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Public Policy Brief

Does Social Security Need Saving?

Providing for Retirees throughout the
Twenty-first Century

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Preface

Every adult American has undoubtedly heard cries of alarm that the Social Security system is poised on the brink of a financial crisis precipitated in large part by the swelling numbers of retirees relative to workers. The alarm has produced an outpouring of proposals for rescuing the system—public investment in the stock market, privatization, government-subsidized savings plans, “saving” general budget surpluses for Social Security, raising the retirement age, cutting benefits, and some combination of these and other ideas. In this brief, Senior Scholar L. Randall Wray and I ask whether there really is an impending financial crisis and, more important, whether our ability to provide for retirees throughout the twenty-first century depends on factors other than the financial status of the Social Security Trust Funds. It is not until we establish the nature of the problems we may face that we can evaluate existing proposals realistically and begin to develop effective courses of action.

Our inquiry begins with an examination of the assumptions made by the trustees of the Trust Funds that led to their conclusion about the system’s future financial insolvency. We show that their assumptions are unduly pessimistic and that only a small change in any of the assumptions averts, or considerably reduces, the shortfall in funds. Even if we accept their assumptions, the gap between Social Security revenues and expenditures is projected to rise to just over 2 percent of GDP by 2075. A financial crisis would thus be resolved by a 2 percent increase in the percentage of GDP devoted to Social Security, and such shifts have been made in the past without generating an economic emergency.

The real issue regarding Social Security is not the size of the system's Trust Funds, but the size and distribution of the whole economic pie, that is, the ability of future workers to produce enough goods and services to provide an acceptable standard of living both for themselves and for retirees. When the issue is viewed in this light, it becomes clear that none of the popular reforms advocated thus far addresses the real problem of providing for future retirees. We present policy recommendations that we believe are consistent with the true nature and scope of the future problem. Our arguments suggest that baby boomers need not be alarmed about Social Security financing; there are plenty of funds available or readily attainable for their retirement. However, it is important to give thought to long-range issues beyond Social Security; it is through actions taken now to ensure the growth of the economy that we can ensure security for all retirees throughout the century.

I hope that you find the arguments made in this brief of interest and I look forward to hearing your comments.

Dimitri B. Papadimitriou, *President*
August 1999

Does Social Security Need Saving?

“Saving” Social Security was perhaps the most important issue addressed by President Clinton in his 1999 State of the Union Address. The president and Congress seem to agree that projected budget surpluses should be dedicated to saving Social Security before other uses are considered. While not all observers approve of the specifics of the president’s plan, there is widespread agreement that he is on the right track.

In this brief, we 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, but relatively minor adjustments to the assumptions lead to very different assessments of Social Security’s long-term financial soundness. One must be careful about proposing major reforms to deal with problems that may never unfold.

We next ask whether it is possible to ensure that we can provide for future retirees through financial reforms made today. Most analyses, including that conducted by the trustees, confuse what they have interpreted as financial problems with the real burden of caring for retirees in the future. If those financial problems do exist, their resolution requires only relatively simple adjustments in accounting procedures. It does not require higher taxes now or lower benefits in the near future or running budget surpluses now. If the real problem of caring for retirees lies in producing a sufficient quantity of resources tomorrow, it 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 tomorrow’s elderly. The first can be accomplished by increasing the rate

of private and public investment; the second is best accomplished through the tax system at the time the baby boom generation retires. All the major proposals currently being discussed, ranging from calls to “invest” the Social Security Trust Funds in the stock market to the president’s plan to “lock away” projected federal budget surpluses in the Trust Funds, will do nothing to ameliorate the real problem of caring for the aged in the next century.

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. This issue is quite separate from the supposed financial crisis, and most analyses fail to distinguish between the two. Analyses also confuse *distributive* issues with financial matters. The real burden of caring for the aged will rise, but this increase is relatively small and apparently manageable even using the trustees’ rather pessimistic assumptions. This leads us to a discussion of policies that might ease the real burden. None of the major Social Security reforms advocated—by the president or his critics—will significantly affect this problem. In fact, some of the plans would merely increase the cost to today’s workers and retirees without reducing the cost in the future. Such “pain without gain” is bad social policy.

We recommend several policy directions that can reduce the burden today and tomorrow. Most importantly, we advocate returning Social Security to a pay-as-you-go system by lowering payroll taxes now. The tax base used to generate revenue for Social Security programs should be broadened. The Trust Funds should be capped. General fiscal policy should be biased to increase productive capacity. These policies would allow today’s workers to retain more income, but would not in any way reduce the nation’s ability to care for tomorrow’s retirees; indeed, such policies would enhance our productive capacity over the next few decades.

The Trustees’ Report on Actuarial Status

Most people think of Social Security as a retirement program but, in reality, the Social Security system comprises several different programs: Old-Age and Survivors Insurance (OASI), the hospital insurance (HI)

portion of Medicare, Supplemental Medical Insurance (SMI), and Disability Insurance (DI). Most economic analyses combine OASI and DI (into OASDI) since the financial operations of both programs are handled through special trust funds (the Federal Old-Age and Survivors Insurance Trust Fund and the Federal Disability Insurance Trust Fund) established at the Treasury. Many of the programs included under the rubric of Social Security are not targeted to the retired, and even OASI has 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; it cannot be treated as if it were nothing more than a pension fund, as is often done in “money’s worth” calculations (briefly discussed below). We do focus on OASDI as a retirement program in this brief, but remain fully aware that it is much more than that. Our interest in this aspect of the program is based on the remarkable volume of debate and the intensity of the crisis mentality that the impending retirement of the baby boom generation has engendered.

It has long been known that the United States (and most other developed economies) will face a demographic imbalance by 2020 or 2030. As a result of declining fertility rates, increasing longevity, and the baby boom bulge, the number of retirees relative to the working population will rise. In anticipation of this imbalance, revisions in benefits and revenues were made in 1977 and 1983 that fundamentally changed the Social Security program from pay-as-you-go to advance funding or the accumulation of reserves. It was believed that benefits could be supplemented from these reserves 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 make an annual report on the operations and status of the OASI and DI Trust Funds. This includes requirements that the trustees estimate the status of the funds for the ensuing five years and provide 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, a detailed projection for the next 10 years (its “short-range” forecast), and a projection for the next 75 years (its “long-range” forecast) to capture the effects of demographic shifts in working and

retiring cohorts. In the trustees' 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" (Social Security Administration 1999, 9). Because the trustees recognize the inherent difficulties in making projections over such a long time span, they use three sets of cost: "high cost" (pessimistic), "intermediate cost," and "low cost" (optimistic).

It is important to note that the Social Security Act does not require "actuarial balance" for the 75-year period. The trustees have established their own methods for assessing actuarial status and their own rules for solvency and liquidity of the funds. These rules are rather complex, but essentially the rules for solvency require that the funds' projected income (expressed as a percent of taxable payroll) does not fall below 95 percent of their projected expenditures (also expressed as a percent of taxable payroll) over the 75-year period. To provide sufficient liquidity to ensure timely payments, the rules require a contingency reserve of 8 to 9 percent of program expenditures.

In recent years the trustees have reported the actuarial status 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, the discounted expenditures equal the discounted revenues over the valuation 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. If the difference is a negative number, OASDI is in actuarial imbalance. The trustees have traditionally allowed some tolerance because of the inherent difficulty in making long-range projections. The program is said to be in "close actuarial balance" if estimated income over the 75-year period is within 5 percent of estimated cost. Currently, that 5 percent tolerance would equal about 0.75 percent of taxable payroll (Advisory Council on Social Security 1997b, 80). In other words, if OASDI had an "actuarial gap" of negative 0.75, it would still be said to be in close actuarial balance.

Table 1 shows the income rate, cost rate, and resulting actuarial status for each of the three projections.¹ The low-cost projection results in a positive actuarial balance for the first and second 25-year periods and the entire long-range 75-year period. The intermediate-cost projection results in a positive actuarial balance for the first 25-year period only and a negative actuarial balance of 2.07 percent over the 75-year period. The high-cost projection for the 75-year period shows a negative 4.97 percent balance. What these estimates indicate is that, if payroll taxes were immediately increased by 2.07 percentage points in the intermediate case or by 4.97 percentage points in the high case, OASDI would be in positive actuarial balance for the 75-year period. For example, if the tax on both employees and employers were raised by 1.035 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 status is within 1.32 percent (2.07 less 0.75) of close actuarial balance, so that the tax need be increased by only 0.66 percent on both employers and employees to bring OASDI into close actuarial balance. We will return to our assessment of the usefulness of such calculations later.

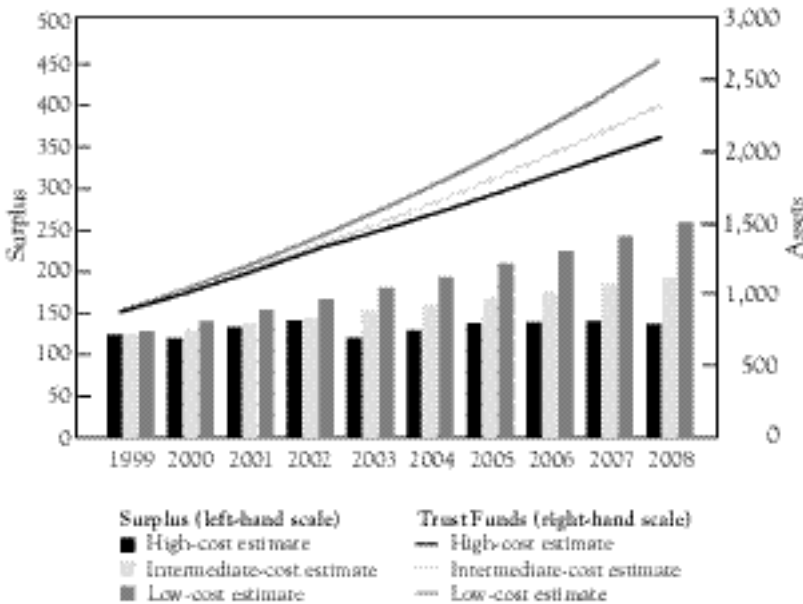
Table 1 Actuarial Balance, OASDI Trust Funds (Percentage of Taxable Payroll)

Valuation Period	Income Rate	Cost Rate	Actuarial Balance
Intermediate-cost assumptions			
25 years: 1999–2023	13.81	13.04	0.77
50 years: 1999–2048	13.54	14.80	-1.26
75 years: 1999–2073	13.49	15.56	-2.07
Low-cost assumptions			
25 years: 1999–2023	13.74	11.84	1.90
50 years: 1999–2048	13.45	12.92	0.53
75 years: 1999–2073	13.37	13.14	0.23
High-cost assumptions			
25 years: 1999–2023	13.85	14.32	-0.47
50 years: 1999–2048	13.63	16.96	-3.34
75 years: 1999–2073	13.62	18.60	-4.97

Note: Totals do not necessarily equal the sums of rounded components.
Source: Social Security Administration (1999), Table II.F15.

The OASDI program's operating surplus for 1998 amounted to \$107 billion (Social Security Administration 1999, Table II.F3). The intermediate projection shows a surplus rising to just under \$125 billion in 1999 and to \$193 billion by 2008, the last year of the short-range forecast (Figure 1). By the end of 1998 the Trust Funds had accumulated \$887 billion (see Table 2 for more detail). This will grow, according to the intermediate estimate, to approximately \$2.3 trillion by the end of 2008 (with an annual surplus of \$193 billion), an amount that is nearly four times estimated total program expenditures for the year 2007. That is to say, the Trust Funds would be sufficient to finance the program for well 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 2008 is a surplus of \$259 billion and a fund accumulation of \$2.66 trillion; the high-cost estimate for 2008 is a surplus of \$137 billion and an accumulation of \$2.08 trillion. Thus, regardless of the assumptions used, OASDI is projected to run large surpluses and to accumulate huge Trust Funds throughout the next decade. Even the most pessimistic

Figure 1 Short-Range (10-Year) Estimates of OASDI Surpluses and Accumulated Trust Funds (Billions of Current Dollars)



Source: Social Security Administration (1999).

projections result in Trust Funds that by the end of 2008 would be well over what would be required to finance the program for two years with no additional revenue.

Under the intermediate assumptions (see Table 2), the trustees project that through 2020 the Trust Funds will grow to \$4.4 trillion. Beginning in 2022 program revenues will fall short of expenditures, requiring sales of Trust Fund assets (Social Security Administration 1999, 24). The assets would be exhausted by the year 2034, after which projected revenues would meet just under three-quarters of expenditures. Under the low-cost assumptions, however, the funds will rise to over five times annual program expenditures in 2020, fall to over three times in 2060, but remain fairly constant thereafter. By 2075 the funds would hold more than \$45 trillion in assets.

What is important to notice is the apparent incongruity between a balanced federal government budget, as projected by the Council of Economic Advisors, and growing Trust Funds, which on current practice must buy government securities. Each year Social Security runs a surplus, that surplus adds to total government revenue (thus reducing a general budget deficit or adding to a surplus) because Social Security funds are put in the general budget in exchange for Treasury securities and the Trust Funds are credited with nonmarketable Treasury securities that earn interest. Even on the intermediate-cost projections, by year 2020 the Trust Funds would have to invest over \$4.4 trillion in government securities, an amount greater than the currently outstanding publicly held government debt. On low-cost projections, the Trust Funds would have to purchase \$45 trillion of government securities by 2075! To meet this higher goal, the federal government would have to issue new debt in excess of a \$150 billion a year by 2000, nearly \$1 trillion a year by 2060, and almost \$2 trillion a year by 2075. Thus, even if the federal budget remained balanced from this day forward, the Treasury would become increasingly indebted to OASDI. If the federal budget actually ran a surplus over the next 25 years, as the president believes it will, the debt in the hands of the public would be retired, but it would 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.

Table 2 OASDI Trust Fund Operations (Billions of Current Dollars)

Year	Intermediate Cost						Low Cost						High Cost							
	Income		Interest		Total		Income		Interest		Total		Income		Interest		Total			
	Excluding Interest	Interest	Income	Income	Outgo	Balance	Fund	Excluding Interest	Interest	Income	Income	Outgo	Balance	Fund	Excluding Interest	Interest	Income	Income	Outgo	Balance
1998	464	54	518	394	124	887	467	54	521	393	128	890	465	54	519	396	123	886		
1999	479	59	538	409	129	1,016	487	59	546	407	140	1,030	475	60	535	416	119	1,005		
2000	500	65	565	427	137	1,153	511	66	576	422	154	1,183	507	68	575	442	133	1,138		
2001	520	72	592	448	144	1,297	533	73	606	440	167	1,350	541	79	621	480	141	1,278		
2002	543	79	622	471	151	1,448	557	81	639	459	180	1,530	551	90	641	522	119	1,398		
2003	567	88	654	496	158	1,606	583	91	673	480	193	1,723	585	100	685	556	129	1,526		
2004	595	97	692	524	168	1,774	610	101	712	503	209	1,932	624	109	732	595	137	1,663		
2005	623	107	731	555	175	1,949	638	113	751	527	224	2,156	659	118	776	638	139	1,802		
2006	655	118	774	588	185	2,134	669	126	795	553	242	2,398	696	127	823	683	140	1,942		
2007	687	130	818	625	193	2,327	699	140	839	580	259	2,657	733	136	869	732	137	2,078		
2010	759	158	916	710	206	2,734	766	175	941	648	293	3,226	816	151	966	845	122	2,331		
2015	960	229	1,189	995	194	3,765	949	280	1,229	876	353	4,898	1,056	170	1,226	1,218	8	2,647		
2020	1,205	273	1,479	1,405	74	4,420	1,167	385	1,552	1,203	349	6,671	1,356	134	1,490	1,764	-273	1,933		
2025	1,504	264	1,768	1,925	-157	4,144	1,429	484	1,913	1,599	314	8,320	1,728	0	1,728	2,493	-764	0		
2030	1,876	165	2,041	2,542	-501	2,369	1,753	571	2,325	2,047	278	9,770	2,195	0	2,195	3,406	-1,211	0		
2035	2,342	0	2,342	3,247	-904	0	2,161	653	2,814	2,531	282	11,143	2,781	0	2,781	4,509	-1,728	0		
2040	2,921	0	2,921	4,057	-1,116	0	2,670	748	3,417	3,051	367	12,778	3,507	0	3,507	5,815	-2,308	0		
2045	3,630	0	3,630	5,001	-1,372	0	3,295	875	4,170	3,677	493	14,984	4,389	0	4,389	7,448	-3,059	0		
2050	4,498	0	4,498	6,230	-1,732	0	4,063	1,042	5,106	4,472	634	17,870	5,467	0	5,467	9,556	-4,089	0		
2055	5,565	0	5,565	7,842	-2,277	0	5,011	1,249	6,260	5,506	754	21,408	6,785	0	6,785	12,352	-5,567	0		
2060	6,886	0	6,886	9,888	-3,002	0	6,190	1,492	7,682	6,789	893	25,572	8,407	0	8,407	15,983	-7,575	0		
2065	8,522	0	8,522	12,413	-3,891	0	7,657	1,789	9,446	8,332	1,115	30,670	10,405	0	10,405	20,382	-10,177	0		
2070	10,539	0	10,539	15,531	-4,993	0	9,470	2,163	11,633	10,223	1,410	37,106	12,860	0	12,860	26,356	-13,496	0		
2075	13,020	0	13,020	19,415	-6,395	0	11,701	2,631	14,332	12,596	1,736	45,136	15,872	0	15,872	33,578	-17,705	0		

Source: Social Security Administration (1999), Table III.B3, III.B4.

Analysis of the Trustees' Assumptions

Many participants in the debate have pointed to the retiring baby boomers as the source of the looming Social Security “crisis.” However, conventional mortality estimates show that a large portion of the baby boom generation will have died before Trust Fund assets are exhausted in 2032. According to intermediate-cost assumptions, OASDI program revenues will begin to fall short of expenditures after 2021 and the shortfall will increase rapidly throughout the 75-year period. For example, revenues will fall short by 13 percent in 2025, 30 percent in 2030, and 48 percent in 2075. Thus, the source of a financing crisis is not only the baby boom but also generation x and the “echo” of the baby boom. The baby boom generation is only a minor demographic “blip” rather than the sole cause of the crisis. The forecast of a crisis hinges on many assumptions. Recall that, according to the intermediate-cost estimate, the long-range actuarial shortfall is equal to 2.07 percent of taxable payroll. It is useful to estimate how sensitive that imbalance is to changes in the assumptions underlying the projections.

Low Fertility Rates

A rise in the fertility rate would increase program revenues above those currently forecast. The fertility rate, which is currently 2.03 children per woman, is projected to fall to 1.9 under the intermediate assumptions (and to rise to 2.2 under the low-cost assumptions). Historically, the fertility rate has fluctuated widely. It was 3.3 children per woman after World War I, fell to 2.1 during the Great Depression, and then rose to 3.7 in 1957. Each increase of 0.1 in the fertility rate augments the long-range actuarial balance by about 0.11 percent of taxable payroll.

If the fertility rate were to rise by 1.7 (that is, to just over 3.7 children per woman—where it stood in 1957), the actuarial gap would be reduced by over 90 percent (given all other intermediate assumptions). Given present demographic patterns, this is unlikely. However, if the fertility rate were to rise only slightly, to 2.2, then 16 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 depopulate the country in the absence of death rate reductions and net immigration inflows.

Slow Growth of the Labor Force

Additions to the labor force increase program revenue. The trustees have assumed 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 depends not only on population size but also on labor force participation rates. The participation rate for men was 75.5 percent in 1997; by 2075 the age-adjusted participation rate is assumed to fall to 74.0 percent in the low-cost projection, to 73.9 percent in the intermediate case, and to 73.8 percent in the high case. The participation rate for women has been rising sharply in recent years, reaching 60.0 percent in 1997. This is expected to increase by 2075 to 60.6 percent in the low- and intermediate-cost projections and to 60.5 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 workers to the labor force through increased participation should not be too dissimilar from the effects of adding them through net immigration—adding half a million to the labor force each year might close the actuarial gap by about 17 percent (see the discussion of immigration below).²

Increased Longevity

Increased longevity (or, more accurately, a lower death rate) increases program costs more than it increases revenue (holding all else equal). Each 10 percentage point decrease in the death rate, relative to the assumed 34 percent decrease, increases the long-range actuarial gap by about 0.34 percent of taxable payroll. The intermediate projection assumes that the death rate will fall by 34 percent over the 75-year period. If the death rate fell by only 16 percent, the actuarial gap would be reduced from 2.07 percent of taxable payroll to 1.47 percent (a reduction of 29 percent).

Low Net Immigration

Net immigration increases program revenue more than it raises program costs. The intermediate projection assumes net immigration of 900,000

per year. This represents a reduction from current net immigration. In 1997 net legal immigration was estimated to be 660,000 and illegal immigration 300,000, or 960,000 total. Each 100,000 immigrants in addition to the assumed 900,000 per year increases the long-range actuarial balance by about 0.07 percent of taxable payroll. If net immigration were to reach 1.5 million per year, the actuarial gap would be reduced by 0.42 percentage points (or by about 20 percent). Note that if net immigration did in fact fall to 900,000 in the year 2000, this would be equal to about 0.31 percent of total projected population. If annual net immigration then remained at 900,000, this would represent less than 0.24 percent of the intermediate population projection by 2075. If net immigration is to remain at 0.31 percent of population, it would have to rise from 900,000 in 2000 to something closer to 1.2 million per year by 2075.³

Low Growth of Real Wages

Fifth, growth of the nominal wage relative to inflation increases program revenues relative to costs. The trustees have assumed that the consumer price index (CPI) will grow at 3.3 percent per year. According to the intermediate assumption, the nominal wage will grow at 4.2 percent per year, or 0.9 percentage points faster than the CPI. This percentage point difference is called the “real wage differential” (and may be expressed as percent growth in real wage). Each 0.5 percentage point increase in the assumed real wage differential increases the long-range actuarial balance by about 0.51 percent of taxable payroll. If the nominal wage were to grow at a rate of two percentage points above the CPI rate of inflation (a real wage differential of 2.0), the actuarial gap would be closed by over 1.1 percentage points, representing 53 percent. That is, if the real wage grew at 2.0 percent per year, rather than the assumed 0.9 percent (the difference between nominal growth of 4.2 percent and CPI growth of 3.3), 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 increase more than CPI-indexed benefits increase. Holding the real wage differential at 0.9, each percentage point increase in the CPI will increase the long-range actuarial balance by about 0.23 percent of taxable payroll.

Growth of real wages is linked to productivity gains and to the relation between wages and productivity growth. The trustees assume that

productivity growth will be 1.6 percent, 1.3 percent, and 1.0 percent for the low, intermediate, and high projections, respectively. Interestingly, they assume that wages will grow much more slowly than productivity, that is, by 1.4 percent, 0.9 percent, and 0.4 percent. This is because they assume 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. The elimination of this exemption 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 OASDI actuarial balance. According to 1995 projections, the long-range actuarial deficit would have been reduced from 2.17 to 1.15 percent of payroll (that is, by nearly half) had the tax exemption for such fringe benefits been eliminated (Advisory Council on Social Security 1997a, 139).⁴

Productivity gains plus growth of the labor force together determine growth of real output. Given assumptions regarding low productivity growth, low population growth, and falling labor force participation rates, it is not surprising that the trustees project low growth of real output. Over the past 75 years our economy has had an average real rate of growth of GDP equal to nearly 3.5 percent per year. (Note that this period included the slow growth during the Great Depression and following the “oil price shock” of the early 1970s.) The trustees project that over the next 75 years, real growth will slow to only 1.3 percent for the intermediate projections. As we have said, this follows from assumptions of low productivity growth *and* slow growth of the labor force. However, there may be an inconsistency in assuming that these two factors will (or can) both be slow.

As Pigeon and Wray (1999) show, countries with the slowest growth of the labor force since 1970 have high growth of productivity, and countries with rapid labor force growth have low growth of labor productivity. For example, between 1970 and 1996 the labor forces in the United States and Canada increased by nearly 25 percent, the labor force in Western Europe did not increase at all, and the labor force in Japan increased by only 5 percent. Over the same period labor productivity increased by less than 20 percent in the United States, by about 30

percent in Canada, by 80 percent in Western Europe, and by a whopping 100 percent in Japan. Note also, that real per capita GDP growth was *slowest* in the United States, which had the fastest labor force growth. Western Europe and Japan, with essentially no growth of the labor force, had more rapid growth of real output per person. Thus, there is no necessary relation between labor force growth and real GDP growth. 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, labor productivity is likely to grow much faster than they project.⁵ This, in turn, will increase real wage growth and thereby close the actuarial gap.

Falling Portion of Taxable Wages

Clearly, the Social Security program's income and outgo depend on taxable payroll. Earnings above \$72,600 (in 1999) are not subject to the OASDI payroll tax. In 1998 the ratio of taxable earnings to earnings in OASDI-covered employment was 0.862. This ratio has been falling since 1984, mainly due to the rising proportion of covered wages in excess of the contribution and benefit base. In the past, 90 percent of all wages fell below the contribution base. However, because of rising inequality of wages (faster growth at the high end), today only 86 percent of all wages fall below the base. Indeed, OASDI taxable payroll is projected (on intermediate assumptions) to fall from 41 percent of GDP in 1999 to only 35 percent in 2075. In other words, the total base on which taxes are calculated for the purposes of supporting the rising number of the aged will amount to only 35 percent of GDP by 2075 (Social Security Administration 1999, Table III.C2).

Again, the trustees did not perform a sensitivity analysis on these factors for the 1997 report. However, the Advisory Council on Social Security (1997a, 238) 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; in other words, this one change would eliminate over half of the intermediate case actuarial shortfall. If OASDI were to eliminate the contribution base entirely, making all earnings in OASDI-covered employment taxable (that is, increasing 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, not just on the 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

Other factors affecting the long-range actuarial balance include the real interest rate (nominal interest rate less CPI inflation), the disability incidence rate, and the disability termination rate. A higher real interest rate increases program revenues (because earnings on Trust Fund assets are higher) and therefore decreases the actuarial shortfall. A higher disability incidence rate increases costs and therefore adds to the actuarial shortfall; the trustees assume incidence rates will rise for women on all three sets of assumptions and will rise for men on the high- and intermediate-cost assumptions. A lower disability termination rate increases costs and therefore adds to the actuarial shortfall; the trustees assume termination rates due to death or recovery will fall significantly. However, we will not examine these issues in more detail.

Trustees' Unwarranted and Unnecessary Pessimism

In sum, the expectation of long-range financing problems for OASDI results primarily from assumptions regarding low fertility rates, slow growth of the labor force, increased longevity, low net immigration, low growth of real wages, and a falling portion of wages that are taxable, with the low growth in the labor force and real wages being the most significant. Real wages grew at a rate of 2.2 percent per year throughout the 1960s, but are assumed to grow at only 0.9 percent over the long run; the labor force grew at a rate well above 2.0 percent per year previous to 1980, but is projected to grow at only 0.1 percent in 2020, 0.2 percent in 2030, and 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.

Small changes in these factors would alter the intermediate forecast sufficiently that OASDI would be in close actuarial balance without resorting to higher payroll taxes or reduced benefit payments. 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 reduced. Moreover, if real wage growth rose to 2.0 percent, if an extra 600,000 immigrants were added per year, and if fertility rates rose to 2.2, 89 percent of the intermediate-case actuarial gap would be eliminated.

We thus agree with many other commentators who have argued that the trustees have used assumptions that are unduly pessimistic. For example, David Langer, a consulting actuary, has recently said 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, 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 27 recommends use of “appropriate recent and long-term historical economic data,” and ASP 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 and that the trustees’ report does not provide a justification for the use of such pessimistic assumptions. Langer shows that the trustees have consistently adopted more pessimistic assumptions in each succeeding report since 1979. Furthermore, even the reports before 1979 turned out to be overly pessimistic; the real world outcome consistently proved to be better than the trustees’ projections. 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. . . . [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, 1–2)

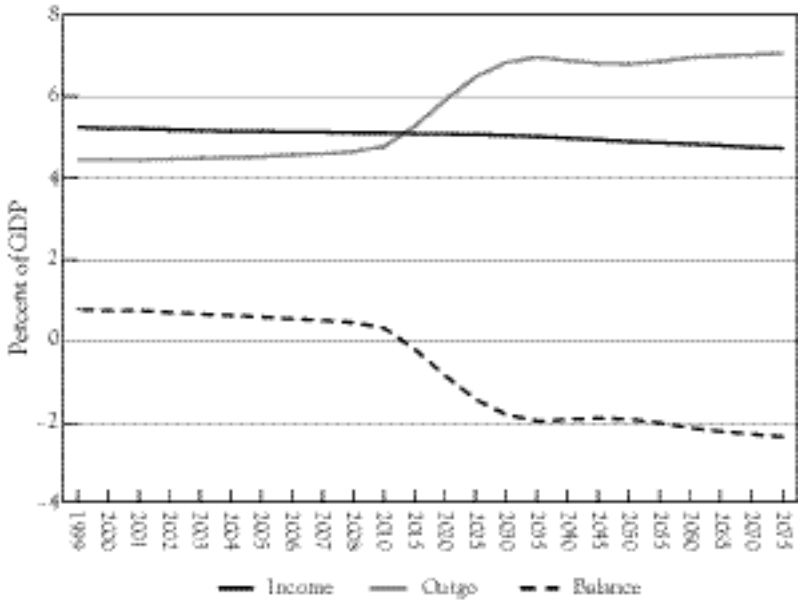
Indeed, in their annual report for 1999, the trustees projected that the Trust Funds would not be exhausted until 2034—two years later than they had projected in their 1998 report (Social Security Administration 1999). Such corrections become necessary because economic growth continually exceeds the pessimistic assumptions adopted in the forecasts. Although private programs should be biased toward conservatism, a public program requires no such bias. The trustees have not provided a compelling argument for their assumptions that the economy of the future will be far worse than the economy of the past.

Different Measures of the “Financial Gap”

OASDI as Percent of GDP

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, rather than looking just at program revenues and costs, we can obtain a different 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 balance is 0.79 percent of GDP. In 2014 income (excluding interest) will just cover outgo. By 2030 outgo will exceed income by about 1.8 percent

Figure 2 OASDI Income, Output, and Balance as Percent of GDP, Intermediate Assumptions



Note: OASDI income excludes interest income.
Source: Social Security Administration (1999).

of GDP. By 2060 the shortfall will reach slightly more than 2 percent of GDP and slowly increase 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 the economy be able to increase the percentage 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 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” (1998, 4).

Ratio of Workers to Dependents

The coming “crisis” can be examined from another vantage point: changes in the ratio of the number of workers to the number of retirees over the 75-year span. Not surprisingly, given assumptions about rising

Figure 3 Beneficiaries and Dependents



Source: Social Security Administration (1999).

longevity and lower fertility rates, workers of the future will have to support relatively more retired people than workers do now. As Figure 3 (left-hand scale) 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. To put it another way, while we now have just over 3.3 workers per beneficiary, we will have fewer than 1.8 by 2075.

The rise in the ratio of beneficiaries to workers makes it appear that the “burden” on future workers will increase by something less than a factor of two. However, if we add the under age 20 population to the 65 and over population to obtain a “dependent” population, we find that workers in 1965 supported more dependents than any generation will through the year 2075. The dependency ratio (the ratio of dependents to workers) was nearly 0.95 in 1965 (see Figure 3, right-hand scale), 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 2010; it will rise to only 0.83 in 2075. Thus, although it is true that the number of people 65 and over—

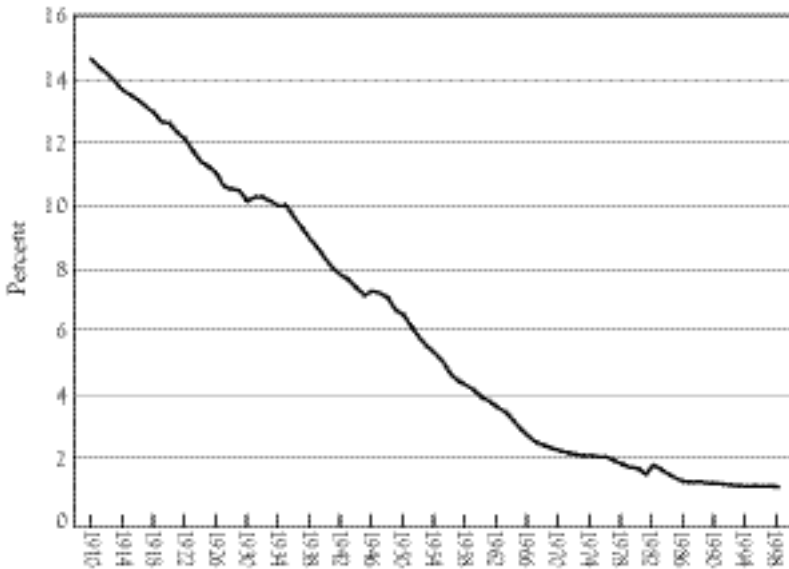
most of whom will be supported by people of working age—will rise relative to the number of workers, the combination of lower birth rates and more women in the labor force has actually reduced the burden of supporting those under age 20 by more than enough to offset the growing burden of supporting the aged.

We realize, of course, that the needs of the dependent elderly differ from those of the dependent young. Also, the attitude of the working population toward paying payroll taxes to support “grandma and grandpa” is certainly different from its attitude toward using net income to care for children at home. On the other hand, there can be no doubt that providing for the educational, housing, recreational, and medical needs of the young baby boomers in the 1950s and 1960s represented a 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. Further, it must be remembered that the typical family that was supporting baby boom children under age 20 had only one breadwinner. The typical family that will be paying taxes to take care of retired baby boomers will have two wage earners.

Burden of Providing Goods and Services

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 wrong. Today farmers produce sufficient food to feed the American population with enough left over to export large quantities. As Figure 4 shows, the proportion of farm workers in the population fell rapidly from nearly 15 percent in 1910 to about 1 percent today—with no adverse effects on food consumption. In fact, the major problem facing farmers is that they can produce far more than they can sell at profitable prices.

In the mid 1940s it took about 13 manufacturing workers to produce the manufactured goods consumed by 100 Americans; in 1990 that number had fallen by nearly half to 7. The decline in manufacturing workers is

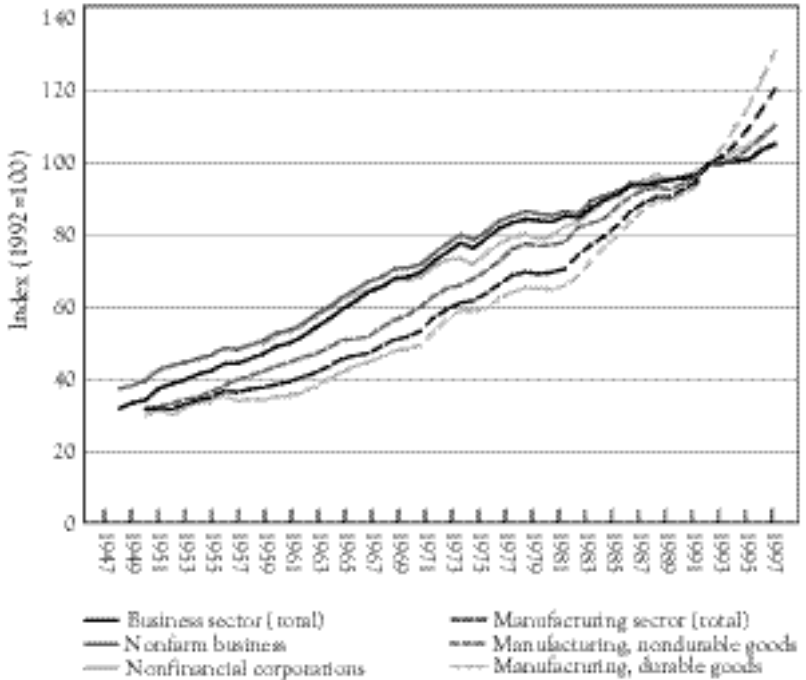
Figure 4 Proportion of Farm Workers in Total Population (1910–1998)

Note: 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 because budget cuts led to the elimination of quarterly estimates. Quarterly estimates were resumed in 1984.

Source: Population data are from the Census Bureau (<http://www.census.gov/population/estimates/nation/popclockest.txt>); farm employment data are from the Department of Agriculture (<http://usda.mannlib>).

not nearly as sharp as the decline in farm workers, 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 the United States exports many manufactured goods. We can get a better idea of the extent of the increase in nonworkers that each worker can support by looking at rising labor productivity. As Figure 5 shows, over the past 50 years worker productivity has doubled or even more than tripled in some sectors. If labor productivity doubles over the next 50 years, there will be no problem in producing the basket of goods and services that will be required by all consumers, including the rising numbers of retirees. 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 society will be able to increase the

Figure 5 Productivity by Sector (Output per Hour)



Source: Bureau of Labor Statistics.

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 looming crisis in ability to produce sufficient goods and services for workers and nonworkers and to make them accessible to workers and nonworkers. Even the trustees' intermediate projections show that the real wages of workers will increase by 75 percent over the next half-century. Even if tax rates would have to rise to cover the expected financial gap due to demographic shifts, tomorrow's workers would still have much higher standards of living. In other words, 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. No matter what one thinks of the "financial" burden on future workers, the "real" burden does not appear to be excessive at all.

Can Accumulating the OASDI Trust Funds Ensure That Retirees Will Be Provided For?

Whether we assume that there is no looming crisis or that the future will unfold more or less as the trustees have projected, it is still appropriate, even necessary, to think in long-range terms. Can we, or should we, do anything today to ensure that the elderly will be cared for tomorrow? The current belief behind the operation of OASDI is that a large trust fund can help ease the burden created by demographic changes and slow projected growth of taxable real wages. The purpose of a trust fund is thought to be 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, annual surpluses will be “saved” over the next 20 years in order to provide for the future consumption of retiring baby boomers. The question is, 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 30 or 40 years hence (assuming no deterioration of the buried supplies), they could provide for their future consumption by saving in real terms. Presumably, the pharaohs had something like this in mind when they had goods and people to provide services buried with them in the pyramids. It is clear, however, that, with the notable exception of owner-occupied housing, most of the consumption that occurs in, say, 2020 will have to be provided for by production in that year. The Social Security Trust Funds and all the other public and private pension funds are saving only in financial terms, in the hope that retirees will be able to purchase real goods and services for consumption when they retire.

Is it possible for society to do anything today to increase the quantity of goods and services that can and will be produced tomorrow, 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 workers and nonretirees who do not work? If not, then the financial savings represented by all public and private pension funds can affect only the distribution of the goods and services that will be produced in 2020.

This is not an insignificant issue. If the quantity of goods and services is not increased, society may well want to change the amount of goods and services distributed to the elderly and to other demographic groups. The thinking behind much of the debate over Social Security seems to center on the fear that if we do not increase financial saving, funds will be inadequate to finance a sufficient share to the elderly to meet their needs.

However, if this is what the debate is really about, most of the solutions proposed thus far have at best an uncertain probability of succeeding. This is because they center on accumulating financial reserves in the next few years—by some combination of reduced benefits and increased tax rates and by increasing the reserves' growth rate, for example, by “investing” them in the stock market to obtain higher returns than those expected from government bonds. It is supposed that the larger reserves will postpone the “day of reckoning” since their interest 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. This is the path recommended by President Clinton in his 1999 State of the Union Address when he proposed that just over 60 percent of projected government surpluses over the next 15 years be “set aside” for the OASDI Trust Funds. The Treasury would use the surpluses to retire outstanding debt currently held by the public, but would then issue an equivalent amount of debt (that is, 62 percent of the total budget surplus each year) to be held in the Trust Funds. However, unless accumulation of the Trust Funds actually enhances society's ability to produce goods and services in the year 2020, the output to be distributed will be exactly the same whether the Trust Funds are larger or smaller. In this case, the only economic justification for larger Trust Funds is the belief that the larger size will increase the distribution going to the retiring baby boomers.

After 2020 the Trust Funds would begin to sell their assets to increase the nominal income of the beneficiaries beyond the income that can be provided out of payroll taxes. If these sales were made to workers (and other nonelderly income earners) who otherwise would have used their income to purchase consumption goods and services, 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 then has to issue checks to cover this conversion. If the Treasury's total revenue from all taxes is not equal to its non-Social Security spending plus the nonmarketable bonds redeemed by OASDI (equal to OASDI's deficit), 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 in the belief that budget deficits would cause inflation. If the sales were made to individuals or institutions that do not reduce consumption commensurately, 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 in this case could be inflation of prices of consumer goods and services rather than deflation of asset prices. There could be complex secondary and tertiary effects set off by the asset sales that are hard to estimate in advance.

For this reason, we believe there is no way to guarantee that accumulation of the Trust Funds will actually have the desired result of shifting distribution toward the beneficiaries, and it is not clear that larger Trust Funds will result in a more desirable distribution. Is there a better and more direct way to ensure that the distribution will be shifted toward retirees? 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 can be increased (reducing workers' disposable income) and benefit payments to the elderly can 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 obligations to the nonelderly. Note that if the goal is to affect distribution in the year 2020, it is far more direct 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 in the

hope that this might indirectly affect distribution. Note also that even if nonmarketable Treasury debt is held by the Trust Funds, to convert that debt to cash would require the Treasury to issue new debt or to generate tax revenue in excess of what will be required for other government spending to make the cash payment to the fund without increasing general budget deficits. But this is exactly what would be required even if the Trust Funds had no financial holdings.

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 2.07 percentage points today would in any direct way shift the distribution of resources toward retirees in 2075. We believe it is inherently counterproductive 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 (1999) correctly argues, a public program does not need to be run like a private program. Planning far into the future and accumulating a fund to deal with contingencies may be necessary for a private program, but it is not necessary for a public program, which uses involuntary taxes (such that workers and employers cannot choose to leave the program) as its revenue source.

Running an OASDI surplus today generates several kinds of undesirable market distortion. 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. Asset prices may be higher today than they would be in the absence of an OASDI surplus. Similarly, asset sales that would take place as the baby boom retires could distort asset markets; asset prices would be depressed by the flood of retirements as private and public pension funds sell assets to meet expenditures and 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, whether they should be “set aside” from general budget revenues, and 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. As we have pointed out, the tax base for OASDI falls on just over 40 percent of GDP, making it a particularly inequitable revenue source for the purpose of offsetting general budget deficits.

Milton Friedman has recently made a similar argument, pointing out that paying taxes today to build up a trust fund cannot help to provide for future retirees and that a 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 1999)

Herb Stein (1999) 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 Funds to save them for eternity.

In summary, it would be far more straightforward to increase the tax on workers in the year 2020 and increase the benefits paid to retirees at that time than to try 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 that year in order to buy the assets being sold to provide for retirees. It is possible, perhaps likely, that the asset sales would merely depress asset prices and that competition for consumption by workers and retirees 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 result is not assured. Why not simply use the tax system in the year 2020 or 2030 or 2075 to guarantee the desired result? The burden of providing real goods and services to retirees in 2020, 2030, and 2075 will be borne 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 borne cannot be reduced by anything we do today.

This argument hinges on the assumption that accumulation of a trust fund does not directly affect the quantity of goods and services that will be produced in a future year. Most conventional economic theory holds 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, the argument for accumulation of a trust fund as a means of increasing society's ability to provide for the needs of OASDI 35 years into the future rests on shaky theoretical grounds. If this argument is rejected, then the proposed reforms boil down to schemes that would merely attempt to shift the distribution to retirees. But if this shift is all that reformers intend, it can be accomplished much more simply and effectively through use of the tax system at the time the shift is desired.

If economists believe there is something like a "natural" long-run growth rate, they must advocate a pay-as-you-go system for the long run and 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. On the grounds that accumulation of a trust fund is not likely to have a great impact on 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.

Private and Non-Social Security Pension Plans

If it makes little economic sense to accumulate OASDI Trust Funds to provide for retirees, does it make sense for private and non-Social Security public pension funds to accumulate trust funds? The answer is yes. Let us briefly examine the difference between Social Security and the other plans. Most pension plans today are defined contribution plans, with benefits 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 on the performance of asset markets around the time she retires. Her real benefits will depend on the basket of goods and services that she will be able to purchase on markets. If her pension plan performs poorly in the years before her retirement, her retirement basket will be small because her plan will have to rely on asset sales for the most part to pay her benefits. At best her pension fund could raise the 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 fund participants would not wish to rely. The non-Social Security 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 they desire. In other words, the non-Social Security pension plan has no direct way of shifting the distribution of output toward its pensioners and thus cannot guarantee any real benefits.

In contrast, Social Security can more directly affect distribution because not only can it raise nominal benefits, it also can increase its revenues substantially by levying a tax on all payrolls. In effect, it has both blades of the scissors (benefits and payroll taxes) to use to redistribute real consumption to beneficiaries. Thus, quite apart from any accounting rules imposed on private pension plans by public law, they cannot operate the way a public, 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 future, private pension plans and non-Social Security public plans must accumulate trust funds to remain solvent and satisfy liquidity needs.

This does not mean that accumulating funds will necessarily save private plans from experiencing a crisis when the baby boom retires. Long-term

demographic changes do have effects on markets. The buildup of inflation in the 1960s and 1970s throughout the developed world may have been fueled in part by the baby boom bulge and its needs for increased infrastructure (schools, hospitals, transportation) and consumer goods. The strong asset markets of the 1990s are due in part to the fact that baby boomers are in their peak earning years and are purchasing assets for their retirement years, either individually or through pension plans. As the baby boom retires and tries to sell assets in the next century, it is possible that asset prices may be negatively affected—with real impacts on the quantity of goods and services that pensioners 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 large subsets of the population. Indeed, Social Security will be able to provide a "safety net" for individuals in private pension plans precisely because it can use both blades of the scissors as necessary to affect distribution in a manner that no private plans can.

Can We Enhance Our Future Ability to Produce?

Most proponents of reform seem to 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 conventional economic theory disagrees. However, once we focus on the issue of whether growth can be affected, debates about the accumulation of the Trust Funds and whether returns in the stock market can beat the returns on government bonds become irrelevant. What is at issue is the best means of stimulating production in the year 2020. How we go about answering that question may depend on our view of the nature of the constraints on economic growth.

A Supply-Constrained Economy

It is possible that the economy has grown relatively slowly since 1973 because it is supply constrained, and it is possible that supply constraints will be the cause of the slow growth that even the low-cost forecasts

presume. A supply-constrained economy needs greater capacity to produce; it needs more resources, higher quality resources, or better technology. The capacity to produce can be increased, for example, through more investment in physical capital (public infrastructure, private infrastructure and machinery) and human capital (more education and training to increase labor productivity). It can be increased through policies that would spur resource extraction and encourage resource mobility (for example, policies to increase international flows and to loosen immigration restrictions). In a supply-constrained economy, noninvestment 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 (1998) and others have shown, much government spending actually enhances productivity and increases potential growth.

Assuming that the economy is, and will continue to be, supply constrained, can changes to the Social Security system affect these constraints? Shifting to the advance-funded model in 1983 raised tax rates and lowered benefits to generate large surpluses, but it has not directly encouraged 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 have depressed the incentive to invest—simply generating unemployed resources and thereby removing supply constraints while creating demand constraints.

One justification given for accumulating a trust fund surplus (as part of a general government surplus) is that a government surplus will increase national saving 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 policymakers increase other types of spending or reduce other taxes as they supposedly “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 a government surplus can be used to stimulate growth, this would be more properly undertaken as a general fiscal policy. First, a general fiscal policy would be much more effective because it can use the entire federal tax system, not just the smaller OASDI tax base, allowing a faster growth rate to be achieved. Second, since any growth achieved would be beneficial across society, it is equitable that all individuals share the cost (higher taxes), rather than only those on OASDI-covered payrolls. An objection might be that Congress and the president do not have the political will to undertake such measures, but it makes little sense to reform Social Security in an attempt to accomplish what our elected representatives should, but will not, do.

A related justification for accumulating a trust fund is that balances can be used to increase investment directly, for example, by purchasing private equities. Many objections have been raised to this plan, and we do not intend to repeat them (Baker 1998). However, it is important, again, to ask whether the task of increasing investment should be the responsibility of OASDI. If it is decided that government should attempt to stimulate growth by direct investment in the market, this would be better accomplished as a general fiscal policy; that is, it should be done out of the general budget. Similarly, 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 economy, 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.

A Demand-Constrained Economy

A demand-constrained economy operates with substantial excess capacity. Any type of spending can raise demand, stimulate output, and raise economic growth, which in turn will encourage investment and

thus raise potential output. Increasing investment alone may not work in a demand-constrained economy because the investment may just lead to more excess capacity. It may be better to stimulate other non-investment spending, which then creates private incentive to invest. Government spending, even if it is deficit financed, 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 economy is demand constrained, then accumulating a trust fund would depress growth unless the balance 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 economy demand constrained or supply constrained? We believe that on balance, the evidence is that our economy is usually demand constrained. We expect that in coming years 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 aftereffects of the Asian crisis, still threatening Latin America, Europe, and the United States, are in part due to excess capacity and inadequate world demand. We see little reason to fear, at least in the near future, that a constraint will arise from insufficient capacity.

Finally, in our judgment it makes little difference for the debate over Social Security reform whether our economy is supply constrained or demand constrained. A pay-as-you-go system is preferred in either case. Achieving faster economic growth is a matter of good fiscal and monetary policy and is not the responsibility of OASDI. Thus, whether we need to stimulate demand or supply, there is no justification for accumulating vast Social Security reserves.

Investment in Stocks, Intra- and Intergenerational Redistribution, and Money's Worth Estimates

There are many other issues related to Social Security that are being debated, most of which fall outside the purview of this brief. Complete privatization has been proposed. It is claimed that through individuals' investment of retirement funds in the stock market privatization could contribute to increasing the long-run growth rate, thereby reducing the burden placed on future generations. It has also been 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, if benefits are closely tied to stock market performance, workers who happen to reach retirement age when the market is low will suffer from low benefits throughout their retirement.

Some reform proposals would "invest" part of the Trust Funds in the stock market. Many valid objections have been raised against this plan, including the argument that projections of high stock market returns are wildly optimistic (Baker 1998; Cadette 1997; Ball et al. 1997; Advisory Council on Social Security 1997a, 1997b). In addition, it is clear that Americans prefer to retain Social Security as a public program. We would add that if public investment in the stock market is such a great idea, then why doesn't the Treasury play the investment game 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 Funds? Indeed, unless the government does something like this, the stock market may be doomed to poor returns as the baby boom retirement leads to sales of stocks both by private funds and by a partially privatized Social Security.

However, no matter what the possible returns, our analysis above indicates that the thinking behind proposals for public investment in stocks is flawed. No matter how large the Trust Funds, they cannot directly ease the burden of providing for future retirees nor can they directly increase the share of distribution going to retirees. Those who argue that stock returns will be higher than the return on Treasury debt 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 are concerned with intragenerational redistribution. They look at Social Security as if it were a pension plan, calculating each cohort's amount of contributions and return on contributions, that is, expected benefits. Not surprisingly, the rate of return varies greatly by income class and by retirement date. Earners with low income generally get a much better return on their "investment" than do earners with income 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 OASDI 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 intragenerational redistribution can be found in reports of the Advisory Council (1997a, 1997b).

Intergenerational equity and money's worth estimates deserve more attention. We agree with Ball et al. (1997) that ensuring that each generation obtains a good return on its contributions should not be a high priority. We do not even believe that this is an attainable goal, given the changes in demographic patterns. The first Social Security retirees obtained high returns on their investment because of highly favorable demographics. There was a relatively small elderly population, but a large and rapidly growing working-age population and a well-performing economy that ensured 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, the pattern of return is similar to a Ponzi finance or "pyramid" scheme, with returns that are high for the early entrants, but unsustainable for later entrants because the base cannot continue to expand as rapidly as time passes. 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 lower population growth and increase the proportion of elderly. The burden of supporting the elderly

has to rise in such a society. However, money's worth estimates then come into play. Against the cost of supporting the elderly 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, and 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.

Policy Recommendations

Our analysis leads us to conclude that the OASDI portion of Social Security does not face a financial crisis. We believe that the trustees have been overly cautious in their intermediate long-range forecast, but even on the basis of these assumptions we find no reason to suppose that a financial crisis looms in the future. There is also no crisis regarding the burden on future workers of providing the real goods and services that will be required by the elderly. Even with a rising number of the retired 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 in OASDI policy made today could ameliorate any problems that might be encountered long into the future. 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 accumulating large balances in the Trust Funds is a proper way to provide for future retirees. Thus, payroll tax rates should be reduced over the next few years and then increased as required in the future. This would allow today's workers to retain more income, but would not in any way reduce the nation's ability to care for tomorrow's retirees.

2. *Discussion should begin about the proper tax base to use to generate revenue for OASDI.* Given demographic changes, which will reduce the working population relative to OASDI beneficiaries, a broader base is 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 base 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. *The Trust Funds should be capped at no more than 100 percent of expenditures, an amount generally thought to be sufficient to see the programs through back-to-back recessions.* We would actually prefer to cap the Trust Funds at a much lower figure, since a reserve of 8 to 9 percent is sufficient to meet liquidity needs and funding from the general budget could be provided in severe recessions as necessary. Because the Trust Funds are already well over 200 percent of expenditures, this means that deficits can be run over the next several years until the funds fall to 100 percent of annual spending.

4. *General fiscal policy should be biased to encourage faster growth, greater employment, and higher labor force participation.* For example, as the nation moves to negative natural population growth, we may wish to increase significantly the numbers of legal immigrants to ensure a growing labor force. Or, we may wish to increase substantially public investment in human capital and infrastructure to increase productive capacity. Such initiatives are in the realm of general fiscal policy and clearly lie outside the role and function of the Social Security system, but while benefiting the whole society, they would also increase the financial and real outlook for OASDI.

5. *The trustees should abandon the use of long-range forecasts of actuarial balance.* Attempting to make such forecasts results from a flawed understanding of the way in which society provides future benefits. The trustees should 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.

6. *Major changes, such as partial or complete privatization, reduction of benefits, and extension of retirement age, have no place in the reform of OASDI programs.* These, too, result from a flawed view of the operation of the programs and the extent and nature of a Social Security “crisis.”

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Notes

1. Throughout this paper we use estimates and projections from the 1999 Annual Report of the Trustees (Social Security Administration 1999).
2. This is based on the estimate that each additional 100,000 net immigrants increase the long-range actuarial balance by about 0.07 percent of taxable payroll. Using this estimate to calculate the effect on increased labor force participation probably 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.
3. Again, we do not have sufficient information to make an accurate calculation. However, 0.31 percent of 380 million (which is the intermediate projection of the population in 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 the actual population would be higher than the 379 million the Trustees have estimated for 2075.
4. Including employer-provided private group health and life insurance in OASDI taxable earnings, subject to the taxable minimum, would improve the long-range actuarial balance by 0.80 percent; 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 percent. Together this would close 1.17 of the imbalance—well over half (Advisory Council on Social Security 1997a, 231).
5. The links between the growth of the labor force and the growth of productivity are quite complex. However, Pigeon and Wray's analysis shows that those developed countries with the lowest labor force growth have 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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