CHAPTER ONE

Introduction

RESEARCH on how social security influences personal saving, labor supply, and the distribution of income has become a major growth industry among economists in the United States. The reasons are obvious.

Social security is the largest nondefense governmental program in the United States; cash payments constituted 6.8 percent of personal disposable income in 1981, and estimates of the present discounted value of present and future social security entitlements rose from 1.8 trillion to 3.6 trillion 1972 dollars in 1977, depending on the method of estimation.[1] Entitlements to future social security benefits are the most important asset of most American families, and actual benefits have played a central part in reducing poverty among the aged. At the same time, economic performance in the United States has deteriorated in the past decade. Increased work effort and investment would boost aggregate output.[2]

Several economists have presented theoretical and empirical evidence in support of the contention that the growth of social security and specific characteristics of the system have contributed to that poor economic performance by reducing both labor supply and savings. Other econo-

1. These estimates are taken from Dean R. Leimer and Selig D. Lesnoy, "Social Security and Private Saving: New Time-Series Evidence," *Journal of Political Economy*, vol. 90 (June 1982), pp. 606–29. These estimates of social security wealth are explained below. They exclude health and disability benefits; including them would drastically increase the estimates because the cost of health insurance is projected to rise dramatically in future years. See *1982 Annual Report, Federal Old Age and Survivors Insurance and Disability Insurance Trust Funds*, H. Doc. 97-163, 97 Cong. 2 sess. (Government Printing Office, 1982).

2. Whether they would increase economic welfare, including the value of leisure, is open to academic challenge. As shown in the next chapter, labor force participation is at an all-time high in the United States. But unemployment is also at postwar highs. See William Nordhaus and James Tobin, "Is Growth Obsolete?" *Economic Research: Retrospect and Prospect*, vol. 5, *Proceedings of the Fiftieth Anniversary Colloquium on Economic Growth* (Columbia University Press for the National Bureau of Economic Research, 1972).

mists have challenged almost every one of these arguments. In fact, reputable economists may be found who argue that social security has decreased savings, increased savings, or had no perceptible effect. Similarly, economists may be found who hold that social security has increased labor supply, reduced it, left it unchanged, or caused offsetting changes in labor supply by workers of different ages.

It is safe to say that at this time no major issue concerning the effect of social security on economic behavior has been settled to the satisfaction of a dominant majority of analysts. In view of its size, however, it would be surprising if social security did not change economic behavior. So analysts will keep trying to pin down those effects.

In the meantime, however, policymakers must make decisions on social security, even if analysts cannot agree. The natural and proper reaction of decisionmakers to the disarray among analysts will be to increase the weight they attach to their perceptions of equity, adequacy of benefits, fairness of taxes, and similar qualitative considerations. Nevertheless, lay observers can try to understand how analysts go about their work and why they are so uncertain. This book is intended to help them do just that.

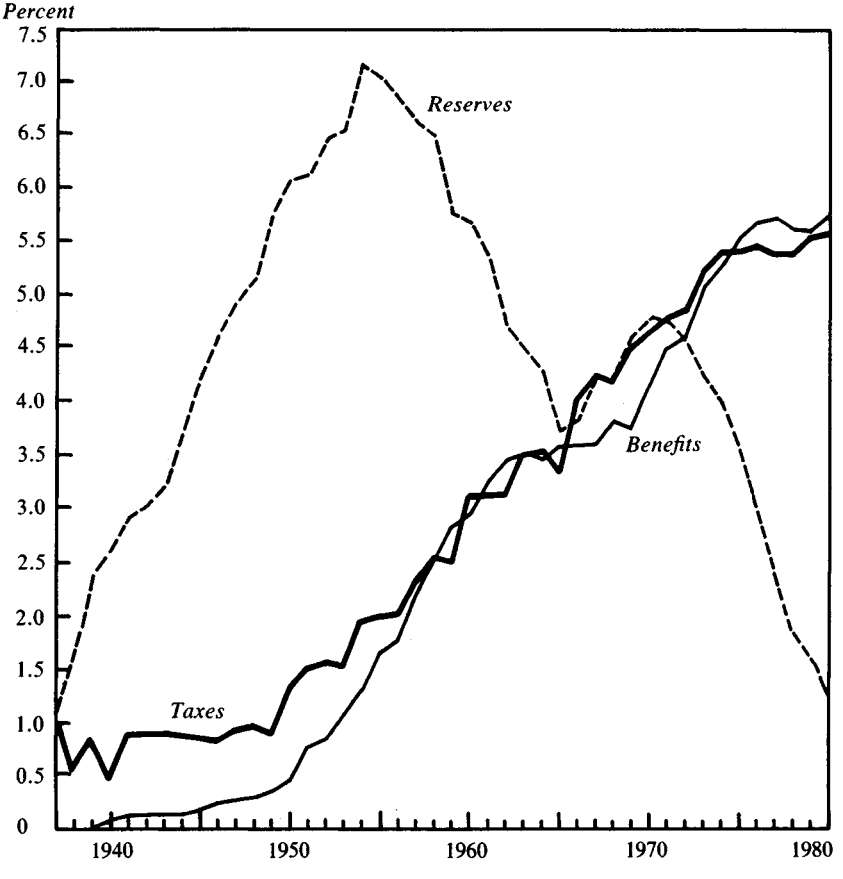
The Social Security Program

Congress enacted the Social Security Act in 1935. Payroll taxes were first collected in 1937, and the first monthly benefits were paid in 1940.[3] In 1939 Congress took a number of decisions that slowed the buildup of reserves; and because benefits grew slowly (reaching only $961 million by 1950), taxes also remained modest. Not until 1950 did taxes equal 1 percent of personal income (see figure 1). Only 60 percent of the labor force was covered until the early 1950s when Congress made eligibility almost universal.[4]

3. Lump-sum payments to families of workers who had died and to those reaching age sixty-five were paid before 1940.

4. Permanent federal civilian employees and some state and local employees, about 10 percent of the labor force, remain without social security coverage, but nearly all other workers have coverage. Furthermore, most people working in jobs without coverage at a particular time earn rights to benefits from work with coverage at some time during their working lives. As a result, by the year 2000 an estimated 97 percent of all workers will be eligible for benefits when they reach retirement age. See Robert M. Ball, *Social Security Today and Tomorrow* (Columbia University Press, 1978), p. 108.

Figure 1. *Old Age and Survivors Disability Insurance Benefits, Taxes, and Reserves as a Percent of Personal Income, 1937–80*



Source: Social Security Administration, *Social Security Bulletin, Annual Statistical Supplement, 1980* (Government Printing Office, 1980), pp. 83–85, 105.

At various times Congress has added to the list of contingencies under which benefits are paid. The Social Security Act initially covered retirees at age sixty-five and provided a lump-sum death benefit. Even before the first benefit checks were written, Congress in 1939 broadened the list of potential beneficiaries to include widows, surviving parents and children of deceased workers, and the wives and children of retirees (husbands and widowers were added in 1950). In 1956 Congress added benefits for disabled workers and provided that women aged sixty-two

to sixty-four could claim reduced retirement benefits; the right to claim retirement benefits at age sixty-two was extended to men in 1961.[5]

In brief, social security now pays cash benefits in three situations. When workers reach age sixty-two and have worked for just under eight years in employment with social security coverage, they are eligible to receive retirement benefits, and extra benefits are paid to spouses and to dependent children.[6] The benefits are based on average earnings over an extended period—twenty-six years for those turning sixty-two in 1982.[7] If beneficiaries continue to work past age sixty-two, benefits are increased by 8⅓ percent for the first three years and by smaller percentages in succeeding years.[8] Benefits are also paid to workers with social security coverage who become disabled and to their spouses and dependent children. Disability is defined on the basis of physical impairments, age, education, and other personal factors that prevent workers from performing any substantial gainful activity. Disability is judged to have ended if, upon reexamination, a person is found not to be suffering from any such condition or if that person demonstrates the ability to engage in substantial gainful activity by earning more than a specified

5. Martha Derthick, *Policymaking for Social Security* (Brookings Institution, 1979), pp. 429–32.

6. Eventually a ten-year work history will be required for eligibility.

7. Even if workers have fewer than twenty-six years in covered employment, earnings consist only of those received in covered employment; earnings in other jobs are disregarded. The number of years used in computing benefit rises by one year for each calendar year until the total number of included years reaches thirty-five.

8. The adjustment is described as a 6⅔ percent reduction for each year a worker retires before age sixty-five and a 3 percent bonus for each year the worker remains on the job after age sixty-five up to age seventy-two. In practice, the adjustment is done on the basis of each month in which benefits are reduced because earnings have exceeded an allowable maximum. The adjustment is 5/9 percent per month of the benefit payable at age sixty-five or, equivalently, 25/36 percent of the benefit payable at age sixty-two.

The straightforward way of putting the adjustment is that a worker is eligible to receive benefits at age sixty-two and receives a bonus of 8⅓ percent of the age sixty-two benefit for each of the next three years of work and 3¾ percent of the age sixty-two benefit for each of the next seven years of work. This increase takes account of the fact that because older claimants are likely to receive benefits for a shorter time than younger ones, the system can afford to pay more to workers whose benefits are deferred because of current earnings. For workers between ages sixty-two and sixty-five, the adjustment is almost fully "actuarial" in the sense that the expected value of benefits for the average worker is substantially unaffected by whether benefits are deferred or not. For workers between ages sixty-five and seventy-two, the adjustment is less than actuarial in the sense that deferral of benefits because of current earnings reduces the long-run expected cost of benefit payments. Beneficiaries who are age seventy-two or older are not subject to the earnings test.

amount (now $300 per month) for more than nine months. Finally, cash benefits are paid to the surviving spouse and dependent children of workers who die. In December 1981 the average newly awarded retirement and disability benefits were $396 and $430 per month, respectively. By comparison, the average wage of workers in private nonagricultural employment in 1981 was $1,094 per month.[9]

Differences between Annuities and Social Security

Even this incomplete summary of present law and its history makes clear the inappropriateness of treating social security as a simple annuity payable at a certain age after payment of "tax-premiums" for a number of years. In fact, social security is an amalgam of five key sets of features, each of which is involved in the determination of the economic effects of the system as a whole.

First, the social security benefit formula is a progressive function of average wages earned in covered employment over most of each eligible person's working life.[10] That is, the ratio of benefits to average earnings is higher for workers with low average earnings than for those with high average earnings. Because the payroll tax used to finance social security benefits is proportional to covered earnings up to the earnings ceiling ($32,400 in 1982),[11] the ratio of benefits to the accumulated value of taxes paid is higher for workers with low earnings than for those with high earnings. While economists at various times have debated the incidence of the payroll tax, the preponderance of professional opinion holds that workers bear the burden of the payroll tax, whether it is legally imposed on the workers themselves or their employers.[12] To the extent that the

9. This amount is based on the average weekly wage reported in the *1982 Economic Report of the President, February 1982*, table B-39, p. 277.

10. The average wage used in computing benefits for workers reaching age sixty-two in 1982 usually is based on the twenty-seven years of highest indexed covered earnings after 1950. The number of years in the averaging period rises by one with each passing year until 1991 after which benefits will be based on the highest thirty-five years of covered earnings.

11. The payroll tax is levied in 1982 at a rate of 6.7 percent on both employees and employers; self-employed workers pay tax at a rate of 9.35 percent. Both rates are scheduled under present law to increase in 1985 to 7.05 percent and 9.9 percent, respectively.

12. John A. Brittain, *The Payroll Tax for Social Security* (Brookings Institution, 1972), finds that the payroll tax is borne by labor. Martin S. Feldstein, "Tax Incidence in a Growing Economy with Variable Factor Supply," *Quarterly Journal of Economics*, vol.

tax is simply prepayment for later benefits, payroll taxes and entitlements offset one another and there is no burden to allocate.

The second important feature of the social security system is that the difference between the expected value of benefits and the accumulated value of taxes paid is now large and has nearly peaked.[13] Workers who received benefits in 1940 and who could have paid taxes for no more than four years received a very high implicit rate of return on those taxes. Later cohorts of workers have faced higher rates of tax and paid them for more years. For all cohorts of workers who have reached age sixty-two thus far, the rate of return on taxes paid—taking account of the various kinds of benefits payable under the social security system—has far exceeded the rate of return generally available on marketable assets, although there are significant differences among workers within cohorts.[14]

The third characteristic of social security that is important in appraising its economic effects is that it is a diverse package of benefits—pension benefits for retired workers, disability benefits for workers suffering from long-term and total incapacity to work, dependents' benefits for certain relatives of retirees and the disabled, and survivors' benefits for dependent spouses and children of deceased workers.

The fourth characteristic that clearly differentiates social security from simple annuities and that is central to an understanding of the effects of the system on both labor supply and savings is the fact that beneficiaries are subject to an earnings test. Benefits paid to people younger than age seventy-two (age seventy beginning in 1983) are reduced by 50 percent of the excess of earnings over stipulated levels.[15]

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88 (November 1974), pp. 551–73 reaches similar conclusions on theoretical grounds, but his analysis points out the possibility that changes in the amount of labor supplied can result in the shifting of some part of the burden of the payroll tax to other factors of production. The central conclusion of these analyses is that there is no analytical reason to suppose that the incidence of the portion of the payroll tax levied on employers is different from that of the portion levied on employees. Evidence is accumulating that the labor supply of older workers—both the number of hours worked and the decision when to retire—is more elastic than that of younger workers and that, as a result, the payroll tax may have some small effect on wage rates.

13. This issue is examined in chapter 6 under the section entitled "Effects on the Life-Cycle Distribution of Income."

14. Robert Moffitt, "Trends in Social Security Wealth by Cohort," paper prepared for the National Bureau of Economic Research Conference on Income and Wealth, Madison, Wisconsin, May 14–15, 1982.

15. The earnings test applies to retirement and survivors' benefits. Earnings up to $6,000 for people aged sixty-five to seventy-one and up to $4,440 for younger beneficiaries do not affect benefits. These limits rise with average earnings in the economy.

Future benefits may increase whenever earnings cause current benefits to be reduced. First, as noted above, benefits for retirees (and, in some instances, for their dependents) who are sixty-two to seventy-two are adjusted for any month in which benefits are reduced because of earnings. Second, work by beneficiaries may increase their benefits if earnings in the current year are higher than the earnings during at least one of the years used in computing average earnings. This highly technical feature of the system, which few people understand fully, has a large real effect on the value of benefits each worker can expect to receive. By requiring that the earnings of each worker be indexed before basic benefits are computed, the 1977 amendments reduced, but did not eliminate, the value of this adjustment.

Fifth, unlike any privately available annuity, social security benefits are fully indexed. Earnings histories and the benefit formula are indexed to wages, and currently payable benefits are indexed to prices. Thus social security provides a form of protection no other single asset now provides.

Some Special Terms

Among the technical terms that stud the literature on social security, three—"pay-as-you-go," "actuarially fair," and "mature"—deserve special comment. These terms are important because they are frequently used and because they are interrelated.[16]

A pay-as-you-go social security system is one in which annual revenues dedicated to the system approximately equal annual expenditures. Although it accumulated a modest reserve in its early years and that reserve is now declining, the U.S. social security system is essentially a pay-as-you-go system. An actuarially fair system promises to each cohort of workers entering the system benefits of the same present expected value as the taxes it will collect from them.[17] A mature pay-as-

16. In the special case in which the interest rate equals the growth of money wages, the applicability of any two guarantees the applicability of the third; as a corollary, if any one of these terms does not apply to a social security system, at least one of the others also does not apply.

17. Note that this definition permits the term "actuarially fair" to be applied to a system, like that in the United States, that provides to some workers within a cohort higher benefits relative to taxes paid or to earnings received than it provides to other workers. Thus the U.S. system can be regarded as actuarially fair, even if the progressive benefit formula is retained. A stricter definition would reserve the term "actuarially fair" for systems that provide each worker with benefits equal in value to taxes paid.

you-go system is one in which all retirees have paid taxes during their entire working life in covered employment to support the same system under which they will draw benefits.[18]

Thus an immature pay-as-you-go system (such as the U.S. system has been) must be actuarially unfair in the sense that many or all entering workers will receive benefits with greater present expected value than the taxes they will have to pay. This excess benefit is sometimes called a "lifetime wealth increment" in the literature on social security. It is possible for the lifetime wealth increment to be negative—that is, for the expected value of taxes to exceed the expected value of benefits—for example, if benefits are legislatively reduced or if the beneficiary belongs to a disfavored group.[19] But the lifetime wealth increment in the United States has been positive and large for all workers who have reached or will reach retirement in the twentieth century.[20] This excess of actual benefits over those that would be actuarially equivalent to the taxes workers have paid arose and continues to arise because Congress stipulated that benefits should begin in 1940, only three years after payroll taxes were first collected. Furthermore, Congress has periodically liberalized benefits and extended them to retirees, either immediately after they were enacted or well before workers could have fully earned them with increased taxes.

18. Maturity also depends on such other matters as population structure and life expectancies. Such a system provides an implicit rate of return on tax premiums approximately equal to the sum of the rates of growth of population and of real wages. See Paul A. Samuelson, "An Exact Consumption-Loan Model of Interest with or without the Social Contrivance of Money," *Journal of Political Economy*, vol. 66 (December 1958), pp. 467–82; and Henry J. Aaron, "The Social Insurance Paradox," *Canadian Journal of Economics and Political Science*, vol. 32 (August 1966), pp. 371–77.

19. As long as the social security system never terminates, it is possible that no cohort will ever experience a negative lifetime wealth increment even if early cohorts receive positive ones. The "debt" that these early transfers generate can be carried forward indefinitely.

20. Some authors have alleged that workers who have entered the labor force in the last ten years or so who will retire early in the twenty-first century and workers who enter the labor force in the future will receive benefits worth less than the taxes they will pay. A sufficient reduction in benefits could guarantee this outcome. See Michael J. Boskin and others, "Modelling Alternative Solutions to the Long-Run Social Security Funding Problem," a paper presented at the NBER Conference on Simulation Methods in Tax Policy Analysis, Palm Beach, Florida, January 26, 1981; Martin S. Feldstein and Anthony Pellechio, "Social Security Wealth: The Impact of Alternative Inflation Adjustments," *Policy Analysis with Social Security Research Files*, Research Report 52 (Social Security Administration, 1978), pp. 693–714. Although these estimates are carefully prepared, they do not support the contention that social security is actuarially unfair, because they attach

The Plan of the Book

The remainder of this book is divided into three parts. Chapter 2 examines the analytical models that economists have used to think about the economic effects of social security and to undergird their empirical estimates. It describes three rather abstract theoretical frameworks. Readers may find one or another of these models intuitively implausible or unappealing. However, an understanding of them will clarify the analysis of the economic effects of social security. Some readers may want to turn directly to chapters 3 through 6. Those chapters review trends on saving and on labor supply and evidence on the effects of social security on the distribution of income. The book concludes with some comments on the implications of this research on the immediate and long-term problems facing social security.

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no value to important features of social security not available privately—such as complete indexing—and take no account of selling costs associated with virtually all private sector plans that provide roughly similar benefits. In contrast, simulations indicate that the internal rate of return on payroll taxes paid is positive for all cohorts under all demographic and economic assumptions used by the social security actuaries, if one assumes that all benefits promised under current law are paid and sufficient taxes are imposed to meet these obligations. See Louise Russell, *The Baby Boom Generation and the Economy* (Brookings Institution, 1982), chap. 6; and the section entitled "Effects on the Life-Cycle Distribution of Income" in chapter 6 below.