LINKAGES BETWEEN PRIVATE PENSIONS AND SOCIAL SECURITY REFORM

AN INFORMATION PAPER

PREPARED FOR USE BY THE

SPECIAL COMMITTEE ON AGING

UNITED STATES SENATE

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SPECIAL COMMITTEE ON AGING

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(II)

PREFACE

Growing public and congressional awareness of the financial problems facing social security after the turn of the century is leading to serious consideration of options for long-term reform of the system. A variety of alternatives for reform have appeared in commission reports and legislative proposals to the Congress. These alternatives are likely to be reviewed again in 1982 by the National Commission on Social Security Reform as it searches for a way to assure adequate financing for social security benefits.

In this context, it would be a mistake to view social security financing in isolation, on the assumption that income from other retirement income sources would remain fixed in the event of changes in social security. In fact, it is clear that changes in benefits or costs associated with social security will result in individual or employer decisions to change pension plan provisions, personal savings behavior, or employment choices. The relationships that now exist between social security and these other means for providing retirement income are complex. They can mute or even reverse the intended effects of a shift in social security policy. It is, therefore, important that these relationships be taken into account in reviewing social security policy options for the long term.

This paper is an initial effort to anticipate some of the responses in private pensions that would result from enactment of several of the social security reform options presented to the Congress in 1981. The authors of this report discuss separately the effects of social security reform on pension benefits and on workers' retirement decisions. In both cases there are implications for the employers' costs of providing pensions, and ultimately for both the availability and the adequacy of pension benefits to retiring workers in the future. Often, social security reform proposals are advanced with the implicit assumption that private pensions, employment, and personal savings will be sources of a greater proportion of the retirement income provided to retirees and their dependents in the next century. This paper raises questions about the validity of that assumption.

It appears, from the evidence cited in this report, that uniform changes in social security benefits would not affect all workers and private firms equally. Pension plans with direct benefit linkages to social security would incur the greatest cost. Participants in these plans, today roughly one-third of those covered by private plans, would in turn be partially insulated from any benefit reduction because of the social security offset in their pension benefits. Benefit reductions in social security would in many cases induce older workers to delay their retirement. For some workers, this inducement to delay retirement would be offset by pension plan provisions which did not fully increase pension benefits for extended employment beyond the retirement age.

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These provisions would, in some plans, enable the plan sponsor to realize cost savings from delayed retirement. In plans without these provisions, however, delayed retirement could raise pension costs. In short, it seems that because of provisions that now exist in private pensions, a reduction in social security benefits will result initially in a general but uneven increase in private pension costs. At the same time, while most workers will experience the full effect of the retirement income loss, between one-fourth and one-half of all workers will have the loss of income and/or resulting inducement to delay retirement cushioned by provisions in their private pension plan.

The authors of this report, Dr. Bradley Schiller and Dr. Donald C. Snyder, have reviewed the interaction between pensions and work in previous publications. They bring to this report their considerable expertise in this area and an extensive data base on pension plan characteristics as of 1974. Many of the conclusions of this report, which are based on this early data, would probably not be much different if complete data were available for a more recent date. However, it is important to note that two major pieces of legislation affecting pensions and employment have passed since this date: The Employee Retirement Income Security Act of 1974 and the 1978 amendments to the Age Discrimination in Employment Act. For this reason, the Special Committee on Aging is publishing this report as an initial study of the relationships between social security reform and pensons, with the understanding that when more recent data becomes available, a revised report will be prepared.

The central issue in reform of the social security retirement program is how best to assure an adequate replacement of preretirement income from a combination of public and private sources. Since social security is not designed to meet the total income needs of retired persons, greater attention to the role of pensions, employment, and savings is critical as we consider how best to assure sound financing of social security for future generations of retired Americans.

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Chairman.
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LINKAGES BETWEEN PRIVATE PENSIONS AND SOCIAL SECURITY REFORM

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Chapter I

OVERVIEW

The social security system is the most important part of the U.S. retirement "system." At present, social security benefits provide over one-third of the income for the retired population. Those benefits are the buffer that keeps over 9 million older Americans out of poverty. Despite their obvious importance, social security benefits are still only one component of the retirement income system. Older Americans rely, as well, upon benefits from employer-sponsored pensions, personal savings, and earnings.

At present, reforms of the social security system are high on the legislative agenda, largely because of projected shortfalls in trust fund revenues. Finding a reform that is politically acceptable and financially sound would be difficult enough if social security could be treated in isolation. But social security, private pension plans, and individual savings decisions are not independent. They are intertwined in a variety of direct and indirect ways. With this interconnection, it may become counterproductive to attempt to attain policy goals through adjustments to only one component of retirement income.

The focus of this paper is on the linkages between private pensions and social security alone. On the one hand, the structure of the private pension system limits the potential of social security reform to attain specific income and employment objectives. On the other hand, any social security reform actually implemented will alter the costs and pressures of the private pension system. Unless these interactions are explicitly addressed, it is possible that social security reform—whatever its final particulars—could have unintended and undesired effects. Those negative effects may impinge not only on private employers, but on older workers and retirees as well.

Two kinds of links between social security and private pensions are relevant to the reform debate. One link exists in the benefit formulas of the two systems. Private pension benefits are typically related to either social security benefit levels or the social security taxable wage base. Where pension benefits are related to social security benefit levels, the size of a worker's private pension would increase automatically if social security benefits were to decline. In these situations, reductions in social security benefits will directly increase private pension outlays for some pension plans. In the process, workers covered under these plans will be partially sheltered from social security reductions and

thus less responsive in their retirement decisions to changes in the law. In addition, more of the costs of the retirement income system will be shifted onto private employers. In some kinds of pension plans, the added burden may be substantial. The benefit linkages that result in such cost shifting are examined in chapter II. The impact of these linkages are illustrated with the administration's proposed reduction in early retirement benefits, changes in the taxable wage base, elimination of the minimum social security benefit, and more restrictive disability insurance provisions.

The second major link between social security reform and private pensions is less direct. It is forged out of work force behavior. To the extent that social security reform alters retirement decisions, it will affect the size and timing of private pension outlays. As indicated earlier, this linkage goes both ways. To the extent that private pensions inhibit changes in work force behavior, the goals of social security reform may themselves be frustrated. At present, these private pension constraints on employment responses to social security reform are probably more important than benefit offsets. These constraints are examined in chapter III.

The first question addressed in chapter III is the potential size of the delayed retirement response to current reform proposals, in the absence of private pension constraints. The proposals considered are the administration's May 1981 proposal to reduce early retirement benefits, a proposal advanced by Representative Pickle, among others, to raise the age of eligibility for full retirement benefits, and a proposal, included in the administration's May 1981 package, which would have reduced future benefits across-the-board by 10 percent. All of the reform options have the potential for delaying hundreds of thousands of retirements. In some cases, however, the delayed retirements do not result in any cost savings for social security, since later benefits are actuarially equivalent. Private pension costs may still be affected, however.

The second issue discussed in chapter III is that of constraints on work force responses to social security reform which originate from private pension plans provisions. Those constraints (e.g., denial of pension credits for extended employment) are shown to be important obstacles to delayed retirement, particularly for workers 65 and older. As a consequence, older workers may have to choose between working longer and losing real pension income, or retiring early and receiving reduced social security benefits.

The ultimate success or failure of social security reform will be measured in terms of changes in the economic well-being of older Americans. The final section of this paper attempts to assess this impact by "adding up" the separate linkages between private pensions and social security reform. The emphasis of this study is on distributional equity and effectiveness. Workers without private pensions or in pension plans without benefit linkages will bear the full burden of any social security benefit reductions. Workers whose pension plans are integrated with social security will be partially sheltered from any reductions. Similarly, the opportunities for labor force adjustments to social security reform will depend on the nature of a worker's private pension coverage. These disparities in pension protection will lead to a very uneven sharing of the costs of social security reform.

Chapter II

BENEFIT LINKAGES

At present, roughly 50 percent of the private, nonagricultural, wage and salary work force is covered by a private, employer-based pension plan. In 1975, such plans paid out approximately $15 billion in benefits to over 7 million retirees.[1] These benefits accounted for approximately 8 percent of all retirement income.

The benefits available to any individual worker are conditioned on a variety of factors. First, there are several basic types of pension plans. Second, benefit levels and retirement eligibility within any basic type of plan are conditioned by a diverse array of qualifications and provisions. For example, one plan may require 30 years of service for full benefit eligibility; another may require only 20 years and attainment of a specified age. Together, these basic plan types and their diverse provisions create a bewildering maze of pension plans. In this context, it is difficult to single out a "typical" private pension plan, much less assess its relationships to social security. Accordingly, the following sections describe each basic plan type and its potential social security linkages individually. As noted earlier, these benefit links are based on either social security benefit levels or the social security taxable wage base.

The final determinant of a worker's retirement benefit is his actual work experience. In most plans, the pension benefit ultimately received will depend on either years of service, wages received, or both. Age may also be a factor, particularly if the plan permits "early" retirement or adjusts benefits actuarially for later retirements.

There are two basic types of pension plans offered by U.S. employers. Because each type bears a different relationship to social security, it is necessary to distinguish among them. The basic plan types are: (1) Defined benefit, and (2) defined contribution. The following sections describe each type of private plan and illustrate how it may be related to social security benefit levels or the taxable wage base.

A. DEFINED BENEFIT PLANS

In 1977, over 34 million workers were in defined benefit plans (71 percent of pension-covered workers).[2] As their name implies, defined benefit plans specify in advance the level of benefits a retired worker can receive. In the simplest case, the benefit may be defined in terms of a "flat rate," i.e., so many dollars for each year of service. For example, machinists employed by United Airlines are presently promised retire-

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[1] American Council of Life Insurance, "Pension Facts 1978," tables 4 and 8.
[2] U.S. Department of Labor, "Preliminary Estimates of Participant and Financial Characteristics of Private Pension Plans, 1977," 1980, table 2.

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ment benefits of $20.25 per month for each year of accumulated service. Hence, a worker with 30 years of service can collect a pension benefit of $607.60 per month at normal retirement.

Some plans pay different flat-rate benefits to retirees; the rate used to calculate benefits depends on the worker's job classification when employed. For example, General Motors workers may be eligible for monthly benefits of $10.75, $11, $11.15, or $11.50 for each year of service, depending on their job classification. With 30 years of service, this "staggered" flat-rate formula results in pensions of $332.50 to $345 per month.

Typically, a defined benefit plan incorporates a more complicated benefit formula. The formula may link benefits not only to years of service, but to wages as well. In these "percentage-rate" plans, the benefit paid is proportionately related to base wages. The base wages included in the benefit formula may refer to terminal (last year) wages only, or to some average of several years' wages. For example, the United States Steel pension plan, covering all workers, pays 1.1 percent of average monthly earnings (the high 60 months of the last 120) for each year of service. For a worker with average base earnings of $15,000 per year and 30 years of service, this plan provides a retirement benefit of $412.50 per month. For a retiree with average base earnings of $25,000, the pension benefit jumps to $694 per month.

Defined benefit plans are the most likely to be integrated in some way with social security. The integration may relate benefits paid by the pension plan directly to social security benefits, or it may vary the formula for computing pension benefits, depending on the earnings of the worker over his years of employment. Whatever the form, the essence of integration is to relate the employer's pension outlays to his payroll tax contributions to social security. The relationship is usually inverse, so that social security increases reduce the pension outlays of the private employer.[3] A secondary effect of integration is to reduce the redistributive or progressive effect of the social security benefit formula.

The framers of the Employer Retirement Income Security Act of 1974 (ERISA) considered adding a passage to the legislation prohibiting companies from integrating their plans further with social security.[4] This "freeze" on integration was excluded from final legislation when employers expressed concern about how much pension costs would rise.

1. PERCENTAGE-RATE PLANS

In percentage-rate plans, pension benefits are based on the employee's earnings over some specified period of time and his years of service under the plan. Pension benefits may be integrated with social security through the use of either an offset or an excess method.

(a) Direct Offsets

One form of benefit integration is the direct offset in which the formula for determining pension benefits adjusts for the expected value

[3] These linkages are unidimensional; social security benefit levels are not conditional on private pensions.
[4] Ray Schmitt. "Integrated Pension Plans: An Analysis of Earnings Replacement," U.S. Congress, Joint Economic Committee, "Social Security and Pensions: Programs of Equity and Security," Dec. 4, 1980, p. 99.

of the employee's social security benefit. An example of this method is found in the Exxon Corp. plan which covers all employees except those in certain bargaining units. In 1978, the benefit formula was 1.6 percent of earnings *less* 1.5 percent of the social security benefit times years of service.[5] The pension benefits promised by the plan and the effects of social security integration are depicted in table 1. Column (1) indicates three alternative earnings levels at retirement. Column (2) shows the dollar value of the private pension benefit an Exxon retiree would receive *if there were no social security offset.* A retiree with $15,000 of base wages would receive a pension of $7,200 per year under these circumstances. This pension would "replace" 48 percent of his base wages. The replacement rate would be identical for higher paid workers, although the dollar value of their pensions would be higher.

Column (4) indicates the approximate level of social security benefits the Exxon retirees would be eligible for. A basic feature of social security benefits is their progressive structure. This structure reflects a compromise in the system between its earnings-related features and its social adequacy features. Social security is earnings-related in that it pays benefits to individuals as a function of their lifetime earnings— workers who have contributed more receive higher benefits. However, social security also pursues social adequacy in that the benefit formula is weighted to provide a higher replacement of earnings to lower earnings workers. The net result is that workers with high average earnings receive benefits which are higher, but which replace less of their pre-retirement earnings than the benefits received by workers with low average earnings. Notice that the retiree with base wages of $15,000 enjoys a "wage-replacement" rate of 44 percent. By contrast, the retiree with base wages of $35,000 has a wage-replacement rate of only 20 percent.

TABLE 1.—ILLUSTRATIVE OFFSETS IN AN INTEGRATED PLAN

Base earnings	Exxon plan alone		Social security alone		Exxon plan with offset		Combined benefit	
	Amount	Replacement (percent)	Amount	Replacement (percent)	Amount	Replacement (percent)	Amount	Replacement (percent)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$15,000	$7,200	48	$6,524	44	$4,264	28	$10,788	72
$25,000	12,000	48	6,864	28	8,911	36	15,775	63
$35,000	16,800	48	6,864	20	13,711	39	20,575	59

Source: Bureau of Labor Statistics Digest, p. 117, and BTC study, p. 334.

This structure of social security benefit payments was the background against which most pension plans were designed. Plans deliberately structured their benefit payments to return some uniformity to the proportion of wages replaced. This balancing effect is evident in columns (6) to (9) of table 1. Column (6) indicates the "net" pension benefit paid by Exxon to its retirees. This net benefit is less than the "gross" amount (column 2) by the amount of the social security offset. According to Exxon's benefit formula, the company-paid benefit (column 2) is reduced by 45 percent (i.e., 1.5 percent times 30)

[5] U.S. Bureau of Labor Statistics, "Digest of Selected Pension Plans, 1976–78," p. 117.

of the social security benefit. Thus, Exxon pays a net benefit of only $4,264 to a retiree with base wages of $15,000, rather than the gross amount of $7.200. In this sense, social security reduces Exxon's pension payment by $2,936.

The same kind of pension reduction occurs at every earnings level. However, the *percentage* of the reduction diminishes as base earnings increase. As a consequence, the net Exxon benefit payments end up being *regressive*; higher income workers enjoy higher private pension replacement rates (column 7). This, of course, is often an objective of the firm's manpower policy. In any case, the firm clearly benefits from reduced pension outlays. In some cases, the reductions have been extreme. In the 1950's, the social security offset completely eliminated private pension benefits in the steel industry.[6]

Although private employers clearly benefit from social security offsets, the retiree is still better off. Column (9) of table 1 shows the combined retirement benefits received by the individual worker. Two points are worth noting. First, the worker is clearly better off with both social security and a private pension than with either alone. This will always be the case so long as the offset is less than 100 percent (it was 45 percent in the Exxon case, for workers with 30 years of service). Second, the combined wage-replacement rates (column 9) are much less progressive than those of the social security system (column 5).

Impact of social security reductions.—The potential impact of a reduction in social security benefits is evident in these percentage-rate-defined benefit formulas with an offset. In the Exxon plan. the direct offset equals 45 percent of social security benefits. Hence, Exxon's net pension outlays will vary by 45 percent of any change in social security benefits.

Suppose the administration's initial proposal for a reduction in benefits to early retirees was adopted. According to this proposal, a worker retiring at age 62 would confront a permanent reduction in social security benefits of approximately 30 percent. Table 2 illustrates, in approximate terms, the impact of this early retirement penalty on social security benefits, net Exxon benefits, and the worker's combined retirement income.

TABLE 2.—ILLUSTRATIVE IMPACT OF ADMINISTRATION'S PROPOSED EARLY RETIREMENT PENALTY

Base earnings	Social security benefit			Net Exxon benefit			Combined benefits	
	Amount	Net re-duction	Percent	Amount	Net in-crease	Percent	Amount	Replacement rate (percent)
$15,000	$4,567	−$1,957	−30	$5,145	+$881	+21	$9,712	65
$25,000	4,805	−2,059	−30	9,838	+927	+10	14,643	59
$35,000	4,805	−2,059	−30	14,638	+927	+7	19,443	56

Source: Authors' calculations.

Columns (2) and (3) in table 2 show the social security benefits payable to a retiree subject to the administration's early retirement penalty. For a worker with base wages of $15,000, the implied loss in social security benefits amounts to $1,957 per year. Nearly half of this loss is

[6] William Graebner. "A History of Retirement, the Meaning and Function of an American Institution, 1885–1978" (New Haven, Yale University Press), p. 222.

recovered with higher Exxon pension benefits, however. That worker now receives $5,145 per year from Exxon, $881 more than he did before social security benefits were cut (table 1). As a consequence, *the worker's retirement income is partly sheltered from the full impact of the social security reform by direct benefit offsets in the private pension plan.*

The costs of sheltering retirees from social security reform are being borne by the private employer, of course. What is happening here is that *the costs of retirement income support are being shifted from the social security system to the private employer.* In this case, Exxon's pension benefit increases by 7 to 21 percent, depending on the base earnings of the retiree. The percentage increase is largest for lower wage workers, due to the regressive structure of the offset mechanism.

Not all percentage-rate benefit formulas contain direct social security offsets. But it appears that most do. In 1974, over three-fourths of percentage formula plans had an offset.[7] Plans with offsets affected one out of every six pension covered workers in 1974, and one out of every three pension covered workers in 1980.[8] The direct offset reduction ranges from as low as 25 percent to as high as 83 percent for 30 or 35 years of service. This percentage may be lowered by the proportion of years under 30 or 35 that the retiree has worked.

(b) Step-Rate Benefit Formulas

Direct offsets are the simplest form of social security integration. However, benefit integration may also result from the use of excess methods. In percentage-rate plans, pension benefits may be calculated by applying one percentage to earnings below the plan's integration level, and a higher percentage to "excess" earnings above the level. For example, the J. P. Stevens (JPS) Co. pension plan for salaried employees pays an annual pension equal to 1 percent of base wages below the social security tax ceiling (wage base) plus 1.5 percent of wages above that ceiling.[9] Two things should be noted about this kind of plan. First, it tends to be regressive, in the sense that wage-replacement rates are higher for higher income workers. Second, the plan's benefit outlays are directly related to social security covered earnings, rather than to social security benefit levels. If the plan's integration level (which is a function of the social security taxable wage base) rises more rapidly than the earnings of the firm's employees, then the firm's pension obligations fall.

These effects can be illustrated with the JPS pension plan. Table 3 shows the annual pension payable by the JPS plan to workers at different earnings levels and with various social security covered wages. In 1980, covered wages were approximately $9,000. The center column of table 3 shows that J. P. Stevens would have paid a retiree with base earnings of $15,000 a pension of $5,400 per year. This is equivalent to a 36-percent wage-replacement rate. By contrast, a retiree with base earnings of $35,000 would enjoy a 41-percent wage-replacement rate.[10]

[7] Authors' calculations from the Bureau of Labor Statistics data on 1,467 defined benefit plans and 325 profit-sharing plans. This sample represents the provisions in effect in the universe of private plans as of Sept. 1, 1974.
[8] U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Industry, 1980," Bulletin No. 2107, table 28.
[9] Bureau of Labor Statistics Digest, p. 311.
[10] Ibid., p. 311.

TABLE 3.—PENSION BENEFIT AND REPLACEMENT RATES FOR JPS PLAN, FOR VARIOUS EARNINGS LEVELS AND SOCIAL SECURITY COVERED COMPENSATION

Base earnings	Illustrative social security covered compensation		
	$6,000	$9,000	$12,000
$15,000:			
Amount	$5,850	$5,400	$4,950
Replacement (percent)	39	36	33
$25,000:			
Amount	$10,350	$9,900	$9,450
Replacement (percent)	41	40	39
$35,000:			
Amount	$14,850	$14,400	$13,950
Replacement (percent)	42	41	40

Source: Bureau of Labor Statistics Digest, p. 311. Authors' calculations.

In 1978, 36 percent of covered workers were in plans that applied different rates to earnings above and below some breakpoint. These plans are primarily salary plans or plans covering all workers. Prior to the Revenue Act of 1978, the most common breakpoint was the social security taxable wage base. In 1978, Congress set a ceiling on the breakpoint a plan could use. This ceiling, referred to as "covered compensation," is essentially the average value of workers' historical wage base. For workers with many years of service, covered compensation is substantially below the current taxable wage base.

Workers covered by a plan with a split earnings formula that pays nothing for earnings below the social security taxable wage base (pure excess formula), will not receive *any* pension benefits if they earn less than the taxable wage base. Few workers are left out so completely, however. In 1974, 98 percent of pension workers covered by split earnings formulas received retirement benefits based on wages above *and* below the plan's integration level.

2. FLAT-RATE PLANS

The simplest form of flat-rate formula was noted earlier. These plans, typically found in bargained contracts, pay a fixed dollar amount for each year of service. Since all retirees receive the same dollar benefit, a retiree with low preretirement earnings would have a higher wage replacement ratio than a retiree with identical service but high preretirement earnings. In this sense, flat-rate formulas are progressive and, therefore reinforce the welfare conditions of social security. This is evident in table 4, which depicts the combined wage-replacement rates of social security and a flat-rate pension. In this case, the 1979 Addressograph-Multigraph (A–M) Corp. plan for bargaining unit employees paid retirees $10 per month for every year of service. This amounts to a pension of $3,600 per year for a retiree with 30 years of service. For a worker with $15,000 of base earnings, this pension replaces 24 percent of wages. A worker with $25,000 in base earnings would receive only 14 percent, and a $35,000 worker only 10 percent. When combined with social security benefits, the flat-rate pension leaves all retirees with nearly the same retirement income and strikingly different (progressive) wage-replacement rates.

TABLE 4.—THE PROGRESSIVE IMPACT OF FLAT-RATE FORMULAS

Base earnings	A-M plan		Combined social security and A-M benefits	
	Amount	Replacement (percent)	Amount	Replacement (percent)
$15,000	$3,600	24	$10,124	68
$25,000	3,600	14	10,464	42
$35,000	3,600	10	10,464	30

Source: U.S. Bureau of Labor Statistics, "Digest of Select Pension Plans, 1976–78 Edition" (Washington: U.S. Government Printing Office, 1978), p. 5.

In general, flat-rate pension benefits are independent of social security, since neither the benefit outlay nor contribution is conditioned on social security benefits or eligibility. However, many companies provide "staggered" flat rates. These plans have multiple flat-rate benefit formulas which pay according to the retiree's job classification. This method of calculating benefits has the effect of partially offsetting some of the progressivity in social security. For example, the International Harvester Co. (IHC) UAW-bargained plan pays a retiree $15.25, $15.50, $15.75, or $16, depending on a worker's job classification (in general, a higher job classification carries with it higher wages). If a worker with a $15,000 base wage is eligible for the lowest rate, $15.25, the annual benefit for 30 years of service is $5,490, or 37 percent of earnings. If a worker earned $16,000 and retired with the highest rate ($16), he would be paid 36 percent ($5,760) of earnings. If there is a greater spread in wages between the highest and lowest job classification, then high-wage workers would still be paid a lower percent of preretirement wages (30 percent of a $19,000 earner, for example). Thus, staggered flat-rate benefit payments are still progressive, though not as progressive as a single flat rate paying the same retirement benefits.

TABLE 5

Base earnings	Wage-replacement rate, in percent, for IHC–UAW staggered benefits			
	$15.25	$15.50	$15.75	$16
$15,000	37	37	38	38
$25,000	22	22	23	23

Source: Bureau of Labor Statistics Digest, p. 175. Authors' calculations.

Although staggered flat-rate formulas offset some of the progressivity of social security, their benefits are still not directly conditioned on social security levels or eligibility. From this perspective, although these plans may indirectly relate benefits to assumptions about social security benefits, the benefits paid by the plan are not, in any way, directly affected by social security reform.

B. DEFINED CONTRIBUTION PLANS

Defined contribution plans are plans in which periodic contributions are made to an account on behalf of the employee, and invested. Benefits are paid based on the accumulated assets in each individual account at the time the employee retires. Defined contribution plans in-

clude money-purchase and profit-sharing plans. In money-purchase plans, the amount of the contribution is based on some predetermined formula. In profit-sharing plans, the periodic contribution to each account is a function of the profits of the firm and may vary each year.

1. PROFIT-SHARING PLANS

Profit-sharing plans covered about 2.5 million workers in 1974 according to data compiled by the Bureau of Labor Statistics. Profit-sharing plans pay benefits to a retiree that are determined by the value of his account at retirement. A successful company can provide a long-term employee with riches at retirement. Other retirees with profit-sharing accounts may not be so fortunate, however. If the company fails, or the stock market is in a slump, a worker contemplating a comfortable retirement may be jolted by his pauper's retirement pay. Even if an employee had divided his contributions between Government bonds (because they are "safe") and company stock to protect against company failure, as some plans allow, recent high interest rates have driven bond prices down, thereby lowering the value of the money purchase component of his retirement. So we can see that a worker's equity in his profit-sharing retirement account may have fallen significantly during the recent period of high interest/high inflation.

To counter this risk, many companies have added a minimum benefit to their profit-sharing plan. Other companies have abandoned profit sharing for a defined benefit plan. These changes mean that few "pure" profit-sharing plans still remain; many plans have become thrift or savings plans. In these plans, workers and employers contribute a sum each year that purchases an annuity. This is more like a money-purchase plan, but many firms still include the term "profit sharing" in their plan's name. Thus, the plans referred to as profit sharing actually cover a spectrum of plan types that include combinations of profit sharing, thrift (worker contributions) or savings plans, and some even include a "defined" (minimum) benefit.

In the following discussion, the focus is on social security integration of profit-sharing arrangements—understanding that some part of a worker's retirement plan(s) is not profit sharing, but money-purchase. A typical profit-sharing plan sets aside a sum of money each year in some fixed relationship to the company's income. For example, Sears, Roebuck & Co. contributes an amount out of net income each year that is determined by a schedule.[11] The company contributes 5 percent of net income below $250 million, rising to 11 percent if net income is over $600 million. This contribution is allocated to each covered worker according to a formula that *is* integrated with social security.

The allocation of Sears' contribution to each worker's account is in accordance with wages above and below some breakpoint. This value traditionally was the social security taxable wage base, though many plans now use social security covered compensation, or a facsimile, as a breakpoint value, in accordance with recent IRS regulations. A worker's share in Sears' total contribution is equal to his share of total

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[11] Bert L. Metzger, "Profit Sharing in 38 Large Companies" (Evanston, Ill., Profit Sharing Research Foundation, 1978), p. 346.

earnings plus 50 percent of earnings over the social security tax base. In this way, high-wage employees are more generously treated than low-wage employees. The company's contribution, however, is insulated from changes in the taxable wage base, because it is determined independently of social security.

Nearly all profit-sharing plans in 1974 integrated the allocation of benefits with the social security tax base. Over 90 percent of the plans in the BLS sample of *profit-sharing pension plans integrate the retirement benefit paid by basing contributions to a worker's account on his wages above and below the social security taxable wage base.* Thus, a reduction in benefits paid to lower wage workers is not immediately apparent, having been determined when contributions were made. As we noted, many profit-sharing plans allow or require employee contributions. The savings plan aspect of a profit-sharing plan may tie contributions explicitly to a worker's wage above and below social security, so that additional integration is present.

One other aspect of profit-sharing plans is that some plans require workers to contribute in order to participate. Not all workers join these plans, especially if they are supplemental to a basic plan. If future social security benefits are lowered, more workers are likely to sign up for their company's profit-sharing/savings plan. This change in participation would raise employer costs.

2. MONEY-PURCHASE PLANS

Money-purchase plans pay a worker an amount at retirement that is determined by the annuity values the worker accumulates at the end of each year of service. The payout is raised by greater contributions, but the rate of return represents some average return an insurance carrier is willing to pay. In 1980, approximately 20 percent of pension-covered workers were in money-purchase, defined contribution plans.[12]

The costs of defined contribution plans are not directly affected by changes in the level of social security benefits. As a consequence, such plans neither provide any "sheltering" of retirees from social security reductions, nor any potential for direct cost shifting. However, such plans are not immune from important indirect pressures, including demands for higher pensions and changes in work force behavior. These indirect pressures are examined in more detail in chapter III.

3. OTHER PLANS

An additional 4.5 million workers (10 percent of pension-covered workers) were covered by independent retirement accounts (IRA's), Keogh plans, and tax-sheltered annuities (TSA's) in 1980. These plans primarily benefit individuals, although some Keoghs cover the employees of small firms. The workers covered by these plans are predominately self-employed or professionals. Like other defined contribution plans, these savings-type plans function independently of social security. They, too, are subject to indirect pressures. For example, *the desire for individually based savings plans is likely to grow if confidence in the security or adequacy of social security wanes.*

[12] Derived from data in ICF, Inc., "Structure of the ICF Private Pension Forecasting Model," April 1979; table II–1, p. 59; table III–9, p. 32; and table III–10, p. 33.

C. OTHER BENEFIT LINKS

The foregoing sections provide a general description of how pension benefit payments are integrated with social security benefits. But the benefits linkages between private plans and social security go beyond these explicit links. Many other private pension provisions are conditioned on a worker's age and social security eligibility. These other benefit linkages include forced early retirement, minimum benefits, employee contributions, and disability provisions.

1. FORCED EARLY RETIREMENT

Some plans contain a provision whereby a firm can "force" a worker who meets certain age and service criteria to retire involuntarily. The number of plans with this provision has probably fallen since the ADEA amendments.[13] When forced to retire, the retirement benefit to which the worker is entitled is augmented until the retiree is eligible for unreduced social security benefits.

The dollar amount of additional benefits targeted by the firm for a forced early retiree is usually payable until the retiree is eligible for unreduced social security benefits (32 percent of workers in plans with a disability provision). *An increase in social security retirement age would raise an employer's cost of exercising the forced retirement provision.*

2. MINIMUM BENEFIT

Some plans place a floor under the pension payments a retiree will receive. This floor is a critical protector of low-wage, short-service employees in plans with percentage-rate, defined benefit formulas. In some retirement plans, the value of the floor is the difference between the retiree's social security benefit and a fixed dollar value. This approach creates a 100-percent direct offset for social security benefits. Hence, any reduction in social security benefits results in a dollar-for-dollar increase in private pension outlays. Of particular interest here is the elimination of the social security minimum benefit as legislated by Congress. *The removal of the social security minimum may lead private plans with this provision to assume the full burden of that retirement support for low-wage workers.* Other plans will face pressures to raise their minimum benefit to supplement social security benefits.

3. EMPLOYEE CONTRIBUTIONS

Less than 10 percent of workers are covered by defined benefit plans that require employee contributions. In contrast, under 1 percent of workers in multiemployer plans contribute to the plan. There is a wide range of methods by which required contributions are determined. A common method in single employer plans is to require that a low percent of earnings below the social security taxable wage base and a higher percent of earnings above the tax base be contributed. Seven percent of defined benefit and 65 percent of profit-sharing plans structure employee contributions in this way. As the social security taxable

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[13] Employer's desire for forces early retirement may increase, however, if the duration of employment starts to increase. See Phillip L. Rones, "The Retirement Decision: A Question of Opportunity?" Monthly Labor Review, November 1980.

wage base rises, the proportion of wages an employee contributes falls, as long as the employee's wage's rise less rapidly than the taxable wage base. Since employers fund the balance of contributions to pay the normal cost of promised benefits, *a higher tax base may mean greater pension contributions from these employers.*

Employers that contribute to multiemployer plans are not often affected by the size of the taxable wage base, since fewer than 1 percent base contributions on wages above and below the social security taxable wage base.

4. DISABILITY PROVISIONS

Many pension plans provide special payments for workers who become disabled. Over 74 percent of pension plan participants were in plans with a disability provision in 1974. Often, pension plans use a more liberal definition of disability than the social security definition, at least during the initial years of a disability. A firm may, therefore, retire a worker under the plan's disability provision who is not eligible for social security disability benefits. To the extent that these disability provisions enable workers who are not eligible for social security disability to retire before age 62, they may add to the numbers of retirees drawing early retirement benefits from social security after age 62.

Most employees covered under pension plans with disability provisions are covered under plans which fully integrate the benefits paid in the event of a disability with social security benefits. Most plans provide full retirement benefits to workers after a year of disability. This payment continues until the worker is eligible for social security retirement or disability benefits. When the worker becomes eligible for social security benefits, the pension benefit is reduced dollar for dollar for the amount of these benefits. Where plans fully integrate disability benefits with social security, changes in social security disability definitions or eligibility requirements will lead directly to increases in pension plan costs. A stricter definition of disability under social security, for example, would raise private pension costs as long as private plans maintained current definitions.

Administration proposals for social security reform, advanced in May 1981, included provisions to apply more stringent definitions in determining eligibility for social security disability insurance. Proposed changes in disability primarily involved narrowing the definition of a disability to exclude consideration of nonmedical and vocational factors, and to exclude disabilities that are expected to last for more than 1 year but less than 2 years. In addition, the proposals included an increase in the waiting period for disability insurance benefits to begin after the onset of a disability, and a narrowing of disability insurance coverage. More restrictive social security disability awards would raise pension costs in nearly all plans with a disability provision.

D. SUMMARY

The foregoing discussion illustrates some of the ways private pension benefits are conditioned on either social security benefit levels or the taxable wage base. In many plans, a reduction in social security

benefits results in a direct increase in private pension outlays. This inverse relationship is most pronounced in the case of defined-benefit plans with "percentage-rate" benefit formulas. The common method of benefit integration in defined benefit plans is to offset 50 percent of social security benefits. Benefit integration is also achieved by providing different pension benefits for earnings above or below the social security wage base. More than 40 percent of all participants in a private pension plan in 1980 were in a plan with some benefit offset or other method of benefit integration.[14]

It may turn out, of course, that no absolute reductions in social security benefits are enacted. Indeed, most reform proposals seek to slow the *growth* of benefits rather than to reduce them outright. These proposals will also affect private pension costs. *Reductions in the growth of social security benefits will increase the growth rate of private pension outlays from defined benefit plans.* In other words, the full impact of the linkage between social security and pension growth will be smaller and spread over many years rather than being felt fully in the first year of reform (and continuing in full force). The link between social security benefits and private pension costs will still exist, however.

The costs and benefits of private pension plans will also vary with changes in the social security taxable wage base. While, in principle, the taxable wage base is now indexed to move in tandem with increases in average wages, in practice, employers often use integration levels which are lower than the taxable wage or "covered compensation," and which are adjusted less frequently. As a result, employers sponsoring plans which use this method of integration and do not keep adjusting the plan's integration level upward with increases in wages, may find their contributions or outlays for private pensions increasing over time.

All of the foregoing illustrations have ignored potential changes in work force behavior. The dollar impact of benefit linkages has been illustrated for prevailing retirement patterns. No changes in retirement decisions were considered. In reality, changes in social security benefits or eligibility will alter work force behavior. Indeed, delayed retirements are a primary objective of social security reform. In terms of impact on private pension outlays, these changes in work force behavior may overwhelm the direct linkages between social security and private pension benefit formulas. Potential changes in work force behavior are examined in the following section.

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[14] U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Industry, 1980," Bulletin No. 2107, September 1981, table 33.

Chapter III

EMPLOYMENT LINKAGES

Life expectancies have increased significantly since passage of the Social Security Act (1935). Moreover, rising income and changing preferences have induced Americans to retire from the labor force earlier. These demographic and economic forces have created a growing imbalance between the active work force and the retired population.

One objective which the administration cited in its 1981 social security reform proposals was to alter work force trends, particularly early retirement. The administration's proposal would have done this by severely reducing the social security benefits available to persons retiring before age 65. The reforms proposed by Representative J. J. Pickle in H.R. 3207 would seek to achieve the same objective by raising the age for "normal" (full-benefit) retirement to age 68.

On one hand, the structure of private pension plans may constrain work force behavior, thereby frustrating the objectives of encouraging delayed retirement. For example, denial of pension credits for additional years of service is a provision that inhibits continued employment past normal retirement age. Workers confronted with the choice of reduced social security benefits at an early retirement age or even larger cuts in private pension benefits at a later age may well choose to continue retiring early, despite social security cuts. The net effect in such cases will be reduced retirement incomes and continuing imbalances in the social security trust fund.

On the other hand, social security benefit reductions may result in a change in work force behavior despite the restrictive provisions of private pension plans. In this case, the cost of providing private pensions may change. In some plans, delayed retirements will result in larger pension costs as workers accrue more years of service and a higher wage base. In other plans, delayed retirements may reduce employer-based pension costs.

The remainder of this chapter examines these employment linkages between social security and private pensions. Section A reviews recent trends in retirement behavior and projections based on current social security legislation. Section B examines the likely impact of current reform proposals on work force behavior, without any reference to the structure of private pension plans. The potential increase in pension costs that might accompany such changes are discussed in section C. The restrictive provisions of private pensions that might inhibit delayed retirement are discussed in section D. Section E provides a brief summary.

A. CURRENT RETIREMENT TRENDS

The persistent decline in the average retirement age of American workers has been well documented. In 1980, 60 percent of males aged

60 to 64 were still in the labor force. As recently as 1950, the labor force participation rate for this age group was over 80 percent. Labor force participation has declined even more rapidly for persons aged 65 or older. From 1950 to 1980, the labor force participation of persons aged 65 or older has declined from 39 to 19 percent. Table 6 provides a summary of these trends.

TABLE 6.—MALE LABOR PARTICIPATION RATES, 1950-80

[In percent]

Age	1950	1960	1970	1980
55 to 59	87	88	90	82
60 to 64	80	78	75	60
65 plus	39	29	27	19

Source: U.S. Department of Labor, "Employment and Earnings," January 1971, table A–5, p. 29; and Elizabeth L. Meier, "Varieties of Retirement Ages" (Washington: President's Commission on Pension Policy, January 1980), table 1, p. 7.

CHART 1

MALE LABOR FORCE PARTICIPATION RATES
BY AGE GROUP
1950-1980
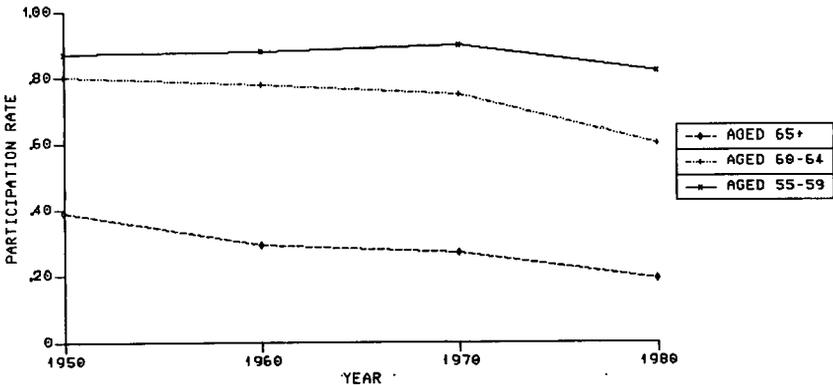
The decline in labor force participation has been reflected in increasing demands on the social security system. During the last decade, for example, the proportion of persons eligible for social security benefits who actually choose to take them has increased, particularly among workers aged 62 to 64.

This increase in the probability of social security receipt is illustrated in table 7. Column (1) indicates the number of nondisabled persons aged 62 to 64 eligible to receive social security retirement benefits at the *beginning* of each year, for the period 1970–79. Eligible persons are those who have attained the age and insured status for benefit eligibility, and are not currently receiving social security disability benefits.[1]

At the beginning of 1970, for example, the Social Security Administration estimates that a total of 3,381,000 nondisabled persons 62 to 64 years of age were eligible for benefits. Of these, 1,140,000 were al-

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[1] Recipients of disability insurance benefits are potentially eligible for OASI retirement benefits and, in fact, often "convert" at age 65. The focus here, however, is on changes in work force behavior, not benefit receipt per se.

ready drawing benefits (column 2). Hence, 2,241,000 persons represented the maximum number of workers who could have begun to draw social security benefits in that year. These workers are designated as "potential retirees" for that year (column 3).

TABLE 7.—ANNUAL RETIREMENT PROBABILITIES FOR NONDISABLED WORKERS AGED 62 TO 64, BY YEAR

[In thousands]

Year	(1) Number eligible for benefits at beginning of year	(2) Number receiving benefits at beginning of year	(3) Potential retirees	(4) New awards during year	(5) Retirement rate
1970	3,381	1,140	2,241	629	0.281
1971	3,487	1,225	2,262	676	.299
1972	3,572	1,333	2,239	724	.323
1973	3,614	1,440	2,174	760	.350
1974	3,674	1,560	2,114	759	.359
1975	3,701	1,631	2,070	817	.395
1976	3,738	1,725	2,013	817	.406
1977	3,875	1,781	2,094	870	.415
1978	3,920	1,868	2,052	812	.396
1979	3,973	1,861	2,112	(1)	

1 Not available.

Source: U.S. Social Security Administration, "Annual Statistical Supplement," 1977–79 edition; and Social Security Bulletin, June 1981.

CHART 2

ANNUAL RETIREMENT PROBABILITIES
NON-DISABLED WORKERS BY AGE GROUP
1970-1978
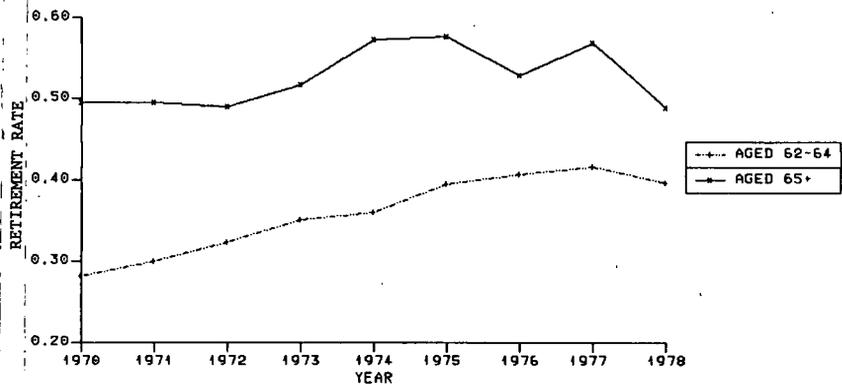
The proportion of potential retirees who start receiving social security benefits in a given year is a rough measure of the annual probability of retirement. This "retirement rate" reflects the degree to which eligible persons are choosing to withdraw from the labor force each year.[2] During 1970, for example, 629 persons in this group were awarded social security retirement benefits; these "new awards" are

[2] Withdrawal from the labor force need not be complete. Workers with earnings below the social security earnings ceiling may draw full retirement benefits; workers with earnings less than twice the ceiling may draw reduced benefits. In addition, persons aged 65 and older may continue working but apply for and receive a benefit award that is not currently payable in order to establish eligibility for medicare benefits.

noted in column (4) of table 7. The number of new awards in 1970 amounted to 28.1 percent of the potential retirees for that year.[3] Hence, the probability of initial retirements among the eligible workers aged 62 to 64 was 0.281 in 1970.

The remainder of table 7 shows how annual retirement rates changed in the ensuing years. *Annual retirement rates among eligible workers aged 62 to 64 increased by over one-third in a span of only 6 years.* In the last years of the decade, annual retirement probabilities stabilized, at roughly 0.40. That is to say, approximately 4 out of 10 eligible persons aged 62 to 64 are now retiring each year, compared with a retirement probability of only 3 out of 10 as recently as 1970.

Table 8 provides the same information for nondisabled workers aged 65 and older. Here again, the annual probability of retirement increased during the 1970's, but only slightly. In the early 1970's, the annual probability of retirement was just under 50 percent for persons 65 and older; in the late 1970's, the probability averaged just over 50 percent.

TABLE 8.—ANNUAL RETIREMENT PROBABILITIES FOR NONDISABLED WORKERS AGED 65 AND OLDER, BY YEAR

[In thousands]

Year	(1) Number eligible for benefits at beginning of year	(2) Number receiving benefits at beginning of year	(3) Potential retirees	(4) New awards during year	(5) Retirement rate
1970	12,812	11,652	1,160	574	0.495
1971	13,259	12,029	1,230	609	.495
1972	13,765	12,492	1,273	622	.489
1973	14,307	13,138	1,169	603	.516
1974	14,710	13,811	899	514	.572
1975	15,329	14,395	934	539	.577
1976	15,893	14,913	980	517	.528
1977	16,411	15,404	1,007	572	.568
1978	17,021	15,964	1,057	516	.488
1979	(1)	16,415	(1)	(1)	(1)

[1] Not available.

It should be noted that *annual retirement probabilities are significantly lower for workers aged 62 to 64 than for those aged 65 and above.* The popular misconception that retirement rates are higher for the younger group derives from two phenomena. First, there are quirks in the retirement data published by the U.S. Social Security Administration that cause analysts to overstate the number of "early retirees." In reality, many retirees drawing early retirement benefits did *not* retire before age 65 but instead accepted retroactive (and reduced) entitlements. As a result, they appear to have retired early (with reduced benefits) even though they continued working until age 65.

The second source of confusion about retirement probabilities derives from a focus on the *number* of retirees, rather than on percentages. Continuous retirements deplete the size of the retirement-eligible pool as it ages. As a consequence, a smaller *number* of persons aged 65 and above retire in any given year, compared to the number retiring at earlier ages. In 1978, for example, there were 1,328,000 retirees (new retirement-benefit awards). Of these only 516,000 or 39

percent, were aged 65 or above. Nevertheless, the *probability* of retirement was higher for the older group.

Despite the differences in retirement probabilities, the ages 62 to 64 remain a primary target for social security reform. There are simply more people retiring at those ages rather than at later ages.

B. POTENTIAL CHANGES IN WORK FORCE BEHAVIOR

A critical question for social security reform is whether current retirement patterns, as described above, can be altered. Can changes in social security eligibility rules and benefits induce workers to stay in the work force longer? The answer to this question, as documented in a dozen research studies, is clearly "yes."

1. SUPPLY-RESPONSE ESTIMATES

Despite universal agreement that social security benefit and eligibility rules influence retirement decisions, there is still considerable uncertainty about the extent of that influence. This uncertainty is partly a reflection of the limitations of empirical data and estimation techniques, particularly in the context of a continually changing political and economic environment. As noted above, there is also a widespread misconception about the timing of actual retirements, as reflected in the data used in some estimates. Finally, the range of estimates reflects a failure to incorporate all relevant influences in most estimation models and the use of different variables to represent the influence of social security.[4]

One recent study by Richard Burkhauser focused on the potential response of males aged 62 to changes in social security benefits.[5] This is the age group first eligible for social security early retirement benefits. His estimates were based on matched census and social security data for 1973. His estimates indicate that a 10-percent reduction in social security benefits reduces the probability of early retirement among 62-year-olds by 14 percent.

Similar estimates were derived from the National Longitudinal Survey, financed by the U.S. Department of Labor. This survey provides one of the few longitudinal views of retirement experiences. The latest results from that survey indicate that a 10-percent increase in benefits relative to the wage rate will increase retirement probabilities by 16 percent.[6]

Another study by Pellechio (1981)[7] used the same census and social security data used by Burkhauser to estimate retirement probabilities for married men. This study also found a strong relationship between the level of social security benefit payments and the probability of retirement. An interesting feature of this study is its emphasis on actuarially fair reductions, i.e., current benefit reductions are compen-

[4] For a review of supply-response estimates, see Robert Clark, Juanita Kreps, and Joseph Spengler, "The Economics of Aging : A Survey," Journal of Economic Literature, September 1978. More recent studies, including those noted in the text, as well as Michael Boskin and Michael Hurd. "The Effect of Social Security on Early Retirement," Journal of Public Economics, 1978 ; Robert Clark. Thomas Johnson. Daniel Sumner. "Labor Supply of the Elderly in a Family Context," North Carolina State University (mimeo) March 1981.

[5] Richard Burkhauser. "The Pension Acceptance Decision of Older Workers," The Journal of Human Resources. winter 1979. vol. 14, No. 1, pp. 63–75.

[6] Donald O. Parsons, "Black/White Differences in Labor Force Participation of Older Males," Herbert Parnes. ed., Work and Retirement. MIT Press, 1981.

[7] Anthony Pellechio. "Social Security and the Decision to Retire," University of Rochester (mimeo), June 1981.

sated with higher benefits at later ages. Hence, no permanent reduction in the value of social security benefits is envisioned. Because the rewards for delaying retirement are therefore greater, Pellechio estimates larger supply responses. His results indicate that a (compensated) 10-percent reduction in *current* social security benefits reduces the retirement probability for persons 62 to 64 approximately 30 percent and for persons 65 to 70 by 18 percent.

Esposito and Packard (1980)[8] did not investigate the retirement decision per se but rather the effect of social security on elderly labor supply. They concluded that the current benefit structure reduces the hours of work of the aged; they estimated that a 10-percent reduction in benefits would increase the hours worked by men 65 and older by 4 percent. Presumably then, a reduction in benefits would imply some reduction in social security retirement.

Quinn (1977)[9] and Burkhauser and Quinn (1981)[10] found that eligibility for social security benefits increases retirement probabilities. Parnes, who directed the National Longitudinal Survey and coauthored a series of related studies on older men, concluded that:

> * * * there is abundant evidence from our studies and others that the availability and magnitude of expected retirement income is the most important factor affecting the retirement decision.[11]

These studies and others provide some basis for estimating the response of potential retirees to any given change in the structure of social security benefits. However, the estimates must be used with caution. Most of the research findings which provide direct estimates of labor-supply response are based on data which is now at least 8 years old. Since the time those data were collected, the social security system has been indexed, ERISA has been implemented, mandatory retirement has been abolished, and inflation has become deeply embedded in worker psychology. Hence, even if there were consensus on the extent of *prior* responses to changes in social security benefits or eligibility, there is no assurance that *future* responses would be similar. Nevertheless, these are the only benchmarks available for assessing retirement responses to social security reform.

2. CURRENT REFORM PROPOSALS

The foregoing studies provide a basis for estimating the employment effects of current social security reform proposals. Three reform proposals received special attention in 1981. One was an administration proposal, contained in the May 1981 social security reform package, to reduce early retirement benefits. Currently, workers who retire between age 62 and 65 receive only a portion of their full retirement benefit. This reduction is designed to be an actuarial adjustment; that is, to take into account the additional years the individual

[8] Louis Esposito and Michael Packard, "Social Security and the Labor Supply of Aged Men : Evidence from the U.S. Time Series," U.S. Social Security Administration, ORS working paper No. 21, December 1980.

[9] Joseph Quinn, "The Micro-Economic Determinants of Early Retirement : A Cross-Sectional View of White Married Men," Journal of Human Resources, summer 1977.

[10] Richard Burkhauser and Joseph Quinn, "Mandatory Retirement Study (Part I) : Task Completion Report on the Relationship Between Mandatory Retirement Age Limits and Pension Rules in the Retirement Decisions," The Urban Institute, Washington, D.C., June 1980.

[11] Herbert Parnes, ed., "Work and Retirement," MIT Press, 1981.

will be receiving social security benefits due to early retirement, and assure that the total benefits paid by social security over his lifetime will remain the same regardless of his age at retirement. The administration proposal was to immediately reduce the proportion of the full benefit which is paid to early retirees.

A second proposal was to raise the age at which full social security benefits are paid from 65 to 68. A version of this proposal, included in H.R. 3207. introduced in the House in April 1981, by Representative J. J. Pickle, would gradually raise the "retirement age" from 65 to 68 over a 10-year period, beginning in 1990, leaving the early retirement age at 62.

A third proposal, also included in the administration's May 1981 proposals, was to slow down, between 1982 and 1987, future increases in the social security benefit formula to produce an across-the-board 10-percent reduction in future benefits beginning in 1987.

The administration's early retirement proposal focuses on potential retirees in the 62- to 64-year-old range. The proposal to raise the age for full benefits to age 68 affects potential retirements of persons 65 to 67, as well as the traditional early retirement age groups. The proposed across-the-board cut affects all ages. Table 9 presents the benefit reduction schedule under current social security provisions and those provided in the administration's early retirement and Representative Pickle's retirement age proposals. Because a universal, 10-percent cut would not alter the early retirement discount, it will be considered separately below.

TABLE 9.—PERCENT OF FULL SOCIAL SECURITY BENEFITS AVAILABLE AT DIFFERENT AGES, CURRENT LAW, AND REFORM PROPOSALS

Retirement age	Current law	Administration's early retirement proposal	Retirement age proposal (H.R. 3207)
62	80. 0	55	64
63	86. 7	70	70
64	93. 3	85	76
65	100. 0	100	82
66			88
67			94
68			100

Source: Department of Health and Human Services press release, May 12, 1981; and HR. 3207.

TABLE 10.—PERCENT OF BENEFIT REDUCTION OF REFORM PROPOSALS, RELATIVE TO CURRENT LAW, FOR DIFFERENT AGES

Retirement age	Administration's early retirement proposal	Retirement age proposal (H.R. 3207)
62	31. 0	20. 0
63	19. 3	19. 3
64	8. 6	18. 5
65		18. 0
66		12. 0
67		6. 0
68		

Source: Derived from table 9.

CHART 3

PERCENT OF FULL SOCIAL SECURITY BENEFITS RECEIVED
BASED ON AGE AT RETIREMENT
CURRENT LAW AND REFORM PROPOSALS

    PERCENT OF FULL BENEFIT

    H.R. 3207 (PICKLE)
    ------ CURRENT LAW

    AGE AT RETIREMENT

    PERCENT OF FULL BENEFIT

    ADMINISTRATION
    ------ CURRENT LAW

    AGE AT RETIREMENT
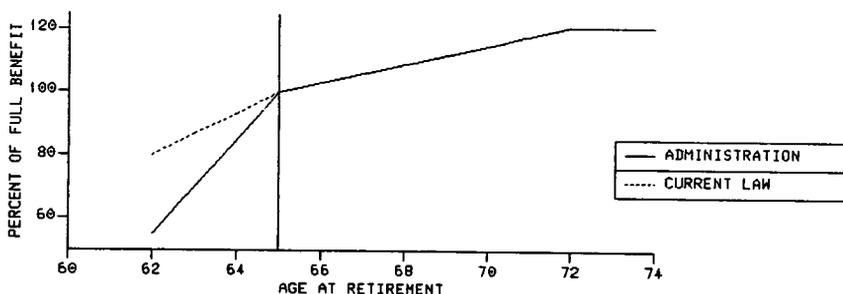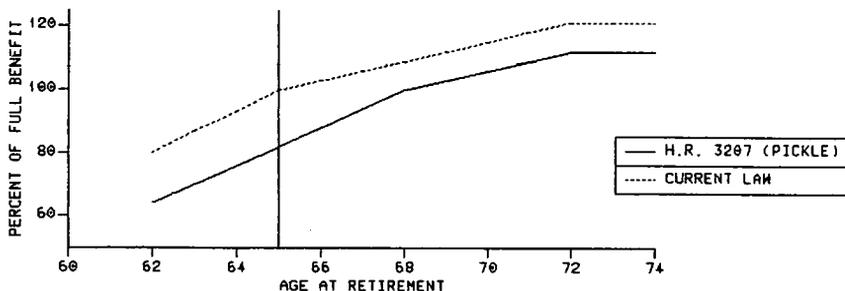
In order to illustrate the likely labor-supply effects of the early retirement and retirement age, benefit changes are restated in terms of the implied reductions from current legislation. As is indicated in table 10, if the administration's early retirement proposal were enacted, a worker contemplating retirement at age 62 would confront a social security benefit 31 percent smaller than would be the case under current law. According to the retirement age proposal in H.R. 3207, the benefit would be 20 percent smaller at this same age. In neither case would the benefit reduction be actuarially fair; i.e., both proposals envision a permanent reduction in the value of an individual's stream of social security benefits if retirement occurs before age 65. Whatever the magnitude of the response of potential retirees to reductions in available benefits, it is clear that the administration's early retirement proposal would have larger impacts on 62 year olds than Representative Pickle's retirement age proposal. On the other hand, the retirement age proposal would have greater impact on persons 64 years of age and older.

(a) Response to the Administration's Early Retirement Proposal

As indicated above, the administration's proposal reduces the benefit available to a potential retiree by 30 percent if aged 62, 19.3 percent if aged 63, and 8.6 percent if aged 64. Full benefits remain payable at age 65. For the age group 62 to 64 taken as a whole, this works out to a

weighted reduction of approximately 25 percent in social security benefits.[12]

In table 7, the annual probability of retirement among persons aged 62 to 64 was shown to be approximately 0.40. The question is how much this probability will change in response to a permanent 25-percent cut in social security benefits.

The Burkhauser and Parsons (NLS) estimates discussed in the previous section imply that a benefit reduction of this magnitude would result in a 37-percent reduction in retirement probabilities for workers aged 62 to 64. This would lower the annual retirement probability for this age group to roughly 0.25 from 0.40. According to this estimate, if the administration's proposals had been in effect in 1978, the number of early social security awards would have been 513,000 instead of 812,000. In other words, approximately 300,000 fewer persons would have begun to draw benefits in that year.

The Pellechio estimates imply that a permanent 25-percent reduction in benefits (and therefore social security "wealth") reduces retirement probability by a staggering 76 percent. Again using 1978 as an example, the overall retirement probability for workers aged 62 to 64 would have been only 10 percent instead of 40 percent. In this case, total retirements for persons aged 62 to 64 would have only been 205,000. In other words, 600,000 fewer persons would have retired early in 1978 according to the Pellechio model. Pellechio also provides estimates for the age group 65 to 70.

The two models cited above have been constructed for different purposes and, therefore, produce quite different results. While the results from these models are not strictly comparable, they do provide some sense of the possible range of the effects of changes in the value of social security benefits on retirement probabilities at given ages.

On the basis of these two very different estimates, it appears that the administration's proposal, were it in effect in 1978, could have reduced early social security awards by from 300,000 to 600,000 persons. With average benefits of $239 per month, this implies a cost saving of $860 million to $1.7 billion in 1978, exclusive of spouse benefits.

In assessing the impact of the administration's reform proposal on retirement behavior, its impact on workers aged 65 and older must also be considered. Under the administration's proposal, the potential retirement benefits confronting a 65-year-old worker would be unchanged from current law. One should not conclude, however, that the retirement probability at this age will remain constant. Quite the contrary. According to the above estimates, the number of persons still working at age 65 will increase significantly, due to the harsher penalties for early retirement. Moreover, all of these retirement delays are assumed to have been motivated by changes in available social security benefits. Hence, there should be a substantial "catch-up" effect at age 65. Indeed, *one can assume that virtually all workers who postponed retirement at ages 62 to 64 solely because of reduced social security benefits will choose to retire at age 65 when full benefits become available.*

It should be noted that *workers who respond to the administration's proposal by delaying retirement until age 65 generate no net reduction in the value of social security outlays.* Under current law, the benefit stream available at age 65 is actuarially equivalent to the reduced

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[12] Weights are based on the actual number of new social security awards in 1977, by age.

benefit stream available at earlier ages. Hence, the timing of outlays is altered, but not their present discounted value, when workers postpone retirement until age 65. *The only reduction in the present value of social security outlays resulting from the administration's proposal comes from workers who continue to retire early* despite the severe reduction in early retirement benefits. By accepting a benefit reduction in excess of actuarial adjustments, these early retirees reduce the obligations of the social security system. According to the above estimates, anywhere from 200,000 to 500,000 persons would continue to retire early each year even at the expense of sharply reduced benefits. This would have saved the social security trust fund roughly $140 to $350 million in 1978 and larger amounts in subsequent years.

Although the actuarial (present) value of social security outlays are not reduced by delayed retirements under the administration proposal, the trust fund balance does improve. This improvement comes from additional payroll taxes paid by workers during the period in which retirement is postponed (e.g., ages 62 to 64).

(b) Response to the Retirement Age Proposal

The social security proposal advanced in 1981 by Representative Pickle would elicit very different work force responses, for two reasons. First, the early retirement penalty for workers aged 62 to 64 are less than those contemplated in the administration's proposal. Second, the proposed increase in normal retirement age, to 68, results in reduced benefits for workers retiring at ages 65 to 67.

As shown in table 10, Representative Pickle's retirement age proposal would reduce the early retirement benefit by 20 percent for workers aged 62, 19.3 percent if aged 63, and 18.5 percent if aged 64. On average, then, it reduces the available benefit by approximately 20 percent. Because this is less than the reduction contemplated in the administration's early retirement proposal, it would delay fewer retirements. The Burkhauser/Parsons estimates indicate that annual retirements among workers 62 to 64 years old would fall by roughly 30 percent in response to this reform. However, this is probably an overstatement since neither of these models simultaneously considers a later age of eligibility for normal retirement. Under Representative Pickle's retirement age proposal, a 62-year-old worker who delays retirement must wait 6 years for full benefits rather than only 3, as under current legislation and the administration's early retirement proposal. It seems safer to assume that no more than 200,000 workers in this age group would have delayed retirements in response to Representative Pickle's proposal, were it in effect in 1978. Hence, this proposal postpones fewer early retirements than does the administration's proposal (300,000 or more per year).

Representative Pickle's retirement age proposal also discourages retirement at ages 65 to 67, however. A 65-year-old would receive 18 percent less than under current law, a 66-year-old 12 percent less, and a 67-year-old 6 percent less. At age 68, benefits would be payable in full. The average benefit reduction to persons 65 to 67 is in the range of 10 to 12 percent. The Pellechio model, when adapted to allow for such uncompensated benefit reductions, appears to suggest an 18-percent drop in annual retirement probabilities for these workers. This would have resulted in 93,000 fewer retirements in 1978.

It appears, then, that these two proposals are equally effective in delaying retirements. The major distinction between the two proposals is in the age distribution of those delays. The administration's proposal induces later retirements only among workers aged 62 to 64. Representative Pickle's proposal delays retirement not only among this group, but among older workers as well. In terms of cost impact, the administration's early retirement proposal yields no cost savings from delayed retirements; its fiscal returns come solely from reduced payments to early retirees and higher tax receipts from delayed retirements. By contrast, Representative Pickle's retirement age proposal results in reduced benefit outlays to all retirees.

(c) Response to Universal 10-Percent Cut

One last reform option is considered here. This option calls for a 10-percent across-the-board cut in future social security benefits, without changing either the normal retirement age or the discount factor applied to early retirements. This option results in a permanent 10-percent reduction in the value of social security benefits, for all ages.

The only model that appears to contemplate such an across-the-board cut in social security "wealth" is Pellechio's. His model suggests that a 10-percent cut in both current and permanent benefits would lead to a 41-percent reduction in retirement probabilities. In 1978, this would have meant 320,000 fewer retirements among workers aged 62 to 64 and 212,000 fewer retirements among workers 65 and older.

(d) Comparative Responses

Table 11 provides a summary of initial labor supply responses to the three reform proposals discussed above. These are *initial* responses only, and do not consider "catch-up" effects. As noted above, the administration early retirement proposal would be likely to generate a complete catch-up effect, i.e., all delayed early retirements would later occur at age 65. By contrast, catch-up retirements under Representative Pickle's retirement age proposal and the "10-percent" proposals would be fewer, and be partially offset by delayed retirements among older workers.

In assessing these responses, the wide range of estimates must be noted. As discussed earlier, no available models of labor supply encompass all the influences on the retirement decision. Most do not even consider the duration of potential retirement delays, or whether both current income and the actuarial value of future income are to be reduced. Accordingly, table 11 is a *very* rough guide to supply responses.

TABLE 11.—COMPARATIVE SUPPLY RESPONSES

Proposal	Initial decrease in number of retirees, by age group			
	62 to 64 yr old		65 to 67 yr old	
	Burkhauser	Pellechio	Burkhauser	Pellechio
Early retirement (administration)	300, 000	600, 000		
Retirement age (Representative Pickle)	200, 000	400, 000		93, 000
10-percent reduction (administration)		320, 000		[1] 212, 000

[1] The 10-percent across-the-board reduction affects 212,000 persons 65 and over.

Note: These estimates are based on different models of labor supply. Differences between the models lead to the wide range of response estimates. Extrapolations from the models were provided by Thomas Borzilleri.

C. Impacts on Private Pensions

A change in retirement patterns would affect private employers in many ways. Among other things, delayed retirements would reduce turnover, raise wage costs (but not necessarily unit labor costs), and alter promotion patterns. The focus here, however, is on pension costs only.[13]

The impact of delayed retirements on private pension costs will be transmitted through two contradictory effects. The first effect will be the cost savings due to delayed retirements. So long as pension benefits are not actuarilly adjusted, delayed retirements, per se, result in lower pension costs.

Even in the absence of actuarial adjustments, however, pension costs may rise when workers delay retirement. This is because continued employment may increase the years of service and wage base used to compute pension benefits. This is the second effect of delayed retirements on pension costs.

The net effect of delayed retirements on pension costs depends on whether and how fast the service/wage base for pension benefits increase. If the base increases faster than a straightforward actuarial adjustment, pension costs will increase when retirements are delayed. On the other hand, smaller increases in credited years of service or wages may lead to net cost savings. The degree to which continued employment increases pension credits is examined in the next section.

Although all of the social security reform proposals delay many retirements, other retirement decisions are unaffected. That is to say, hundreds of thousands of people will continue to retire early or at age 65 no matter which of the reform options discussed above is adopted. These "nondelayed" retirements will also affect private pension costs.

The immediate cost implications of nondelayed retirements derive from the benefit linkages discussed in chapter II. To the extent that early retirees or others accept lower social security benefits, they may get higher private pensions. The compensating mechanisms here are the direct offsets and other provisions of private pension benefit formulas discussed earlier. Of the three proposals discussed, the 10-percent across-the-board cut would result in the lowest offset costs since the penalties for nondelayed retirements are the smallest.

It should also be anticipated that reduced social security benefits will increase the demands for more generous private pensions, especially on the part of workers who want to retire early. This indirect pressure may lead to wholesale restructuring of private pensions and attendant higher costs.

D. Restrictions on Social Security Reforms Imposed by Private Pensions

Many provisions in private pension plans constrain the work force response to changes in social security benefits and retirement age. No available study of supply responses incorporates the constraints on work force behavior imposed by private pensions.[14] The purpose of

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[13] For a discussion of other related costs, see Bradley Schiller and Donald Snyder, "Projecting Costs of Private Pension Plans: An Analytical Framework," in U.S. Congress, Joint Economic Committee, Special Study on Economic Change, vol. 8, December 1980.

[14] Most data describe pension payments only. See Herbert S. Parnes, Lawrence Less, and Gilbert Nestel, "Work and Retirement Data: National Longitudinal Surveys of Middle-Aged and Older Men, 1966–1976" (Columbus, The Ohio State University, 1980), p. 118.

this section is to describe those pension-plan provisions that constrain work force behavior and show how they interact with social security reform. As will be documented, these provisions inhibit the responsiveness of workers age 65 and over more than the age 62 to 64 cohort.

1. RESTRICTIVE PROVISIONS

Among pension-covered workers, there is great variation in the level of benefits and the provisions that define eligibility for benefits. Of particular interest to policymakers concerned with the work force behavior of older workers are those provisions of pension plans that directly or indirectly limit their continued employment at retirement age. These limits may take the form of direct and explicit restrictions on continued work. Or they may impose indirect financial losses on older workers who choose to continue working. These provisions affect the timing of both firm exit (retirement from a primary job) and labor force exit (full or complete retirement). They are also important determinants of the demand for public transfers and services, especially social security. Major examples of these provisions are defined in table 12 and described in the following paragraphs.[15]

TABLE 12.—*Restrictive pension provisions*

Pension provision:	Description
Compulsory retirement	Age at which a worker can be retired. The employer may agree to exempt an employee from this provision.
Compulsory retirement—minimum service requirement.	Same as above, but with an exemption for short-service employees who do not meet the minimum service requirements to qualify for retirement.
Automatic retirement	Age at which a worker must cease employment.
Maximum age to participate	Age beyond which a worker's wages (if applicable) and years of service are not counted when retirement benefits are calculated.
No service credited after normal age.	Age beyond which years of service are not counted, though wages beyond this age may be factored into the benefit formula.
Maximum years of credited service.	Limit on how many years of service may be counted when benefits are calculated.
Prohibition on employment	Postretirement earnings or employment (often with a competing firm) are expressly forbidden.
Forced early retirement	Involuntary retirement before the normal retirement age, often with a substantially higher benefit (usually double) until eligible for full social security benefits.

(a) *Mandatory Retirement*

Mandatory retirement is the most familiar and direct restrictive provision. There are two variants of mandatory retirement. Compulsory retirement requires all employees to retire at a specified age un-

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[15] For a more complete discussion, see Bradley R. Schiller and Donald C. Snyder, "Restrictive Pension Provisions and the Older Worker," The American University, (mimeo), 1981.

less individually granted an exception by the employer. Automatic retirement, by contrast, permits no exceptions—all employees *must* retire at the specified age. Such provisions are an obvious constraint on employment opportunities of older workers. Workers approaching the mandatory age who desire to continue working must seek new employment opportunities, either via renegotiation with their present employer (compulsory retirement) or an entirely new employer (automatic retirement).

Mandatory retirement provisions have been significantly liberalized by the 1978 amendments to the Age Discrimination in Employment Act (ADEA). This act raised the minimum age for mandatory retirement to 70 from a typical age 65. This change may increase labor supply by 2 percent among those aged 65 to 70.[16] Mandatory retirement still exists, but at an older age.

(b) Uncredited Service

The liberalization of mandatory retirement has increased the significance of other restrictive provisions. The 1978 ADEA amendments preclude mandatory retirement before age 70, but did not require that any resulting increase in employment be "counted" by a firm's pension plan.[17] Upon retirement, a worker's pension benefit typically depends on years of accumulated service and wages earned in the final years of employment. Hence, one major incentive for continued employment is the higher pension benefits that result from extra years of service and the higher wages typically received in later years. This incentive is often mitigated or eliminated by pension-plan provisions that preclude credit for continued service.[18]

The general effect of these restrictive pension provisions is to lower the expected value of total compensation for older workers, and thus the incentive for continued employment. The disincentives take two forms: (1) The older worker foresakes his current retirement benefits if he continues working beyond normal retirement age; and (2) further pension-asset accumulations are denied or actually negative. These losses can be substantial.

Consider a worker age 65 with 30 years of service with his employer. Suppose he is eligible for an annual retirement benefit equal to 1 percent of terminal earnings times years of service, a common benefit formula. If he retired at age 65 with terminal earnings of $20,000 his initial retirement benefit would be $6,000 per year. The real value of his future benefit stream depends on whether this initial retirement benefit is adjusted for inflation. Private firms are not obligated to make inflation adjustments to pensions, nor are they even required to bargain over this issue. Nevertheless, most firms make sporadic, *ad hoc* inflation adjustments, thereby providing partial protection of real pension benefits. In this illustration, we assume an inflation rate of 10 percent per year and partial pension adjustments of 3 percent per year. With these adjustments, the retiree's initial $6,000 annual pension in-

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[16] The Urban Institute, "Mandatory Retirement Study (Part I)," final report, p. 7; see also Phillip Jones, op. cit.

[17] The U.S. Equal Employment Opportunity Commission circulated a draft ruling in April 1980 that would have required firms to credit service past age 65. No ruling was formally proposed however.

[18] Annuity losses from an additional year's work alter the retirement decisions of Federal workers as well. See Gary Burtless and Jerry Hausman, "Individual Retirement Decisions Under the Civil Service Retirement System and Social Security," M.I.T. (mimeo), Apr. 10, 1980, p. 6.

creases to $9,628 by age 81 (his life expectancy). This stream of annual pension benefits is depicted in column (3) of table 13.

The present value of this benefit stream is easily computed. In column (3), the nominal value of the retiree's benefits from ages 65 to 69 and 70 to 81 are $31,854 and $98,711 respectively. Discounted for inflation and interest (at 2 percent real interest) these streams have present values at age 70 of $45,027 and $49,001. Thus, the total present value of the retiree's pension is $94,028 (evaluated at age 70).

TABLE 13.—ALTERNATIVE PENSION BENEFIT STREAMS

	Retire at age 65		Retire at age 70		
				Pension	
Age	Salary	Pension	Salary	With full credit	With no credit
(1)	(2)	(3)	(4)	(5)	(6)
65	($20,000)	$6,000	$20,000		
66		6,180	22,000		
67		6,365	24,000		
68		6,556	26,620		
69		6,753	29,282		
Nominal total, ages 65 to 69		31,854	122,102		
Discounted value at age 70		45,027	169,770		
70		6,956	(32,210)	$11,274	$6,956
71		7,164		11,612	7,164
72		7,379		11,961	7,379
73		7,601		12,319	7,601
74		7,828		12,689	7,828
75		8,063		13,070	8,063
76		8,305		13,462	8,305
77		8,554		13,866	8,554
78		8,811		14,282	8,811
79		9,075		14,710	9,075
80		9,347		15,151	9,347
81		9,628		15,606	9,628
Nominal total, ages 70 to 81		98,711		160,002	98,711
Discounted real value at age 70		49,001		79,426	49,001
Total discounted value at age 70		94,028	169,770	79,426	49,001

Now suppose this worker decides to work 5 more years, to age 70. With wage inflation of 10 percent per year, his wages in the last year of employment would be $32,210, as depicted in column (4) of table 13. With 35 years of service and this higher wage base, his annual pension benefit at age 70 would be $11,274, *if his post-age-65 service and wages were fully credited.* Column (5) of table 13 shows how this pension benefit would increase each year thereafter, with an average, *ad hoc* inflation adjustment of 3 percent. With a life expectancy of 12 retirement years, the nominal value (actual dollars paid) of this benefit stream would be $160,002. After adjusting for interest and inflation, this stream of pension benefits has a present value of $79,426 at age 70.

Notice the income implications of working 5 extra years with fully credited service. In choosing to work until age 70, the worker foresakes 5 years of pension benefits. These foregone benefits have a present value (at age 70) of $45,027. But the present value of the benefit stream *after* age 70 increases by $30,425 (equal to $79,426 minus $49,-001). *Hence, the net pension loss resulting from post-65 employment*

is only $14,602 if that employment is fully credited.[19] This pension loss is offset by additional earnings worth $169,770 column (4) of table 13. The net increase in the value of income is therefore $155,168.

Now suppose the provisions of this worker's pension plan preclude credit for service or wages beyond age 65. He is still permitted to continue working and receive annual wage increases. But his pension benefit is no longer affected by this extra employment. At age 70, the worker is credited with only 30 years of service and $20,000 in base wages—as if he had retired at age 65. His initial pension benefit at age 70 is still computed at $6,000 per year, plus any *ad hoc* inflation adjustments the firm has made in the intervening years. Since *ad hoc* adjustments of 3 percent per year have been assumed, the worker's initial pension at age 70 will be $6,956. Thus, the retiree picks up the benefit stream depicted in the lower part of column (4). The present value of this benefit stream at age 70 is $49,001. Without credits for service beyond age 65, there is no net increase in the value of the post-70 benefit stream.

Working until age 70 no longer looks so attractive. By working 5 extra years, the individual foresakes 5 years of pension benefits, worth $45,027 at age 70 (column 3). Because no pension credits are given for this extra employment, there is no offsetting increase in later benefits. Thus, *the net pension loss is $45,027 if post-65 service is not credited.*

The "bottom line" of these calculations is evident. By working 5 years past age 65, the older worker earns $169,770 of wages. But he foresakes $45,027 of pension benefits if his additional service is not credited. His net income gain is only $124,643 or just 73 percent of his gross wages. In effect, he is paying a pension "tax" of 27 percent! This loss, when combined with regular payroll, income, and implicit social security taxes, effectively destroys any financial incentive to work. In this context, mandatory retirement provisions are redundant.

Losses of this dimension represent the "worst case" in terms of restrictive pension provisions. Yet, a high proportion of workers are covered by plans that explicitly deny *all* service *and* all wages after normal age (22 percent in the BLS and 35 percent in the BTC samples in 1974 and 1975, respectively).[20] On the other hand, the illustration assumes a fairly generous *ad hoc* inflation adjustment to private pensions. With less generous inflation adjustments, the real income gains to extended employment would be even smaller. The illustration is also sensitive to assumed inflation rates. Inflation in excess of 10 percent annually would increase the real-income losses associated with uncredited service.

(c) *Other Provisions*

Other provisions of private plans also restrict opportunities for continued employment. These provisions include direct social security offset, forced early retirement, maximums on years of credited service (regardless of age), and prohibitions on postretirement employment (with other firms). Table 14 indicates the incidence of these and other provisions in 1974. In some cases, the incidence of these provisions has

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[19] This loss will be lower if the pension plan actuarially adjusts benefits to account for the reduced life expectancy at age 70 (versus age 65).

[20] Slightly higher percentages were observed in more recent, but less comprehensive surveys, e.g., by Hewitt Associates and Portland State University. See Lois F. Copperman and Anna M. Rappaport, "Pension and Welfare Benefits for Older Workers," Aging and Work, spring 1980.

changed as a result of the passage of the Age Discrimination in Employment Act Amendments in 1978. Clearly, compulsory and automatic retirement provisions have changed in character, and there may have been changes in the incidence of provisions for crediting service after 65 as well as other provisions. However, the 1974 data is the most recent thorough information on restrictive provisions in plans of all sizes.

In 1974, virtually all workers in defined benefit plans were affected by one or more restrictive provisions. Forty-three percent of workers were covered by plans that denied all covered workers full credit for service and wages beyond normal retirement age (rows (4) and (5): 14 percent are covered by both provisions). Plans covering 30 percent of workers restrict pension credits to short-service workers—those with less than 30 to 35 years of service (row (6)).

TABLE 14.—PERCENTAGE OF ACTIVE WORKERS COVERED BY RESTRICTIVE PENSION PROVISIONS, BY TYPE AND SIZE OF PLAN (1974)[1]

Pension provision	Defined benefit			Profit sharing		
	All	Large[2]	Small	All	Large	Small
	(1)	(2)	(3)	(4)	(5)	(6)
(1) Compulsory retirement:						
(a) Age 65	28.0	27.6	28.9	44.4	25.3	57.3
(b) Age 66 to 67						
(c) Age 68 and over	1.8	1.6	2.1	.3	.7	----------
Total	29.8	29.2	31.0	44.7	26.0	57.3
(2) Compulsory retirement—Minimum service requirement:						
(a) Age 65	1.5	1.1	2.2	.6	----------	1.0
(b) Age 66 to 67						
(c) Age 68 and over	.7	.8	.4			
Total	2.2	1.9	2.6	.6	----------	1.0
(3) Automatic retirement:						
(a) Age 65	5.2	5.6	4.5	2.4	5.9	----------
(b) Age 66 to 67	.9	.2	.6			
(c) Age 68 and over	9.5	10.0	8.5	.3	----------	.5
Total	15.6	15.8	13.6	2.7	5.9	.5
(4) Maximum age to participate:						
(a) Explicit	25.3	21.1	33.0	23.5	20.4	25.6
(b) Implicit	10.6	11.8	8.5	.5	.6	.4
Total	35.9	32.9	41.5	24.0	21.0	26.0
(5) No service credited after normal age	22.4	19.0	28.5	.3	----------	.5
(6) Maximum years of credited service	29.7	27.0	34.5	.9	1.7	.3
(7) Prohibition on employment	48.3	58.7	29.8	6.6	9.5	4.6
Total covered workers	22,506	14,439	8,067	2,936	1,182	1,754

[1] Data from 1974 predates the enactment of the 1978 amendments to the Age Discrimination in Employment Act which raised the mandatory retirement age for most employees to 70. There is currently no complete information available on the incidence of restrictive pension provisions after 1978.
[2] Plans are classified by the number of total participants (the sum of active, retired, and separated workers). Large plans have 5,000 or more total participants.

Source: Bureau of Labor Statistics pension tapes. Authors' calculations.

As should be evident from these examples, older workers contemplating continued firm attachment may confront substantial financial disincentives if their company's pension plan contains provisions that restrict employment by denying pension accruals. The disincentives to continue working may be prohibitive for some, and may easily substitute for more explicit restrictions (e.g., mandatory retirement) on continued employment of older workers.

In assessing the impact of restrictive provisions, an important dichotomy should be noted. Provisions that reduce an older worker's compensation also reduce an employer's cost. In this sense, older workers look more cost-effective at the same time they are losing incentives to continue working. It is likely that the supply-side effects will dominate, and older workers will end up working less. The employer, after all, has the option of replacing his oldest workers with younger workers, whose pension costs will also be limited.

2. EFFECT ON SOCIAL SECURITY RETIREMENT

The disincentives to continue working past early retirement age (60 or 62) that confront older workers will also affect attempts to encourage later retirements. Over half of all older workers are covered by pensions, and half of these may face restrictions on employment. Thus it is possible that as many as one out of four older workers may be constrained in delaying normal retirement by the provisions of their pension plan.

Denial of pension credits for employment beyond the normal retirement age (typically, age 65) reduces the benefit stream an older worker would otherwise be entitled to. This restriction affects both long- and short-service workers, as age is the only criterion used to determine whether pension credits are granted for continued employment.

In contrast to explicit restrictions by age, some pension plans restrict the years of service that may be counted in calculating retirement benefits. Long-service workers—those with 30 or 35 years of service at retirement age—are denied further pension-asset accumulations from continued employment. Although short-service older workers are unaffected by this provision, many younger retirees (age 62 to 64) have accumulated enough service to be affected by this restriction. Table 14 shows that 30 percent of covered workers fall under this restriction (column 1, row 6).

The response of workers aged 62 to 64 to social security reform is also constrained by the prohibition on postretirement employment (row 7). Together, one or more of the last three restrictive provisions noted in table 14—all of which may affect both early and normal retirees—affects three out of four workers in defined benefit plans. Hence, younger (62 to 64) and older (65+) potential retirees are both significantly constrained by restrictive pension provisions.

3. SUMMARY OF PRIVATE PENSION CONSTRAINTS

Regardless of what reform option is ultimately adopted for social security, it will have to be responsive to the structure of the private pension system. As this section demonstrates, private pension plans contain many provisions that limit work incentives and opportunities. Public-pension reforms intended to increase employment of older persons cannot ignore these constraints. Reducing social security benefits or eligibility, for example, may leave older workers between a rock (restrictive provisions of private plans) and a hard place (reduced social security). At a minimum, reform discussions must examine these potential linkages, to avert these institutional barriers to successful social security reform to extend the working lives of older persons.

Chapter IV

CONCLUSIONS

The purpose of this study has been to identify and examine the linkages between social security reform and the private pension plan system. As documented in this report, the two systems are intertwined in many ways. The primary linkages occur through the benefit formulas of private pension plans and the varied (dis)incentives to retire built into both systems.

It is exceedingly difficult to draw general conclusions about the impact of social security reform on private pensions. The difficulty originates in the heterogeneity of private plans. Some plans contain no benefit links to social security and are, therefore, not directly affected by changes in social security benefit levels, eligibility ages, or the taxable wage base. Other plans are directly linked to social security benefit levels, tax ceilings, or eligibility ages, and will generally be burdened with higher costs under proposed social security reform. *Those pension plans with direct offsets.and other benefit linkages to social security will incur the largest cost increases if social security benefits are reduced.* Pension plans with contributions or benefits tied to the taxable wage base will generally incur lower costs if the taxable wage base is increased.

The same kind of diversity is apparent in the indirect linkages forged out of potential labor force behavior. Some private pension plans discourage continued employment by denying full credit for additional service or wages or by imposing other restrictive provisions. Workers covered by such plans can be expected to exhibit smaller supply responses to social security reform than workers unconstrained by such provisions. Workers not affected by restrictive provisions are not only more likely to delay retirement but also to increase the total cost of private pensions. *Hence, pension plans without restrictions on extended employment are likely to incur higher costs as a result of social security reform.*

In general, linkages which result in higher pension costs to private employers imply an increase in the retirement income of affected workers, relative to other workers not covered by pension plans or in unlinked plans. Table 15 provides a summary of how the impact of social security reform on individual workers will be altered by private pension plans. The benefit reductions contemplated in pending social security reforms will reduce the average income of retirees. Workers covered by private pension plans with benefit linkages will be sheltered from the full brunt of those income cuts, however, by increased pensions. Noncovered workers and workers in plans without benefit links can only adjust their labor force attachment in order to moderate social security-induced income effects. Such adjustments will be con-

strained, however, for workers covered by pension plans with restrictive provisions. Indeed, workers in some such plans will have to bear the full brunt of any benefit reductions imposed by social security. Accordingly, *the retirement incomes of workers with private pension benefit links will be least affected by social security benefit reductions; the incomes of workers with restrictive private pension employment provisions will be most affected.*

TABLE 15.—NATURE OF SOCIAL SECURITY REFORM IMPACT

Private pension links	Income effect	Retirement effect
Benefit links (e.g., direct offsets)_____	Moderated by increased pensions.	Incentive to delay diminished.
Employment links (e.g., restrictive provisions).	Intensified_____	Incentive to delay diminished, especially workers over age 65.

The labor supply responses to social security reform will be distributed similarly. Because benefit linkages moderate social security reductions, the intended incentives for delayed retirement will be muted. Hence, *workers in private pension plans with social security benefit links are less likely to delay retirements than workers not so protected.* The incentives for delayed retirement are even less for workers subject to the restrictive employment provisions of private pension plans. Such workers confront the possibility of reduced pension benefits if they work longer to qualify for full social security benefits. As a result, *workers over age 65, subject to restrictive private pension provisions, are least likely to delay retirement in response to social security reform.*

These varied effects raise questions about the equity and effectiveness of any social security reforms. The impact of reform will not be distributed evenly, either among workers or across private firms. Moreover, the ability of social security reform to achieve specific cost or retirement objectives will be limited by the structure of private pension plans. At a minimum, these distributional issues should be included in the debate over social security reform.

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