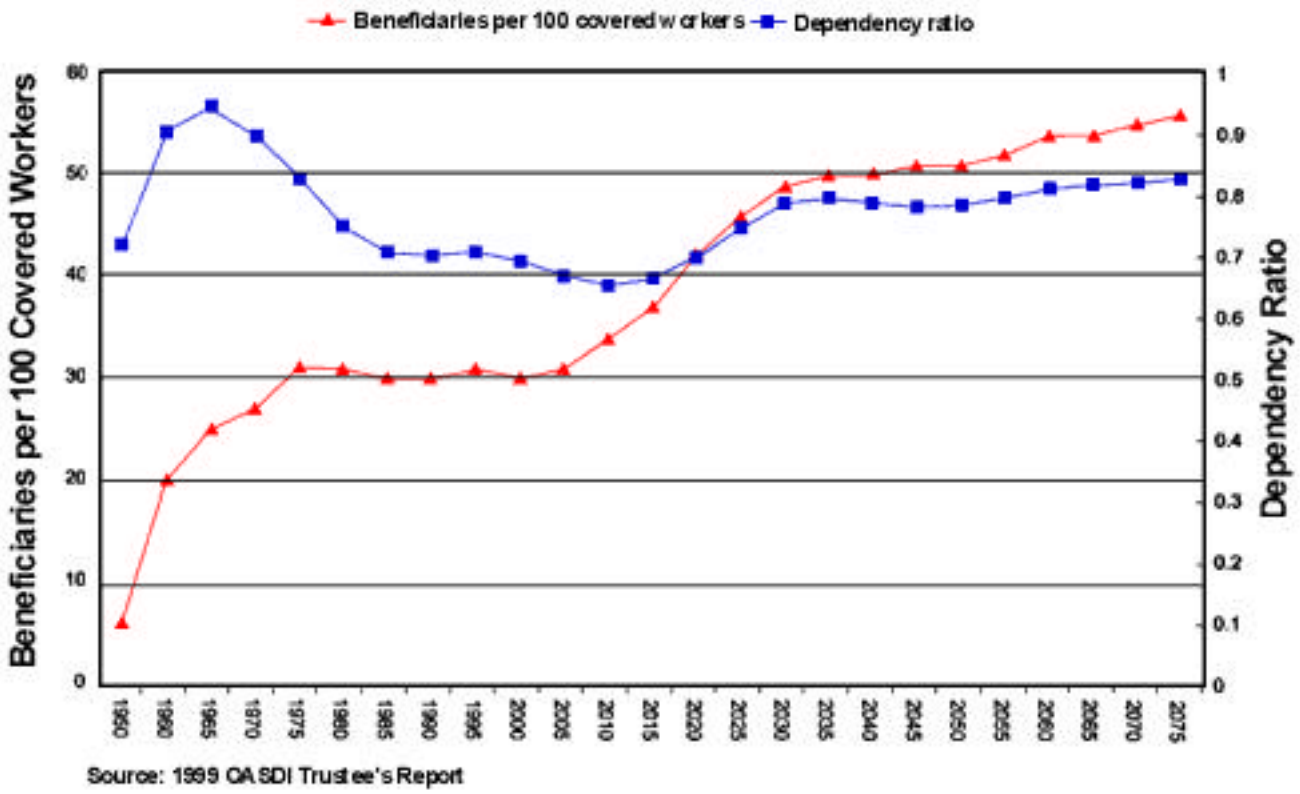
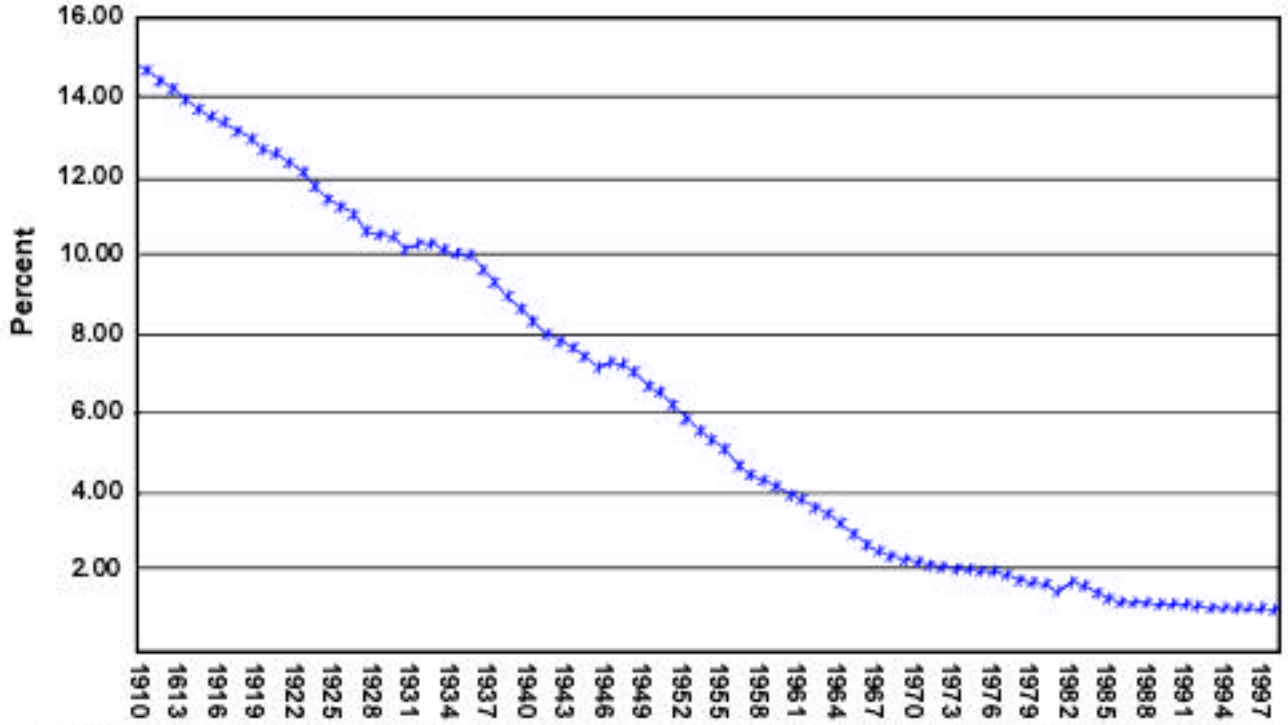


Figure 4: Farm Population Ratio (1910-1998)



Sources: Population Data are from the Census Bureau; Farm Employment data are from the U.S. Department of Agriculture. Farm data prior to 1975 were collected by mail-in surveys. From 1975 forward, probability-based surveys were conducted largely by telephone. Farm data from 1981 to 1983 are not as reliable as other years becuase budget cuts led to the elimination of quarterly esimates. Quarterly estimates were resumed in 1984.

Table 1 : Actuarial Balance

Valuation Period	OASDI Income rate	OASDI Cost rate	OASDI Actuarial balance
Intermediate:			
25-years:			
1998-2022	13.73	13.12	0.61
50-years:			
1998-2047	13.49	14.86	-1.37
75-years:			
1998-2072	13.45	15.64	-2.19
Low Cost:			
25-years:			
1998-2022	13.67	11.91	1.76
50-years:			
1998-2047	13.4	12.91	0.49
75-years:			
1998-2072	13.33	13.08	0.25
High Cost:			
25-years:			
1998-2022	13.78	14.54	-0.76
50-years:			
1998-2047	13.59	17.27	-3.68
75-years:			
1998-2072	13.61	19.03	-5.42

Note: Totals do not necessarily equal the sums of rounded components.

Notes

1. A letter was circulated by the MIT Department of Economics on 2 February 1999, with the title "President Clinton's Proposal to Save Surpluses is Good Economics" signed by many prominent economists, including five Nobel laureates.

2. Throughout this paper, we are using estimates and projections from the 1998 Annual Report of the Trustees. The 1999 Report was not available in time for us to use it; while the estimates in the 1999 Report are somewhat different, those differences are small.

3. This is based on the estimate that each additional 100,000 net immigrants increases the long-range actuarial balance by about 0.06 percent of taxable payroll. This presumably underestimates the impact of higher participation rates because the participation rate of immigrants is less than 100 percent. However, the information provided in the sensitivity analysis does not permit us to make a more accurate estimate.

4. Again, we do not have sufficient information to make an accurate calculation. However, 0.32 percent of 379 million (which is the intermediate projection of population for 2075) is 1.2 million net immigrants. This understates the number of net immigrants that would be required because population would be growing faster and thus achieve a higher level for every year after 2000–so that actual population would be higher than the 379 million that the Trustees have estimated for 2075.

5. Including employer-provided private group health and life insurance in OASDI taxable earnings, subject to the taxable maximum, would improve the long-range actuarial balance by 0.80; including employer-provided private group pension and profit sharing contributions in OASDI taxable earnings, subject to the taxable maximum, would improve the long-range actuarial balance by 0.37. Together this would close 1.17 of the imbalance–well over half (Report of the 1994-1996 Advisory Council,1997a vol. 1, p. 231).

6. The links between growth of labor force and growth of labor productivity are probably quite complex; however the Pigeon and Wray analysis shows that those developed countries with the lowest labor force growth consistently enjoyed much higher growth rates for productivity. It is possible that firms adapt to slow growth of the labor force by devoting more resources to skill enhancement and to capital per worker. Policy may also be directed to increasing labor productivity in the presence of a "labor shortage" created by slow growth of the labor force.

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