Can We Afford Social Security When Baby Boomers Retire?

By Virginia Reno and Kathryn Olson

Summary

There is much discussion of the rising cost of Social Security and the declining number of workers to support the Baby Boomers when they retire. How affordable *is* Social Security projected to be then? A look at several different measures reveals the following:

▶ When the Baby Boomers are retired, the total number of people supported by each worker (including children, retirees and other non-workers) will not be as large as it was when the Baby Boomers were children.

▶ As a share of the total economy, the rise in Social Security costs will not be as large as the rise in spending for public education when the Baby Boomers were children.

▶ By 2030, wages that are subject to Social Security taxes are projected to grow by 33 percent in today's dollars. In the implausible event that Social Security were to be balanced solely through a tax rate increase — a proposal no one is making — workers' net wages (after paying the higher tax) would be 26 percent higher than they are today.

These measures suggest that the important question is how Americans will choose to allocate national resources to adapt to an aging population.

Concerns about the affordability of Social Security in the next century often use population dependency ratios to show the burden of supporting more retired people with a relatively smaller work force. In truth, the work force is not projected to shrink. But it is expected to grow more slowly than the retired population. There will be more people age 65 and older for two reasons: first, life expectancy after age 65 is increasing; and second, the Baby Boom generation will begin moving past age 65 around 2010. Today, people age 65 and over are 13 percent of the total population. By 2030 they are estimated to be 20 percent of the population.[1]

This Brief presents several different ways to think about the impact of the Baby Boom's retirement on the affordability of Social Security. It first considers population dependency ratios. They are based solely on the number of people who are supported by other people. It then compares the cost of Social Security with the economic resources projected to be available to meet the costs: first in terms of the entire economy; and second in terms of the wages of workers whose taxes finance the benefits. The Brief does not address other consequences of an aging population, such as the demand for health care, long-term care and other services. Nor does it speak to the fairness of how the costs of an aging population will be shared.[2]

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Counting People:
Who Supports Whom?

Two different kinds of population ratios are reported each year by the Social Security Board of Trustees: a *beneficiary-to-worker ratio* and an *age dependency ratio.* A third measure, called a *consumer-to-worker ratio,* is also described here. It counts everyone who is supported by workers.

Beneficiary-to-Worker Ratio. This ratio compares the number of workers paying into Social Security to the number of people drawing benefits. The beneficiaries include the elderly, disabled workers and their families, and young survivor families. In the early years following the 1935 Social Security Act, this ratio was very high because covered workers began paying into the system immediately, while the number of beneficiaries grew slowly as older workers gained enough covered work to be insured for benefits when they retired. In the 1940s and early 1950s, more elderly people received means-tested old-age assistance than qualified for Social Security based on prior covered work.[3] By the mid-1950s, this turned around. In 1960 (when 6 in 10 of those age 65 and older received Social Security), the ratio of workers to Social Security beneficiaries was 5 to 1. Today, when more than 9 in 10 elderly receive Social Security[4], the ratio of workers to beneficiaries is about 3.3 to 1. As the elderly population grows, the ratio will gradually decline to about 2 to 1 by 2040, according to the "best estimate" of the Social Security Trustees.[5]

For the purpose of comparing this ratio with other measures in this Brief, it is useful to turn it around: that is, to compare the number of beneficiaries to workers. In 1960 that ratio was .20 to 1. Today it is .30 to 1. By 2040 it is projected to be .50 to 1.

The beneficiary-to-worker ratio does not take account of broader demographic trends beyond just workers and beneficiaries. The second dependency ratio reported by the Trustees counts everyone.

Age Dependency Ratio. This ratio is broader because it counts children as well as the elderly. The age dependency ratio is the number of people who are under age 20 or age 65 or over in relation to everyone else, the so-called working-aged population of 20- to 64-year-olds. It tells a different story about the relative burdens of the past, present, and future. By this measure, the number of elderly and children per working-aged person was .90 in 1960. It is .71 today, and it is projected to be .79 in 2040.[6]

This ratio does not reflect that per-capita costs for children are different from those for the elderly, or that their support is not provided in the same way. When only public programs are considered, per capita spending for children is lower than that for the elderly, and is largely from state and local budgets rather than from the federal budget.[7] When spending within households is considered, more of the costs of supporting children is met privately in household budgets of working families, while more of the support of the elderly is through public programs.

Age dependency ratios are limited in that they do not take account of people's actual work status: not everyone of "working age" is in paid employment, and not everyone under age 20 or age 65 or over is out of the work force. The next ratio is refined to compare the number of paid workers with everyone who depends on those workers' output for their consumption.

By the consumer-to-worker ratio, the total support burden on workers will never be as high as it was when the Baby Boomers were children, when each worker supported 2.62 people, on average. By 2030, about 2.21 people are projected to be supported by each worker.

Consumer-to-Worker Ratio. This ratio recognizes that the economic burden of supporting the consumption of everyone in society, at any point in time, is borne by workers in the paid labor force at that time. In other words, workers must produce what everyone (including workers themselves) consumes.[8] The support of others comes in many forms: among family members within a household, between relatives in separate households, and through formal arrangements, such as Social Security, Medicare, pensions, public education and other systems.
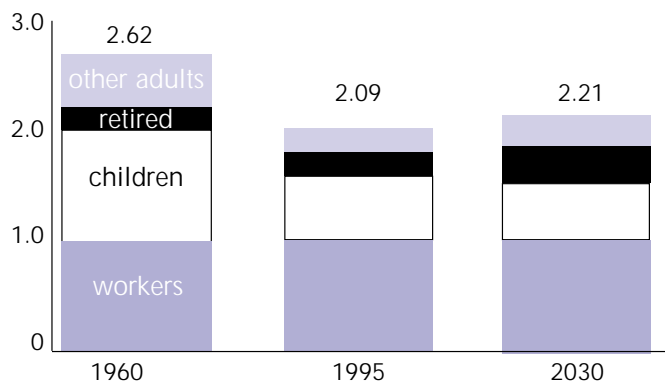
Chart 1 illustrates this *consumer-to-worker* ratio. The first part of the ratio is everyone who is supported by workers, including:

(1) workers themselves of all ages;

(2) dependent children — people under age 20 who are not in paid employment;

(3) the retired elderly — people age 65 and older who are not working; and

(4) people aged 20-64 who are not in paid jobs for whatever reason, including homemakers, students, disabled persons, early retirees, and people looking for work. The second part of the ratio is workers in the paid labor force.

By this measure, the total support burden on workers will never be as high as it was when the Baby Boomers were children, when each worker supported 2.62 people, on average. The support burden has since declined, with each worker supporting 2.09 people, on average, in the mid-1990s. The support burden is projected to rise only slightly when all surviving Baby Boomers are retired. By 2030, about 2.21 people are projected to be supported by each worker.

The composition of the population supported by workers has changed and will continue to change in the future. When Baby Boomers were children, they were a large part of the support burden — almost as numerous as workers themselves. And many working-age adults were out of the work force, typically mothers who were taking care of the children. As the Baby Boomers became adults, they had smaller families, and more women entered and remained in the labor force. Today, many households have two earners instead of only one, as was often the case when the Baby Boomers were children.

As the population grows older, more of the nonworking consumers will be retirees. The retired elderly will rise from .22 per worker in the mid-1990s to .37 per worker in 2030. Partly offsetting that growth is a continued decline in the number of dependent children per worker. This shift may alter the form and size of support between generations because, as noted, children typically are supported largely by working parents with whom they live. The elderly, in contrast, rely more on collective public systems, like Social Security, rather than directly on their own working adult children. While the composition changes, the ratio of all consumers to workers is projected to be only marginally higher in 2030 than it is today, 2.21 compared to 2.09.

Any measure of the support burden that only counts people, however, does not portray the economic resources that will be available to support workers and everyone else. The next two sections look at the cost of Social Security in relation to the overall economy and in relation to the earnings of workers who finance Social Security benefits.

Chart 1. Consumer-to-Worker Ratio
Number of Persons Supported by Each Worker

Source: Table 1

Social Security Costs in Relation to the Economy

If currently legislated benefits are unchanged, the cost of Social Security will rise as the Baby Boomers retire. How does that rising cost compare with the growth in the entire economy? Gross domestic product (GDP) measures the value of all goods and services produced in the national economy that are available for everyone's consumption.

As the elderly increase from 13 percent to 20 percent of the population by 2030, the share of the economic pie going to them in the form of Social Security benefits is projected to rise, as well. Today, Social Security expenditures represent about 4.6 percent of GDP. If current benefit levels are unchanged, the Trustees project that this share will rise to about 6.8 percent by 2030 — or by 2.2 percentage points over three decades.[9]

This 2.2 percentage-point increase is a little less than the shift in national resources that occurred when the Baby Boomers were children. In the early 1950s, they began showing up in record numbers to enroll in kindergarten, then elementary school, high school, and college. Between 1950 and 1975, the share of the economy devoted to public education rose from 2.5 percent of GDP to 5.3 percent — or by 2.8 percentage points over 25 years.[10]

Spending for national defense has similarly shifted. In the early years of the Cold War, defense spending as a share of GDP rose 2.5 percentage points in two years, from 4.8 percent of GDP in 1949 to 7.3 percent. During the defense build-up of the early 1980s, spending as a share of GDP increased 1.5 percentage points in 6 years, from 4.7 percent in 1979 to 6.2 percent in 1985. And between 1986 and 1996, defense spending declined from 6.2 to 3.6 percent of GDP, or by 2.6 percentage points over 10 years.[11]

Each of these past shifts in national spending occurred over a shorter period than the rise in Social Security spending over the next 32 years. In brief, shifts in national spending priorities of this size have occurred in the past without large disruptive effects on the aggregate economy.

When elderly Americans are a larger share of the population, it is likely that they will consume a larger share of the economy's goods and services than do today's elderly. The alternative to having the larger elderly population consume proportionately more of the nation's resources is to make them worse off relative to everyone else than are today's elderly.

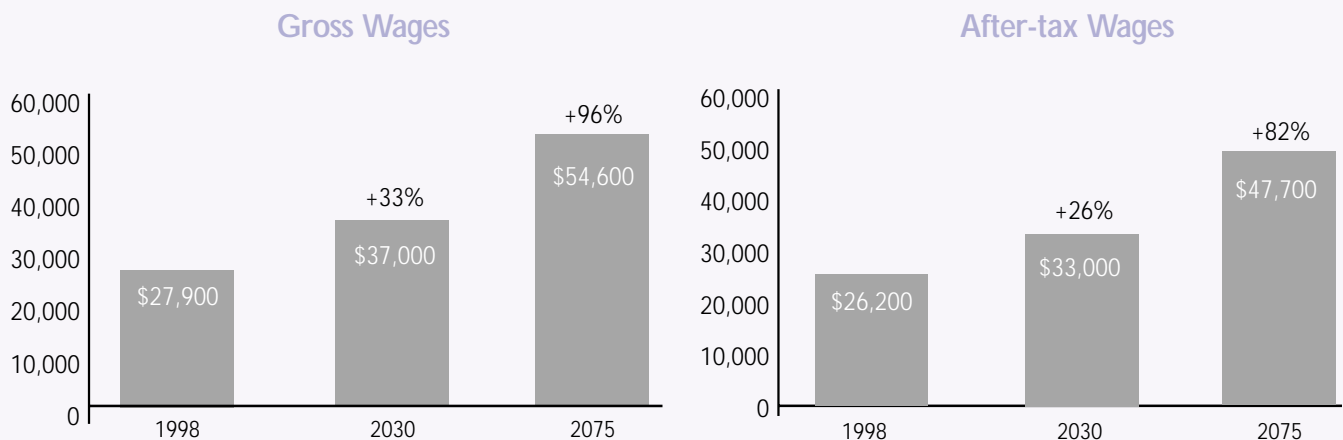## Costs in Relation to Workers' Earnings

The cost of Social Security is not borne directly by everyone. Rather, it is financed largely from Social Security taxes on workers' earnings.[12] These taxable earnings are only part of total national income. They represent about 41 percent of GDP. Among other parts of national income are:

How does the projected rise in Social Security cost relate to projected growth in taxable wages of workers? By 2030, the average worker will earn $37,000 in today's dollars, or about 33 percent more in real wages.

► earnings of workers that are above the Social Security tax base, $68,400 in 1998;

► earnings of workers who are not covered by Social Security, mainly employees of state and local governments that have chosen not to participate in Social Security (about 25 percent of all state and local government employees);

► non-taxable fringe benefits of workers, which include employers' voluntary contributions to health insurance, pensions, and other employee benefits;

Gross Wages

After-tax Wages

Gross Wages panel:
- 1998: $27,900
- 2030: $37,000 (+33%)
- 2075: $54,600 (+96%)

After-tax Wages panel:
- 1998: $26,200
- 2030: $33,000 (+26%)
- 2075: $47,700 (+82%)

Source: Table 2.

income from property, such as interest income on investments, stock dividends, rental income from real estate, and so forth.

If the Social Security benefits in current law are not lowered, and if no other revenue sources are used for the program, then the Social Security tax rate would need to rise, according to the Trustees' best estimates. At the same time, the earnings of workers who pay for Social Security are also projected to rise. How does the projected rise in Social Security cost relate to projected growth in taxable wages of workers?

The average earner in 1998 earns about $27,900 per year. By 2030, the average worker will earn $37,000 in today's dollars, or about 33 percent more in real wages (that is, after adjusting for inflation), according to the Trustees (chart 2, left panel, table 2).

What would happen to those earnings if Social Security taxes were raised enough in the future to pay for projected benefits in present law? While no one is proposing to balance Social Security solely by raising the Social Security tax rate, this scenario shows what would happen to workers' earnings after deducting higher Social Security taxes. The Trustees project that the employer and employee share of Social Security taxes would rise from 6.20 percent each today, to 8.53 percent in 2030 to cover benefit costs.[13] Today, the net pay of an average earner, after paying 6.2 percent of earnings for Social Security, is about $26,200. By 2030, the similar net pay, after deducting the employee share of rising Social Security taxes, would be about $33,800, or 29 percent more in real wages.

If one assumes that workers ultimately pay the employer's share of rising Social Security taxes (through slower growth in wages), then one should consider future wages after deducting both the employee share and the increase in the employer share. Under this scenario, net real wages would be about $33,000 in 2030, or about 26 percent more than today (chart 2, right panel).

In brief, while Social Security costs are projected to rise as the population ages, workers of the future could still have higher net real wages, even under the implausible scenario that Social Security were balanced solely by raising the tax rate on workers.

Conclusion

The measures described here help to evaluate the impact of the Baby Boom generation's retirement on the affordability of Social Security. But these measures do not speak to the fairness of how the support burden might be shared among workers in different circumstances; or among beneficiaries themselves, workers who pay Social Security taxes, or people with income other than taxable wages. Nor do these measures factor-in the future demand for spending for Medicare and other services needed by an aging population, or for spending in other areas, such as health care generally, education, or other needs. How the economic pie will be shared as Americans adapt to an aging population remains an important question for public policy. ■

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Endnotes

1   *1998 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds,* table II.H1, p. 145.

2   For a discussion of the overall impact of an aging population on the federal budget, see Congressional Budget Office, *Long-Term Budgetary Pressures and Policy Options,* May 1998.

3   *Annual Statistical Supplement to the Social Security Bulletin, 1997,* table 3.C5, p. 147.

4   Ibid.

5   *1998 Trustees Report,* table II.F19, p. 122.

6   *1998 Trustees Report,* table II.H1, p. 145.

7   Congressional Budget Office, *Long-Term Budgetary Pressures and Policy Options,* May 1998, Box 1-2, p. 6.

8   Those who work outside the paid labor force also produce goods and services that others consume, such as childcare and eldercare, meals and other services. Accounting for the value of these goods and services is beyond the scope of this Brief.

9   *1998 Trustees Report,* table III.C.1, p. 187.

10 *Annual Statistical Supplement to the Social Security Bulletin, 1991,* table 3.A, p. 101.

11 *Economic Report of the President,* 1998, table B-79, p. 374.

12 Other sources of revenue for Social Security include part of the federal income taxes that beneficiaries pay on their benefit income, and interest earnings on Trust Fund reserves.

13 These are the pay-as-you-go tax rates in the future after taking account of revenues to the Social Security system from federal income taxes that beneficiaries pay on their benefits, as shown on tables II.F.13 and II.F.17 in the *1998 Trustees Report.*

Table 1. Consumer-to-Worker Support Ratios
Selected years, 1950-2040

Population Group	1950	1960	1970	1980	1995	2010	2030	2050
Number of Persons Supported by Each Worker								
Total	2.48	2.62	2.47	2.28	2.09	2.08	2.21	2.23
Workers, themselves	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Dependent children	.79	.95	.86	.69	.58	.53	.51	.50
Retired elderly	.16	.18	.19	.21	.22	.23	.37	.39
Persons aged 20-64								
not employed	.55	.49	.42	.38	.30	.33	.33	.34
(Women)	(.48)	(.42)	(.35)	(.28)	(.20)	(.21)	(.20)	(.21)
(Men)	(.07)	(.07)	(.07)	(.10)	(.10)	(.12)	(.12)	(.13)

Source: Calculations provided by the Office of the Actuary, Social Security Administration, using 1995 Trustees Report demographic assumptions.

Table 2. Wage Growth and Social Security Contribution Rate
Selected years, 1998-2075

Year (and age of Baby Boomers [a])	Average annual wage		Tax Rate	Average wages after paying Social Security tax			
				Employee share of tax		Employee's share of tax, plus the increase in the employer's share [c]	
	In 1998 dollars	Percent increase since 1998	Employee-employer pay-go tax rate [b] (percent)	In 1998 dollars	Percent increase since 1998	In 1998 dollars	Percent increase since 1998
1998 (ages 34-52)	$27,895	—	6.20	$26,166	—	—	—
2010 (ages 46-64)	31,099	11	6.20	29,170	11	—	—
2020 (ages 56-74)	33,912	22	7.33	31,426	20	31,043	19
2030 (ages 66-84)	36,979	33	8.53	33,825	29	32,963	26
2040 (ages 76-94)	40,324	45	8.68	36,824	41	35,824	37
2075 (—)	54,597	96	9.42	49,454	89	47,696	82

a. "Baby Boomers" are defined as those born during 1946-64.

b. Current law tax rate in 1998 and 2010 and rate needed to fund benefits on a pay-go basis thereafter. The pay-go rate shown is for the employee and the employer, each, after considering the projected revenues from taxation of Social Security benefits.

c. For example, for 2030, gross average wages ($36,979) are reduced by 10.86 percent (the employee share of the tax, 8.53 percent, plus the increase in the employer's share, which is 2.33 [i.e. 8.53 - 6.2 = 2.33]).

Source: *1998 Trustees Report,* table III.B.1, table II.F13, table II.F17.

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