

they paid and, for many of these women, the additional retirement benefit is small. (Most female workers, however, are insured for death and disability benefits during part of their adulthood as a result of their Social Security contributions.)

Second, two-earner couples will generally receive lower total benefits than one-earner couples with the same total covered earnings. This problem arises because a married woman who did not work in covered employment is nonetheless receiving a benefit equal to 50 percent of that of her husband, while a two-earner couple may receive a smaller spousal benefit or none at all.<sup>12/</sup> This problem is exacerbated for surviving spouses, most of whom are women, because they are generally eligible to receive benefits equal to either 100 percent of their deceased spouses' benefits or their own retired worker benefits, whichever is larger.<sup>13/</sup> Thus, the survivor of a two-earner couple may receive much less than the survivor of a one-earner couple with the same total earnings--and, therefore, approximately the same total Social Security payroll taxes.

These problems are illustrated in Table II-1. Consider, again, the earlier illustration--a couple in which only one spouse worked in covered employment who retired at age 65 in 1984 (the first block in the table). If the worker's average indexed monthly earnings (AIME) were \$1,000, the monthly retirement benefit in that year will be \$546. The spouse (assumed to be the same age) will be entitled to an auxiliary benefit equal to 50 percent of the retirement benefit--\$273. Thus, the couple will receive \$819 per month.

Under current law, and assuming neither spouse had subsequent earnings, they will continue to receive total benefits of \$819 per month, adjusted each year for inflation, for as long as they both live. When either spouse dies, the total benefit will be reduced to \$546 (adjusted for inflation)--that is, the worker benefit if the nonworker dies first or the survivor benefit if the worker dies first.

Now consider the case of a two-earner couple with the same combined earnings history, but with one spouse accounting for three-quarters of the total rather than all of it (Case 2 in the table). The higher earner will be

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12. The worker benefit for a one-earner couple would provide a lower replacement rate than would the combined worker benefits for two spouses with the same total earnings because of the progressivity of the PIA formula. The auxiliary benefit, however, would more than offset this effect.
  13. The amount received depends both on the age at which the deceased worker began receiving retirement benefits (if at all) and the age at which the surviving spouse begins receiving benefits.

TABLE II-1. MONTHLY BENEFITS UNDER CURRENT LAW  
FOR ONE- AND TWO-EARNER COUPLES AND  
FOR SURVIVORS AT AGE 65 (in dollars) a/

	Preretirement Average Indexed Monthly Earnings (AIME) <u>b/</u>	Initial Retirement Benefit <u>c/</u>	Survivor's Benefit <u>d/</u>
<b>Case 1: One Earner</b>			
Couple	1,000	819	--
Spouse 1	1,000	546	546
Spouse 2	0	273	546
<b>Case 2: Unequal Earnings</b>			
Couple	1,000	697	--
Spouse 1	750	447	447
Spouse 2	250	250	447
<b>Case 3: Equal Earnings</b>			
Couple	1,000	698	--
Spouse 1	500	349	349
Spouse 2	500	349	349

- a. In each case, it is assumed that the husband and wife were both age 65 in 1984 and, if working, retired in that year. Monthly benefit amounts are for 1984. Under current law, these benefits are increased each year for inflation.
- b. The AIME is an average based on a worker's covered earnings record, with each year's earnings adjusted for growth in average covered earnings.
- c. For spouses, the higher of the person's monthly benefit as a worker or as the spouse of a worker.
- d. The higher of the person's monthly benefit as a worker or the widow (or widower) of a worker.

entitled to a benefit of \$447 and the lower earner to \$250.<sup>14/</sup> The lower earner will not be eligible for the spousal benefit because the worker's benefit exceeds half of the higher earner's PIA--\$223. Therefore, their combined monthly benefits equal \$697.

This illustrates the problems identified above: First, the lesser-earning spouse receives very little additional retirement benefit from the Social Security taxes paid--\$250 versus \$223. Second, this couple receives \$132 per month less than the one-earner couple that had the same total earnings (and might have paid the same total Social Security taxes). Moreover, the death of either spouse of the two-earner couple would reduce the benefit for the survivor to \$447--\$99 less per month than the survivor in the first case would receive.

The situation for a surviving spouse is even worse if the two spouses each had the same earnings history, as illustrated by the third couple in the table. This couple receives \$698 per month in total retirement benefits--about the same as the other two-earner couple and \$131 less than the benefit to which the one-earner couple is entitled. The survivor in this couple, though, would only receive \$349--almost \$200 per month less than the survivor of the one-earner couple.

The Social Security benefit structure was developed in an era when a much smaller fraction of married women worked for pay than is the case today. As recently as 1950, only 20 percent of married women were in the labor force, compared with over 50 percent now. The provision of spousal benefits reflected the need for higher retirement income for couples than for individuals to maintain a specified standard of living. Although it was always the case that spousal benefits resulted in the Social Security taxes paid by two-earner couples providing less retirement benefits than would be received by comparable one-earner couples who paid the same taxes, this issue was not as salient 30 or 40 years ago as it is today.<sup>15/</sup>

#### Treatment of Divorced Women and Widows

Benefit adequacy is of particular concern for elderly women without husbands. In the case of divorced women, this problem occurs because they

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14. The progressivity of the PIA formula is illustrated by the smaller proportional difference in their benefits than in their earnings.
  15. See Richard Burkhauser and Karen Holden, ed., *A Challenge to Social Security* (New York, New York: Academic Press, 1982), especially pp. 1-13, for a concise history of spousal and survivor benefits and the issues raised at the time of their enactment.

are generally eligible for benefits of 50 percent of their ex-husbands' benefits (if they were married at least 10 years and as long as their former husbands are alive). Unlike married women, however, they typically do not have anyone else's benefits to draw on in meeting household expenses. For divorced women, therefore, spousal benefits may provide inadequate levels of support.

For widows, concern with the adequacy of benefits reflects the size of this population and their relatively high poverty rate. Nearly half of all poor elderly beneficiaries in 1984 were widows.<sup>16/</sup> Elderly women are more likely to rely on Social Security benefits for the major part of their incomes than are couples and elderly men. In 1984, 20 percent of unmarried female beneficiaries (most of whom were widows) age 62 and over had total incomes below the poverty line, compared with about 6 percent of elderly couples who were receiving benefits and 16 percent of elderly unmarried male beneficiaries.

In addition to these general benefit adequacy issues, two specific problems have been raised in the context of the earnings sharing debate. First, under current law, widows are not generally entitled to survivor benefits until they reach age 60 (age 50 if disabled) unless they are caring for a dependent child. The period during which widows are not eligible is known as the "widow's gap." Second, a divorced spouse must have been married for at least 10 years to qualify for spousal benefits. Thus, someone who was a fulltime homemaker for nine years and then was divorced would not have accrued any credit toward eligibility for Social Security benefits either as a worker or as a spouse during that period.

The substantial rise in the divorce rate (not yet reflected in the cohorts who have already retired) has increased attention to the treatment of ex-spouses within the Social Security benefit structure and has already resulted in amendments to the original benefit structure. Until 1965, divorced persons were not entitled to spousal or survivor benefits unless they were caring for eligible children. Amendments in that year generally provided benefits to divorced women who had been married at least 20 years and were dependent on their ex-spouses. Subsequently, the marriage duration requirement was reduced to 10 years, the dependency requirement was eliminated, and the benefits extended to divorced husbands. These amendments ameliorate the problems that many divorced women without covered work of their own would otherwise face.

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16. Of the 3.3 million beneficiaries age 62 and over in families with incomes below the poverty line in 1984, 0.8 million were married, 0.4 million were nonmarried men, and 2.0 million were nonmarried women. Widows accounted for 1.6 million of the poor, nonmarried women.

## CHAPTER III

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### EARNINGS SHARING PLANS

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### AND CRITERIA FOR THEIR ASSESSMENT

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As shown in the preceding chapter, the Social Security benefit structure does not always provide similar treatment for families with the same earnings, and may be inadequate for the needs of some recipients, particularly elderly divorced and widowed women. The enactment of earnings sharing has been proposed as a step in relieving both types of problems--particularly that of equal treatment. Proponents hold that it would yield a benefit structure better suited for the social and economic realities of the late twentieth and early twenty-first centuries.

Some critics of the current benefit structure nonetheless oppose earnings sharing. They view the transition from the current system as too costly or too likely to disrupt the lives of recipients, including some of those whom earnings sharing is intended to help. Moreover, earnings sharing would be difficult to implement and would not assist beneficiaries in the near term.<sup>1/</sup> Other opponents of earnings sharing contend that the rationale for auxiliary benefits for spouses and survivors is basically sound, even though social and economic conditions have changed. Auxiliary benefits are one way of helping to provide one-earner couples and survivors with adequate benefits.

This chapter describes how earnings sharing proposals address the problems discussed in Chapter II, and presents criteria for assessing them. The criteria are the same as those used in the HHS report.

### EARNINGS SHARING PROPOSALS

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"Earnings sharing" proposals all contain one key element: they would divide the earnings credits accumulated by spouses during a marriage evenly between them for the purpose of computing entitlements to Social Security benefits. Earnings sharing proposals vary in their specific provisions. Their general rationale, however, is that marriage is a partnership and

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1. The incremental options discussed in the HHS report (Chapter VII) and in Chapter V of this report illustrate other methods of addressing one or more of the criticisms of the current structure.

therefore any income earned by either spouse may be said to belong to both of them. The credits earned by a couple toward future Social Security benefits would be treated in a manner similar to community property assets, subject to equal distribution at the termination of a marriage. For marriages that remain intact, most earnings sharing proposals would require or allow a splitting of the earnings credits at the time of eligibility for benefits. Benefits for each spouse would be based on a combination of the person's own earnings from periods in which he or she was not married and a half share of the combined earnings in periods of marriage.

Most earnings sharing plans would eliminate the present law auxiliary benefits for adults based on marriage to a beneficiary (or received as a survivor of a deceased spouse). The earnings sharing approach would thus address two problems identified in the preceding chapter with respect to the treatment of two-earner couples in intact marriages:

- o Workers' benefits would no longer be offset by spousal benefits, and hence increased covered earnings would usually result in increased retirement benefits.
- o Likewise, the combined retirement benefits would no longer be affected by the proportion of total covered wages earned by each spouse. All couples having identical combined earnings histories (and of the same age, married to each other throughout their careers, and retiring at the same time) would receive identical benefits regardless of whether these combined histories were the result of one spouse's work or that of both spouses.

The two plans described here are those examined in detail in the HHS report. Others could be formulated by varying the specific provisions. For example, both plans include a provision that enables a surviving spouse (including divorced surviving spouses) to inherit the decedent's earnings record for the years in which they were married. Alternatively, an earnings sharing proposal could be developed that did not contain an inheritance provision. Another alternative would be to permit inheritance by a divorced spouse only if the death occurred within a specified number of years after the marriage ended. Without inheritance or some other method of providing benefits to surviving spouses, however, many more women could incur substantial reductions in Social Security benefits upon the deaths of their husbands or former husbands. 2/

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2. Appendix E of the HHS Report (pp. 359-382) discusses several policy issues that would need to be resolved in developing an earnings sharing plan, including whether special provisions should be made for surviving spouses and divorced surviving spouses.

Earnings sharing options can be characterized by their long-term features and by the transition provisions that are included to phase them in. The former indicate how the Social Security benefit structure would be altered once the new system was fully implemented. The transition provisions are designed to protect some beneficiaries in the short run who would otherwise lose--for example, those who would lose because their earnings records would have been shared for only part of their careers. The transition provisions are given considerable attention by developers of earnings sharing proposals because they could determine the benefit levels of a major fraction of beneficiaries well into the twenty-first century.

Two long-term plans are analyzed in this report, along with four sets of transition provisions. The two plans are referred to in the HHS report as "Generic Earnings Sharing" and "Modified Generic Earnings Sharing" (shortened to "Modified Earnings Sharing" here). The first two sets of transition provisions are referred to in the HHS report as "Transition I" and "Transition II." The third set was developed by the Technical Committee on Earnings Sharing after the completion of the HHS report and was specifically designed for the Modified plan; it will be referred to here as "Transition III." The fourth set would guarantee recipients their benefits under current law if these benefits were higher than those under an earnings sharing plan. This type of provision is referred to in the HHS report as a "No-Loser" plan; the specific guarantee analyzed by CBO will be referred to as "Transition IV." The plans and transitions are described below.

### Generic Earnings Sharing Plan

The key features of this plan, once fully implemented, are:

- o The Social Security benefit structure would be converted to one in which the earnings records of husbands and wives would be evenly divided during years of marriage and benefits would be based on each person's record.
- o In addition, a surviving spouse would be credited with the entire amount of the decedent's covered earnings for each year of marriage (with the restriction that the survivor's record each year could not include more than the taxable earnings base for that year).
- o Auxiliary benefits for spouses and for surviving spouses would be abolished.

In addition, earnings sharing would terminate on the date of a final divorce decree; each person's insured status would be based on the earnings credited to his or her record after sharing and/or inheritance; and benefits for children and the family maximum would be based on a worker's earnings record, as adjusted by shared or inherited earnings.

### Modified Earnings Sharing Plan

Several modifications of the Generic plan have been proposed to help people in certain circumstances and to avoid certain problems that would otherwise result from earnings sharing. The key provisions and the reasons for their inclusion are:

- o Earnings records would be combined and shared only when a couple divorced, when both spouses claimed worker benefits, or when the lesser-earning spouse claimed disability benefits. By sharing earnings then, rather than as earnings were credited, certain beneficiaries would not lose benefits relative to current law as they would under Generic earnings sharing; for example, if only the higher-earning spouse of a lifelong couple retired, he or she would be able to claim current law benefits until the other spouse retired.
- o Both spouses would be insured for benefits if either spouse was considered insured under current law; this would prevent a spouse who would have been eligible for worker or auxiliary benefits under current law from losing eligibility under earnings sharing.
- o The current law special minimum benefit provision would be modified by lowering the earnings level needed to qualify for a year of coverage; by adding five years of coverage that would be countable; by indexing the value of a year of coverage by a wage index, rather than by a price index; and by including years of child care as years of coverage.<sup>3/</sup> These modifications would especially help beneficiaries with many years of employment and low earnings.

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3. Up to 10 years in which a person had earnings less than the amount needed for a year of coverage and was caring for children under age six could be included in the calculation of his or her PIA under the special minimum provision.

In addition, a child who was entitled to benefits based on both parents' earnings records would receive a benefit based on the combined earnings record of the parents. Under the Generic plan, the child would only receive the higher of the two. 4/

### Transition Provisions

The earnings sharing plans examined in detail by HHS and CBO are prospective--that is, earnings before 1990 would not be shared and benefits would be based on shared earnings records of workers who became eligible in 1995 or later. Each of the sets of transition provisions analyzed in Chapter IV would permit some people who would be better off under current law than they would be under an earnings sharing plan to base some or all of their benefits on the current benefit structure. Their main features are outlined in Table III-1.

Transition I. Under Transition I, surviving spouses (including surviving divorced spouses) who would be eligible for auxiliary benefits under current law would receive these benefits (if they were higher than the benefits under the new benefit structure) if based on a marriage that began before 1990 or on a marriage to a worker who died before 1995. Similarly, divorced spouses would be eligible for the auxiliary benefits if they were based on a marriage that began before 1990.

In addition, people becoming eligible for benefits as retired workers or spouses would be guaranteed a percentage of current law benefits (as an alternative to their benefits under earnings sharing). The percentage guaranteed would equal 100 percent for beneficiaries becoming eligible in 1995 and would decline by one percentage point per year to 64 percent in 2030. There would be no guarantee for newly eligible beneficiaries after 2030.

Transition II. Under Transition II, there would be a much faster transition to a benefit structure based solely on earnings sharing:

- o Survivors of workers who died before 1995 would be eligible to receive the higher of the benefits payable under current law or under earnings sharing; and

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4. Children of deceased homemakers would be provided benefits under a special rule; their benefits would be based on one-half of the surviving worker's credits accumulated during the marriage.

TABLE III-1. SUMMARY OF TRANSITION PROVISIONS FOR RETIRED WORKERS, SPOUSES, AND SURVIVORS

Benefit Category	Transition			
	I	II	III	IV
Worker	100 percent guarantee for people reaching age 62 in 1995, declining to 64 percent for people reaching age 62 in 2030	No guarantee for worker benefits	Declining individual benefit guarantee with rate of decrease determined by amount of PIA	100 percent guarantee of combined benefits of couple; if not married, then 100 percent guarantee of individual benefit
Spouse	Same as for workers	100 percent guarantee based on marriages that began before 1990 for spouses who reach age 62 in 1995; guarantee declines to 0 for spouses who reach age 62 in 2005	Same as for workers	100 percent guarantee of combined benefits of couple
Divorced Spouse	100 percent guarantee based on marriages that began before 1990; same guarantee as for workers if based on later marriages	Same as for spouses	Same as for workers, except that current law divorced spouse benefit would equal two-thirds, rather than one-half	100 percent guarantee
Survivor	100 percent guarantee for survivors (including divorced survivors) on basis of marriages that began before 1990 or marriages to workers who died before 1995	100 percent guarantee for survivors (including divorced survivors) on basis of marriages to workers who died before 1995; declining guarantee on basis of marriages that began before 1990	Same as for workers	100 percent guarantee

- o People who would be eligible to receive benefits as spouses, divorced spouses, surviving spouses, or divorced surviving spouses from marriages beginning before 1990 would be eligible to receive the higher of the benefit based on shared earnings or a transitional benefit; the latter would be a declining percentage of the benefit under current law, such that spouses' benefits would not be available to people becoming eligible after 2005 and survivors' benefits would cease for those becoming eligible after 2015.

Transition III. The Technical Committee on Earnings Sharing, a private group that has been developing an earnings sharing plan, suggested transition provisions with characteristics different from those of either Transition I or Transition II. The protection provided by Transition III would be a declining individual benefit guarantee designed to provide the smallest losses to low-benefit recipients. The first bracket in the benefit formula plus a portion of the second bracket would be completely guaranteed from 1996 through 2030.<sup>5/</sup> The guarantee for the remainder of the second bracket would gradually decline, based on the date that a person became eligible for benefits--95 percent of current law benefits still would be guaranteed in 2005, 85 percent in 2015, 65 percent in 2025, and 50 percent in 2030. The guarantee for the highest bracket would be rapidly phased out, ending for those becoming eligible in 2010 or later. Thus, workers with extremely low PIAs would be protected fully against a reduction from current law because of the implementation of earnings sharing if they become eligible in 2030 or earlier; workers reaching age 62 by 2030 with average earnings would have about 70 percent of their benefits guaranteed; and workers whose earnings histories were at the maximum would only have about half of their current law benefits guaranteed.<sup>6/</sup>

In addition, the guarantee for divorced spouses under Transition III would be based on two-thirds of the former spouse's benefit, rather than the one-half provided by current law. In effect, this transition provision would be equivalent to increasing the auxiliary benefit for divorced spouses whose former husbands or wives were still alive. The purpose of this provision would be to increase the auxiliary benefit until earnings sharing would have become sufficiently mature to provide help to these women.

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- 5. This guarantee would be applicable to the first bracket of the PIA formula or the poverty threshold, whichever is higher.
  - 6. Sheila Zedlewski, "The Distributional Consequences of an Earnings Sharing Proposal," *Project Report No. 3344* (Washington, D.C.: The Urban Institute, December 1984), p. 19, and conversations in July 1985 with Edith Fierst, Chair of the Technical Committee on Earnings Sharing. As of September 1985, the Technical Committee had not issued a final report on its plan.



Transition IV. Finally, under Transition IV, beneficiaries would be guaranteed 100 percent of current law benefits for a specified period or indefinitely. The specified provisions modelled by CBO would guarantee married couples their total combined benefits and other beneficiaries their individual benefits under current law. 7/

#### CRITERIA FOR ASSESSING OPTIONS

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Proposals to change the Social Security benefit structure can be assessed in terms of their effects on the fairness of the system, on the adequacy of benefits, and on total costs. The HHS report contains six standards of evaluation for assessing specific earnings sharing plans: 8/

- o Equalize benefits for one- and two-earner couples with the same total earnings;
- o Equalize benefits for survivors of couples with the same total earnings;
- o Increase benefit adequacy for women by taking account of time out of the paid labor force for child care and/or homemaking responsibilities;
- o Increase benefit adequacy for divorced women;
- o Increase benefit adequacy for widows; and
- o Expand eligibility to provide disability benefits for homemakers and to provide survivors' benefits to widows who do not qualify because they are under age 60 and do not have children under age 16 (the "widow's gap").

In addition to these standards for assessing effects on benefits, HHS also examined the effects on total costs of implementing each proposal. Any option that would increase the Social Security benefits payable to

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7. The "no loser" option analyzed by HHS would guarantee each person his or her current law benefit, even if one spouse's loss would be less than the other spouse's gain. The effects of this alternative are briefly discussed in Chapter IV.
  8. HHS, p. 18.

some people must either reduce the benefits to others or increase total costs, relative to their amounts under current law.

The first two standards listed by HHS have to do with the fairness of the current benefit structure. One indicator of fairness (or equity) is the extent to which beneficiaries with similar covered earnings receive similar Social Security benefits. Meeting these standards would achieve two objectives of proponents of earnings sharing--to have the combined retirement benefits of a couple and each survivor's benefit no longer affected by the proportion of total covered wages earned by each spouse. Couples in which the wives had substantial work histories (and their survivors) would gain relative to other couples.

The other standards address the adequacy of benefits for various groups. Although HHS expresses these standards in terms of broad demographic groups--for example, homemakers, divorced women, and widows--it is clear from its discussion of the underlying issues and from statements by advocates of earnings sharing proposals that the biggest concerns about adequacy involve women with the lowest benefits under the current structure. The objectives of proponents include higher benefits for these women.

The analysis in the HHS report uses these standards to evaluate earnings sharing plans. The major part of the analysis is based on a simulated beneficiary population in the year 2030, disaggregated by marital status in that year. Estimates are reported of whether each group, on average, would have higher or lower benefits under a specific plan, relative to current policy, and what percentages of each group would gain and lose as a result.

The main purpose of the remainder of this study is to indicate what the structure of benefits might look like under alternative plans, comparing those distributions with the distribution of benefits projected under current law.<sup>9</sup> Less emphasis is given to the percentages that would gain or lose relative to current law. Judgments about whether one plan is superior to another, in the long run, are assumed to reflect values concerning the relative importance of achieving various objectives. The identification of gainers and losers (especially losers) supplements this information by helping to pinpoint the circumstances in which change in the law might have a major effect on a person's benefits. It also helps to identify circumstances in which transition provisions or supplemental provisions might be warranted.

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9. As discussed in Chapter IV, CBO's analysis concentrated on the effects on beneficiaries age 62 or older. It did not address the success of each plan in achieving the objectives concerning disabled homemakers and the widow's gap.



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The analysis illustrates the central dilemma that the achievement of any one of the objectives listed above must involve either spending additional money on Social Security benefits or reducing the benefits of others or both (compared with amounts under current law). Moreover, achievement of one objective could move the benefit structure further away from the achievement of another. Adding provisions to attempt to achieve multiple objectives generally would raise the total cost.<sup>10/</sup> The issue, then, is one of tradeoffs between lower benefits for some recipients or higher taxes overall.

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10. One option not analyzed in the HHS report or by CBO is to offset the cost of an earnings sharing plan by an across-the-board reduction in the growth in Social Security benefits. In that case, total outlays would not increase and the tradeoffs would all involve gains for some beneficiaries at the expense of losses for most other beneficiaries; the only unaffected beneficiaries would be those whose gain from earnings sharing equalled their loss from the general benefit reduction.

## CHAPTER IV

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# ANALYSIS OF EARNINGS SHARING PLANS

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The enactment of earnings sharing would result in a fundamental change in the methods used to compute Social Security benefits. The current principle that benefits derive from a record reflecting a person's earnings would be replaced by one in which the earnings record would reflect half of the combined earnings of the person and spouse during years of marriage. Moreover, auxiliary spousal benefits would be abolished. Instead, each spouse would have his or her own record.

This chapter analyzes the effects of several earnings sharing options. After a brief description of the methodology, it presents estimates of the potential long-term costs and effects on major beneficiary groups of the Generic and Modified plans. These estimates are based on hypothetical options in which earnings are shared retrospectively--that is, they assume a population that has experienced earnings sharing since 1951. This approach is useful for understanding the long-term characteristics of the Generic and Modified plans themselves. As noted in the HHS report, however, earnings sharing proposals typically approach sharing on a prospective basis--with sharing of earnings beginning five years after enactment and benefits based on shared earnings beginning ten years after enactment--and include special provisions for the transition to the new system. The effects in a particular year would depend on the specific transition provisions in use.

The prospective analysis reports CBO's estimates of the potential impacts of prospectively implementing five specific earnings sharing options, each based on either the Generic or Modified plan. In that section, emphasis is placed on the effects on costs and on beneficiaries of the transition provisions. The final section provides a brief summary of the results.

## METHODOLOGY AND LIMITATIONS

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The estimates of the effects of implementing each option were made by applying the plan's benefit determination rules to a simulated population in the year 2030; benefit levels are expressed in 1984 dollars. The determina-



tion of a person's Social Security benefits under current law or under any of the earnings sharing options examined in this study requires detailed information about, among other things, year-by-year covered earnings for both the person and any current or former spouse, dates of birth and of eligibility for worker benefits, and relationships to other people.

### Underlying Assumptions

The simulation methodology used by CBO is basically that of HHS.<sup>1/</sup> As in the HHS report, most of the estimates reported below were based on a simulated population in the year 2030 that was assumed to have had work histories and demographic histories consistent with the II-B assumptions made by the Social Security Actuary in 1983 for the purpose of projecting the status of Social Security trust funds.<sup>2/</sup> For example, it was assumed that the labor force participation rate of women will continue to increase, but at a somewhat slower rate than during the past several decades.<sup>3/</sup> It was also assumed that divorce rates of people married for different durations will remain at their current levels.

1. The simulations are based on modified versions of the dynamic simulation model (DYNASIM) developed by Guy Orcutt and his colleagues at the Urban Institute in the early 1970s. Guy Orcutt, Steven Caldwell, and Richard Wertheimer II, *Policy Exploration Through Microanalytic Simulation* (Washington, D.C.: The Urban Institute, 1976). The version on which CBO's analysis is based is described by Jon Johnson, Richard Wertheimer II, and Sheila Zedlewski, "The Dynamic Simulation of Income Model," Vols. I and II, *Project Report 1434-03* (Washington, D.C.: The Urban Institute, November 1983).
2. *1983 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds*. Each year, the Office of the Actuary develops four sets of projections. The assumptions under alternative I are the most optimistic in terms of the financial wellbeing of the Social Security trust funds; alternative III contains the most pessimistic assumptions; and alternatives II-A and II-B are the intermediate ones. This was the latest report available at the time that the simulated populations used by HHS and by CBO were created. Similar assumptions were made by the Office of the Actuary in 1985.
3. Under the Office of the Actuary's II-B projections, the labor force participation rates of women in most age groups would continue to rise until early in the next century and then level off. For example, the participation rate of women between the ages of 40 and 44 would increase from 70 percent in 1985 to about 78 percent in 2010 and remain there for the next 50 years. Because the age composition of the population would be changing throughout this period, with a larger share of the female population over age 65, the participation rate for women as a group is projected to decline after the year 2000, but the age-adjusted rate is not. See Social Security Administration, *Economic Projections for OASDI Cost Estimates, 1983, Actuarial Study No. 90* (February 1984), Table 10G.

The version of the simulation model used by CBO differs slightly from that used in the HHS study. CBO's version was used to simulate a population based on the economic and demographic assumptions used by HHS, with similar results for elderly beneficiaries.<sup>4/</sup> Because CBO and HHS used different versions of the same simulation model (DYNASIM), there are minor differences in the two sets of estimates. These mostly involve differences in the number of beneficiaries in each group, rather than any substantial dissimilarities in estimated effects of earnings sharing. In addition, estimates of the number of beneficiaries who would gain or lose in the simulation year are displayed in this report's tables based on the number whose benefit would change by at least 5 percent--rather than the 1 percent used in most of the HHS tables. This does not reflect any conflict between the two sets of results.

CBO's version of the model was then used to simulate a population based on alternative assumptions about women's future labor force activities and about future divorce rates. This enabled CBO to examine the sensitivity to these assumptions of some of the estimated effects of earnings sharing. The results are included in the discussion of the estimated effects of earnings sharing plans with transition provisions later in this chapter and in the discussion in Appendix A of the uncertainty of cost projections. In brief, the alternative assumptions of higher female labor force participation and divorce rates that were made did not result in any major differences in the estimated effects of earnings sharing.

### Chances of Error

Estimates of the Social Security benefits that would be paid in a future year under current law or under alternative plans are necessarily subject to a very wide range of errors. It is impossible to predict accurately the values of the many variables on which these estimates depend. Even if the specific set of aggregate assumptions from the Office of the Actuary were to be correct, errors could still result from failure to project accurately the individual relationships. If, for example, the projections of divorce rates were accurate, but the extent to which divorces occurring among couples in which the wives were fulltime homemakers was understated, the value to divorced women of auxiliary benefits could be understated as well.<sup>5/</sup>

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4. Further discussion of the simulation methodology used by HHS and CBO and its limitations is provided in Appendix B.
  5. Another potential source of error is that the implementation of a change in the Social Security benefit structure could cause some people to change their behavior. For example, a worker whose benefits would be reduced under an earnings sharing option (relative to current law) might delay retirement.

For these reasons, the estimates presented in this report, as well as those in the HHS report, should be interpreted as indicative of what might occur as a result of implementing the options examined, compared with continuing the current benefit structure. The estimates of the benefits that would be paid to recipients with specified characteristics, employment and marital histories, and behavior should be correct, given the assumptions made, but the numbers of people in each group are difficult to predict. The methodology probably results in estimates that are more accurate in terms of the relative effects of one plan versus another than in terms of their absolute effects. The reason for expecting this is that many of the sources of error would affect the accuracy of the estimates of the number of beneficiaries or the benefit levels under all of the plans.

One dimension in which the simulations are likely to be especially inaccurate is in identifying the population eligible for disability insurance. The number will depend on how many people will be physically or mentally impaired and will apply for benefits, as well as the rules used to determine eligibility. Therefore, most of the estimates reported in this study are for beneficiaries who are at least age 62, most of whom would be receiving benefits based on retirement rather than on disability. 6/

Estimates of the additional costs of implementing an option, relative to current law costs, are likely to be more accurate than the estimates of the total costs themselves for the reasons noted above. Therefore, in this chapter most of the discussion of costs is in terms of estimates of percentage differences between the benefits that would be paid in the simulation year under the various plans and the benefits that would be paid in that year under current law. A fuller discussion of the costs of each option--and their uncertainty--is presented in Appendix A. 7/

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6. At the end of 1982, for example, about 29 million beneficiaries were age 62 or older, of whom less than 3 percent (700,000) were receiving benefits as disabled workers, spouses of disabled workers, or disabled survivors. Among the 7 million beneficiaries under age 62, almost half (3.4 million) were disabled workers, spouses and children of disabled workers, or disabled survivors. See *Social Security Bulletin, Annual Statistical Supplement, 1983*, Tables 59 and 67.
  7. The cost estimates reported in Appendix A include some based on the model used by the Social Security Administration's Office of the Actuary, as well as those based on the simulation model used here. Differences in estimates generated by the two models are discussed there.