

Social Security Redistribution by Education, Race, and Income: How Much and Why

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ABSTRACT

Newly available data from Social Security's Modeling Income in the Near Term model, version 2, makes it possible to assess how much Social Security redistributes to various income, gender, racial, and educational cohorts. This redistribution is measured on the basis of the individual's own earnings history, the extent to which benefits are received (whether earned on one's own record or not), and on a shared concept under which taxes and benefits are shared when spouses are both alive. Social Security generally does provide higher rates of return in all cohorts to those with lesser amounts of lifetime earnings. However, some lower-earnings groups still do worse, even on this measure, than some groups with higher family incomes and wage rates. For instance, Black women generally do slightly worse than White women, and male high-school drop outs generally do worse than those with higher education. Redistribution sometimes is regressive within generations—that is, more net benefits are provided to some richer groups than to some poorer groups—when net benefits are calculated using a moderate discount rate. This study also uniquely attempts to break out the exact factors, or marginal effects of program provisions, behind redistribution—primarily showing in precise detail the extent to which the progressive rate structure in the benefit formula offsets or does not offset the impact of mortality on the extent of redistribution.

INTRODUCTION

This study provides what we believe may be one of the most comprehensive analyses to date of the projected redistribution achieved by Social Security for cohorts ranging from those born during the Depression to the late baby boomers. Taking unique advantage of Social Security earnings and benefit records and the Modeling Income in the Near Term (MINT) model¹, version 2, we explore how redistribution occurs among different racial, educational, and income groups, between males and females, and among different generations. These earnings records themselves are linked to a survey (Survey of Income and Program Participation) conducted in the early 1990s that provides information on the socio-economic characteristics of Social Security taxpayers and beneficiaries.

Redistribution is measured here primarily in two ways: which groups get higher rates of return on their taxes and which receive higher net lifetime benefits (total benefits less total taxes). The latter is often a better measure of actual net redistribution since it takes account of the amount of money that may get a higher or lower rate of return. Nonetheless, its calculation depends largely upon the discount or interest rate used to convert all taxes and benefits to their present value, and this is a matter of some dispute. Hence, we will usually report results on the basis of rates of return.

Social Security is meant to be redistributive: its primary purpose has been to fight poverty among those in old age. What is less well understood or examined is how well its many provisions achieve or do not achieve that goal. A progressive benefit formula, for instance, attempts to redistribute benefits among workers, while other provisions, such as spousal and survivors' benefits, can end up redistributing both to the rich and the poor depending upon, among other items, whom they marry and whether they marry. The benefit formula—basing

¹ MINT is a micro-simulation model matching 1990-93 SIPP Survey respondents with their career Social Security earnings records, and projecting characteristics of Social Security beneficiaries, their income, and retirement benefits, out to the year 2020. The model was developed jointly by the Social Security Administration, The Urban Institute, and the Brookings Institution. Version 1 was completed in September, 1999. See Toder et al, 1999.

benefits on earnings subject to tax rather than contributions made—will have a different impact on different cohorts simply because they paid different tax rates (the formula effectively favors earlier birth cohorts, as they paid in at lower payroll tax rates). Meanwhile, the required annuitization of benefits tends to favor those who live longer, such as higher income earners and women.

Our goal here is to try to estimate the net redistribution achieved by various socio-economic groups over time. To this end, we also seek to tease out the impact of different factors affecting that redistribution, such as the progressive benefit formula, the age at which persons retire, and their chances of dying. Hence, our purpose is not simply to answer questions such as whether those with less education do better than those with more education; instead, we want to understand the sources of these differentials and to be better able to disaggregate results. For example, Black will differ from White individuals because of mortality differences and because of the way that the benefit formula gives different returns to different amounts of earnings. We might also wish to know whether Black women are affected in the same way as White women by the availability of spousal and survivors' benefits. Less educated individuals may do as well by some standards (e.g., rate of return) as those with more education, but it may turn out that the result is affected significantly by whether one includes or excludes spousal and survivors' benefits. Moreover, given the likelihood that reform will change benefit rules — irrespective of whether or not individual accounts are part of that reform — it is important to understand how the parts fit together, not just how they add up.

Several pieces of research have examined redistribution within Social Security. Among the conclusions reached to date are the following:

- Using hypothetical workers, Steuerle and Bakija (1994) have shown in elaborate detail the extent of redistribution across generations, and how Social Security for a long time was essentially “regressive within generations.” That is, it redistributed more to the rich than the poor for most cohorts up to the ones retiring close to the end of the 20th century. They also attempt to account for differences in mortality for these hypothetical workers, finding that this had only a moderate effect on redistributive patterns.
- Gustman and Steinmeyer (2000), using the Health and Retirement Survey's 1931-41 birth cohort with over 7,000 respondents matched to Social Security earnings records, find that the Social Security system redistributes well on the individual level, but is much less progressive on the family level, as much of the transfers are from men to women generally, and from primary-earning to secondary earning spouses within the same family unit. Including spousal and survivors' benefits in lifetime benefit totals reduces roughly half of the effective transfer from high earning to low earning families, as the former tend to benefit most from these valuable auxiliary benefits. They also note that much redistribution is removed in households that are classified by “potential” rather than actual income (in effect, some redistribution is given to those capable of high earnings but who instead qualify for benefits—usually spousal and survivors' benefits—without having made corresponding additional tax payments to the system).
- Coronado, Fullerton, and Glass (2000), using 22 years of earnings during 1968-1989 from the Panel Study of Income Dynamics (PSID), find that the system is actually regressive when they rank by potential income—taking into account the lower mortality rates of higher-income individuals. The youngest members of the cohort they examine were born in 1938 or earlier. Our study does not measure potential income.

- Liebman (1999) examines progressivity and redistribution within Social Security, taking into account the progressive benefit formula and differential mortality. He uses 1990-91 SIPP respondents matched to Social Security earnings records from 1951-93 and Master Beneficiary Records from 1995. Liebman finds that total redistribution within Social Security for the 1925-29 cohort measures between 5 and 8 percent of total benefits paid. The relative amount of redistribution is expected to rise in later cohorts as women's labor force participation increases, reducing the regressive impact of windfall spousal benefits.
- Smith, Toder, and Iams (this conference), like us, take advantage of the elaborate data set prepared in conjunction with the MINT project. Their goals, somewhat different from those in this paper, are focused on changes over time in the amount of redistribution undertaken and on relating that redistribution to various measures of income such as permanent income in retirement. They also focus only on those alive after age 62, while this paper often takes account of mortality before then (to varying extents for different cohorts).

Sources of Redistribution within Social Security

Redistribution is achieved within Old Age and Survivors' Insurance primarily (although not solely) through five mechanisms. First, the system has provided returns, especially to earlier generations, that were largely independent of the amount of contributions made. The formula for determining benefits is based on years of participation in Social Security and some measure of average earnings subject to tax—not, as in most defined contribution pension plans, on contributions made by or on behalf of the worker. Thus, although benefit formulas have changed somewhat over time, an important source of intergenerational difference resulted from taxes paid as a portion of lifetime earnings of different generations.

Tax rates, in particular, were relatively low for those who are currently retired or retired in the past, but have risen considerably for those who are relatively young today. Since the formula for determining benefits in Social Security gives no credit for paying at a higher rate of tax, individuals gain nothing out of paying a higher rate. One result has been a large redistribution among generations, with more going to those around when the system was younger and rates were lower. Some parts of this redistribution were intended: in general, the goal was to help the old through the contributions of the young, especially when poverty rates among the old were high.

As is well known by now, the differentials across generations—whether measured by rate of return, benefits relative to taxes, or net benefits received—are quite large as we move from one generation to the next (e.g., Steuerle and Bakija, 1994). In this study, we examine four generations, defined roughly around major events: Depression (born during 1931-1940); World War II (1941-45); Early Baby Boom (1946-55); and Late Baby Boom (1956-64).

Second, redistribution is achieved by differences in the rates of return that the benefit formula provides to different levels of contributions. This formula has always provided a higher rate of return (and replacement rate) for the first dollars contributed and a lower rate for the last dollars contributed. Under current law, and for all the beneficiary groups examined in this study, the formula provides a “return” of 90 percent, 32 percent, and 15 percent on different portions of the average indexed monthly earnings (AIME). Ignoring other sources of redistribution and differences in years of tax payment and benefit receipt, the 90 percent rate provides a benefit 6 times higher than does the 15 percent rate. In some analyses, we will make constant the benefit

rate on AIME to see roughly how much redistribution is achieved by the progressive benefit formula alone.

Third, differences in mortality play an important role. Unlike many forms of private saving, Social Security requires that benefits be annuitized and that all payments into the system immediately go toward the purchase of the annuity. One rationale for this procedure is that it helps guarantee against poverty in old age while helping to maintain the goal of horizontal equity or equal treatment of equals. Thus, among those with equal lifetime earnings, Social Security avoids favoring those who do not save over those who do save. The former are not allowed to spend down their Social Security wealth and then turn back to Social Security for some additional assistance. Nonetheless, forced annuitization does have consequences for redistribution: it necessarily favors those with longer life expectancies. Women live longer than men, and since the same annuity rate is applied regardless of sex, this factor by itself would redistribute lifetime benefits relative to taxes across the sexes. In addition, some lower-income individuals and minority groups with lower-than-average incomes experience higher mortality rates. Again, in some runs, we will hold constant the mortality rate to try to tease out the impact of this factor.

Fourth, the spousal and survivors' benefits in Social Security are provided to couples as a pure add-on without any additional Social Security contribution required. At the margin, therefore, they are essentially a pure transfer system. Given an earner and a spouse, the spousal benefit is equal to 50 percent of the earner's benefit when he or she is alive and 100 percent when dead. If the spouse gets an earner's benefit in his or her own right, then he or she will get a total benefit equal to the greater of the two (own earner benefit or spousal/survivors' benefit). The net effect of this provision is that it provides more transfers to spouses of higher earners than to spouses of lower earners (as opposed, say, to some European systems where the benefit for being a spouse is approximately the same for all spouses). On the other hand, some lower-earning individuals end up marrying higher-income workers—thus increasing the transfers made available to them.

As noted elsewhere (Steuerle and Bakija, 1994), the spousal and survivor rules generally do not follow from any principle, whether related to progressivity or providing a fair return on contributions (at the margin, no additional contributions are required). Moreover, they cannot be considered extra payments to those who care for children since the benefit goes to many who do not raise children while being denied to many who do raise children. Of increasing importance over time, the provision transfers nothing to single heads of household or to those who have no marriage lasting longer than ten years. This group has been growing as a percent of the population, thus by itself adding to regressive aspects and horizontal inequities caused by existing spousal and survivors' benefits on the overall Social Security structure (Smith 2000, Steuerle, Spiro, and Carasso 2000, Favreault, Sammartino, and Steuerle 2000).

Fifth, Social Security's formula redistributes according to number of years one works. For example, many persons falling into the lowest income groups have less than ten years of coverage, thus entitling them to no benefits on their own records for their modest lifetime taxes paid. In addition, only the 35 highest years of earnings are counted towards the benefit computation. Therefore, a person who works for 15 years at \$30,000 gets as much in benefits as someone who works for 30 years at \$15,000; a person who works 50 years at \$10,000 gets much less than someone who works 25 years at \$20,000, and so forth (all amounts wage-indexed).

This study will attempt to measure the impact of the first four factors in some detail. However, we will only modestly address the fifth issue when we discover a few groups who get lower rates of return because they have larger portions of the population not qualifying for

benefits. Other studies have attempted to get at some of the effect of years of work by turning to measures of potential income, or the ranking of individuals or households by years of highest earnings. No method is perfect here, since years of little or no earnings may reflect more leisure, greater health care problems, or more care-taking responsibilities.

THE DATA AND THEIR LIMITATIONS

The MINT 2 microsimulation model was developed to evaluate the OASDI program under current law and various policy alternatives. One aspect of evaluating a policy change is to see which groups benefit more or less from the change. To this end, we have developed a set of money's worth measures that describe the distributional impact of Social Security in financial terms. This section describes the structure and development of a standard set of money's worth tables applied to the MINT 2 model. The measures described here apply to the OASDI programs under current law.

The MINT 2 model generates a data set of individuals with their annual earnings and benefit histories, projected annual earnings to the year 2031, and projected annual benefits until death. Money's worth measures generally look at each individual's lifetime experience in the Social Security system.² But what constitutes an individual's experience? Is it limited to each person's own earnings and earned benefit? Should a person somehow be credited with generating a benefit that goes to another person? The results we develop take a variety of approaches. They are described first below. Subsequently, we describe the money's worth measures themselves, how individuals are classified into groups, and a primary limitation of these data.

Whose payroll taxes and benefits?

Only workers pay Social Security payroll taxes, but workers are not the only beneficiaries. Thus, it is interesting to look at money's worth measures for individuals in a variety of ways. We derive measures based on their *own* payroll taxes and their *earned* benefits. We also derive measures for individuals and groups based on their own taxes and the benefits they *received*, regardless of whose earnings the benefits were based upon. For example, a dual-entitled beneficiary would have her earned and supplemental benefits added together for this measure. Finally, Social Security can also be viewed as a family-based program, where spouses share their earnings and benefits while married. We define *shared* money's worth measures in this context also. A shared tax or shared benefit is defined as the own tax or benefit for the years when an individual is single, and one half the combined tax or benefit for years when the individual is married.³ Thus, in the money's worth analyses, we have two earnings concepts: own and shared earnings. And we have three benefit concepts: earned, received, and shared. For presentational purposes, only some of these earnings and benefits concepts are presented in different parts of the paper, but the others are available from the authors.

² Measures like the "replacement rate" or the rate at which benefits at retirement replace pre-retirement earnings are sometimes considered as money's worth measures, but they are not included in these tables.

³ The 1990 SIPP has data on up to 3 marriages per person. Specifically, it has the two most recent marriages (including the current if the respondent is married at the time of the interview), and the first marriage. For the vast majority of the population, these marriages cover all past marriages. But for the very few persons with four or more past marriages, we had to impute the missing spouses. The characteristics of these spouses were imputed from the existing data set based on empirical distributions of characteristics of couples in the SIPP data. For historical data, separate records for these missing spouses were not actually created, rather their characteristics were recorded on the respondent's record. For future marriages, actual husband and wife pairings were made annually from the pool of single individuals using a "hot-decking" technique. The matching functions included the characteristics sex, date of birth, race, Hispanic ethnicity, education, disability status, and date of onset of disability, and permanent income.

Money's worth measures

We use the MINT 2 model to generate two types of money's worth measures: internal rates of return and net lifetime benefits.

The *internal rate of return* (IRR) in Social Security is the interest rate that would make a sequence of payroll taxes invested into Social Security and benefits withdrawn from Social Security exactly equal. Assuming an alternative investment with comparable risk, an investor would be worse-off if his investment returned less than his internal rate of return under Social Security and better off if his investment returned more. The internal rate of return is computed using real 1998 dollars, hence the measures presented are real internal rates of return. The IRR is computed by groups, where the payroll taxes and benefits are first summed by year over the group into aggregate payment and benefit streams.

The *Net lifetime benefit* is the dollar value of lifetime benefits minus lifetime taxes to each group. The net benefit is presented in 1998 dollars and is discounted for each individual to age 62 at a two percent real interest rate before averaging into groups.

If the discounted net lifetime benefit equals zero for a group, then the discount rate used is identical to the internal rate of return. If the discounted net lifetime benefit is positive, then the internal rate of return is higher than the discount rate. Conversely, if the discounted net lifetime benefit is negative, then the internal rate of return is lower than the discount rate.

To round out the money's worth analysis, we also present measures of lifetime and annual benefits. The lifetime benefits are the group averages of discounted values of each year's benefits computed for each individual using a two percent discount rate to age 62. The annual benefit is the total lifetime benefit divided by the observed years of benefit receipt, computed for each individual and then averaged by group. It differs modestly from the initial annual benefit for someone fully retiring and receiving a fixed real benefit, since later benefits are discounted in the calculation of their present value.

Classification into groups

In the tables, we classify individuals by birth cohort, sex, race and Hispanic ethnicity, educational attainment, and mortality-adjusted earnings quintiles. Except for the last, these are self-explanatory. For ease of exposition, we denote White simply as "White" and Black as "Black."

The lifetime earnings or mortality-adjusted earnings quintile measure was designed to adjust the lifetime earnings for pre-retirement mortality. We wanted a measure that did not place a potentially high earner who died young in the same quintile as a lifetime low earner. The quintile breaks are based on the discounted lifetime earnings of persons who lived past age 61. Individuals who died or are projected to die before age 62 were placed in the quintile that best reflects their standing relative to their birth cohort at the time of their death. For example, if one died at age 50 with an average indexed wage of \$20,000, one would fall in the relative income distribution exactly where those age 50 with \$20,000 of indexed wages would fall if we were to do their final calculation that year. For those who live to retirement, of course, only the final relative average wage calculation is used.

A Further Note on Data Limitations

All data sources have their limitations, and this one is no exception. Here are two factors especially worthy of attention.

First, some workers have worked under government plans not covered by Social Security; they also are likely to receive more redistribution under Social Security because of its higher return on the first dollars of earnings subject to tax and because of the way the system only counts limited numbers of years. Unfortunately, the data do not provide sufficient information to separate out these government workers.

Second, to find socio-economic characteristics other than Social Security earnings and benefits, the match with the SIPP data was crucial. The file, therefore, is constructed around those who are alive between 1990 and 1993. Earnings and benefit records⁴ are then taken from Social Security for the past and projected forward to the future. This means that for older generations the earnings records and some benefit records are real, not estimated. However, for these generations, we lose out on the extent to which redistribution is affected by death before the SIPP survey took place. For example, if someone born in 1945 died in 1985, we would not capture the extent to which her taxes affected the group return for those born in the 1940-45 group.

For those born between 1956-65 and alive in the early 1990s, we are able to count almost all early-career years of work using administrative data. But we must rely on projections for later-career earnings and benefits. Since projections involve uncertainty, the redistribution we examine in these cases must be understood simply as reasonable interpretations of what will happen if the population behaves in certain characteristic manners projected into the future. These projections include likely, but not certain, patterns such as improvements in mortality and divorce rates closer to more recent experience than decades-past experience. Our results must not be interpreted as precise estimates, but as estimates of what type of redistribution the system is "likely" to achieve.

THE EXTENT OF REDISTRIBUTION

Redistribution by Cohort and Gender

Table 1 shows various measures of returns for different cohorts of men and women. No matter what measure is used, it is fairly clear that women receive higher rates of return than men. Internal rates of return on own benefits are higher for women than men (e.g., 3.0 percent versus 1.6 percent, respectively, for the 1956-64 cohort), mainly because of the progressive benefit formula and the lower average earnings of women. In the case of received benefits, the availability of spousal and survivors' benefits adds significantly to the return differential (now 3.7 percent versus 1.7 percent for the same cohort). When we finally turn to shared benefits, some of the differential is closed (3.2 percent versus 2.0 percent for the same cohort). However, relative to men, women generally live longer and are more likely to marry an older spouse; hence, they are much more likely than men to share in benefits as a couple as well as have a number of years of benefit receipt by themselves. For example, if a woman lives four years longer than her

⁴ The age at retirement, when available, was taken from administrative data. The old-age benefit level itself was computed within MINT. The receipt and levels of all auxiliary benefits were projected in MINT.

husband and is three years younger when they marry, she will receive benefits for seven more years, only three of which are “shared” with the husband.

Received and shared lifetime benefits are also higher for women than for men and they tend to grow over time. However, own benefits for women continue to move closer to men’s benefits over time. Net lifetime benefits (lifetime benefits less taxes paid), in turn, show patterns similar to what is seen in the rate of return figures; the numbers on average are positive because we are using a two percent real discount rate, and the internal rate of return is higher than the discount rate on average. For men, the numbers turn negative on own and received benefits by the 1941- 1945 cohort for those alive at the time of the SIPP survey; however, they do not turn negative for those who attain age 62 until the 1956-64 cohort. Shared benefits, on the other hand, remain positive even as late as the 1956-64 cohort for those who make it to 62. Obviously, a different discount rate would show different results.

Annual benefits show a different pattern than do rates of return: men with higher average earnings receive higher benefits on their own record. This differential narrows when we turn to received benefits because more women than men are likely to acquire survivors’ benefits, while, for shared benefits, the annual figure is approximately the same for women as for men (e.g. \$8,470 for men, \$8,521 for women in the 1956-64 cohort alive at time of the SIPP survey). On an annual shared benefit basis, then, women and men on average do about the same, which is what we would expect on the basis of the way the measure is constructed.⁵ Many of the other differentials shown in the table arise because men will contribute more in taxes, be eligible for higher own benefits, be less likely to receive spousal or survivors’ benefits, and have shorter expected lifespans and fewer years of own, received, or shared benefits.

Redistribution by Education, Race, and Lifetime Earnings

In Table 2, we examine how these rates of return vary by education, race, and lifetime earnings. Interestingly, males not completing high school sometimes do worse and generally do not do much better than high school graduates or those who have at least some college. The same is true for women high school dropouts on their own record in some earlier cohorts. (Jumping ahead a little, Table 6 shows that higher mortality rates among high school dropouts are a primary cause of their low returns).

Black women consistently do no better and usually worse than White women on the basis of both their own records and received benefits. In the 1931-40 cohort alive at time of the SIPP survey, for instance, these Black women receive a rate of return of 3.7 percent versus 4.2 percent on own earnings, and 5.3 percent versus 5.9 percent on received benefits. Black men start out also doing slightly worse on own and received benefits, but then do slightly better in later cohorts. Except for 1931-40 and 1941-45 women, no differential appears to be very large in either direction. For Hispanics, however, the rates of return under all measures in almost all years are better than for other racial groups.

Black men sometimes do worse than White men when one does the calculation on the basis of shared rather than own benefits. How can that be? It turns out that members of lower income groups have a higher probability of arriving at retirement without ever being in a marriage lasting ten years or more. As already noted, Social Security provides a very large add-

⁵ Some differences still will arise because the shared benefit under this method is only attributed to the spouse when the spouse is alive. In a one-earner couple, for instance, the annual benefit would be shared when both are alive but the equal size survivors’ benefit would be attributed only to the survivor.

on transfer system in the form of spousal and survivors' benefits, but these are only available to those who have spouses. Thus, all other things being equal, singles and single heads of household will do worse under Social Security than will others. Thus, Black males in the 1931-40 cohort have a lower internal rate of return on shared earnings than do White males, while White and Black women come out about the same. Moving across time and birth cohorts, we see a convergence in rates of return for all racial groups (e.g., shared benefits for those in the 1956-64 cohort and alive at the time of the SIPP survey all have rates of return between 3.2 percent and 3.5 percent).

When individuals are ranked on the basis of quintiles of the earnings distribution, we see a more regular or consistent pattern of progressivity from the second lowest to the highest income category. Nonetheless, there is a tendency for 1931-40 cohort men and women in the lowest earning quintile to do worse on the basis of their own records—a reflection of the inability of some in this group to acquire adequate quarters of coverage. This disadvantage, however, is quickly removed once we turn to received or shared benefit concepts.

Lifetime benefits (Table 3) show patterns that might be expected: higher total benefits for higher income groups. By 1956-64, the average shared benefit for women in the SIPP survey is \$225,489 and for men, \$153,500. When we turn to net lifetime benefits (Table 4), several factors are interacting—the extent to which rates of return are differing among individuals, the net discount rate we have used, and the base of taxes on which different cohorts have contributed. Here we see what we noted above from other studies: early generations (generally older than those examined here) often witnessed substantially greater redistribution to those with higher incomes even when they did not have a higher rate of return. Suppose, for instance, that discount rates are two percent, but that Social Security offers a six percent rate of return. Then the more money one pays in taxes on which the six percent return is offered, the higher the net transfer received. In effect, Social Security offered higher-income individuals the opportunity to have more money earning an above-market rate of return. Their net redistribution was then higher than for those with less earnings.

While this factor is less in play by the time we reach the cohorts examined here, we still see at a 2 percent discount rate that Social Security still offers a higher net lifetime benefit to those with more education, and to Whites than Blacks, especially among women. For example, in the 1956-64 cohort alive at time of the SIPP survey, White women receive a net transfer of \$84,492 versus a transfer of \$60,322 for Black women. The latter are less likely to receive spousal and survivors' benefits as well, which can be seen partly by the rising gap when net benefits are measured on a received basis.

When we look at quintiles, however, the later cohorts demonstrate a more moderate degree of progressivity, especially when one looks at shared earnings. For the 1931-40 cohort, the story is more mixed, e.g., shared net benefits for women differ little among various income classes. In effect, progressivity is increasing over time when based upon lifetime earnings. Nonetheless, even here, the differentials are not very large among the first four quintiles.

Examining the Factors Behind Redistribution

To gain some understanding of how different factors affect redistribution, we ran several scenarios where total expenditure to all the cohorts was held constant across scenarios. Starting from current law taxes and benefits, we took away differences due to both mortality and age of retirement—fixing the age of death at 84.05 and forcing the population to retire at age 63.14. Then, we devised a benefit formula that would provide roughly the same return for each dollar of

earnings subject to tax. A flat rate of 41.2 percent of average indexed monthly earnings was substituted for the rates of 90 percent, 32 percent, and 15 percent currently applying to different portions of the AIME. This final adjustment created the “baseline” scenario where everyone has the same age at death, age at retirement, and a flat benefit rate. This baseline scenario has the same total expenditures to persons born 1931-1964 as does current law.

The net result (Table 6) is that we end up with a baseline of approximately equal rates of return on own contributions by earnings quintile—other than for contributions made by those with inadequate years of coverage. In addition to the factors we temporarily assumed away—and will add back in one at a time—spousal and survivors’ benefits also affect these rates of return when we turn our gaze from own to received or shared benefits.

From this baseline, we then work our way backward. We convert the flat rate benefit formula to a progressive benefit formula to isolate the impact of the benefit formula on money’s worth. Next, to isolate the impact of retirement age on money’s worth, we allow people to retire when they do, not at a fixed retirement age. Finally, mortality is then allowed to vary among individuals to clarify the effect of differential mortality on money’s worth. The cumulative impact of these changes can then be added to the baseline to determine the rate of return (and net, total, and annual benefits) under current law.

Our aim was to stack these various scenarios—fixed age of death, fixed age of retirement, and flat-rate benefit formula—in a manner that was expenditure neutral to Social Security as a whole. Of course, given that every year of expenditure involves retirees of different generations, it is impossible to come up with a fixed formula that can be precisely expenditure neutral in every year. Therefore, some results reported below should be compared on the basis of relative differences among groups of individuals rather than absolute differences.

Why does one want to go through this type of exercise? We believe it to be a mistake to consider Social Security as a monolithic program that will simply be replaced by some other monolithic program. The decision to grant a spousal or survivors’ benefit as a pure add-on for which no additional contributions are made, to grant higher survivors and spouses benefits to those married to richer people, to base benefits on earnings subject to tax rather than taxes paid, to use progressive rates in the benefit formula, to force annuitization, and to grant or deny any life certain policies (guaranteed some minimum number of years of benefits) are all separable decisions that deserve individual attention.

Especially in a period where reform is being considered because of a shortfall in funds, it is worthwhile to determine the extent to which returns and progressivity are affected by different factors. This gives decision-makers more to go on than simply knowing some net result but not why it happens. An analogy might be made to reporting on the cost-to-benefit ratio of a particular highway project: one would also like to know what the toll rate was, the extent of damage by heavy trucks, the number of lanes that were built and potentially could be built, and the increase or decrease in commuter time before coming to a judgment on how the highway should be reformed, expanded, or shut down.

Factors affecting redistribution by gender

Table 6 shows what might be expected: when all adjustments are made, males and females have similar rates of return on their own contributions (that is, mortality, retirement age, and benefit formula differentials have been eliminated. The progressive benefit formula adds to the relative returns received by women (e.g., in the 1956-64 cohort alive at time of the SIPP survey for own benefits, it adds +0.46 percent for females and -0.02 percent for males), while

mortality differences reduce the relative return received by men (-0.66 percent for males, +0.16 percent for females), creating significant differentials between the two groups.

With received benefits, the baseline rate of return starts out larger for females and the differential becomes larger when mortality and a progressive formula are built in. What adds to the differential (relative to own benefits) in the case of received benefits are the additional spousal and survivors' benefits that are made available and their greater likelihood of receipt by women. Much of that starting differential, however, is reduced by the time that we get to the 1956-64 cohort because of the greater work participation of women.

When it comes to shared benefits, the baseline for the two genders again is similar, and the significant differentials are caused mainly by mortality differences (e.g., -0.77 percent for males, +0.31 percent for females in the 1931-40 cohort). The progressive benefit formula makes less difference here because whatever benefits it provides are shared for many years by married couples.

Factors affecting redistribution by race and ethnicity

The baseline rate of return is similar across all races for both own and shared benefits. Interestingly, however, the progressive benefit formula tends only slightly to help Black and Hispanic women IRRs on own benefits relative to White women. Looking more closely at the data (not shown in table), we determined that Black women on average tend to contribute as much in taxes as do White women, especially in earlier cohorts. Generally speaking, they were working more, but at a lower wage rate. However, the benefit formula does not adjust generally for the amount of work undertaken (in fact, it also gives a lower return to lifetime earnings for one who works more than 35 years relative to one with the same lifetime earnings earned over a shorter period of time).

For received benefits, Black women generally start out with a lower baseline than White and Hispanic women, reflecting again a generally lower access to spousal and survivors' benefits. Mortality factors help Black women less than they help White women; the progressive benefit formula helps them, but generally speaking, they fail to catch up even when we project benefits into the future for those born in 1956-64 (3.68 percent under current law for White women, 3.45 percent for Black women despite the fact that the progressive benefit formula increased the relative return to the latter by 0.44 percent).

As noted above, however, for shared benefits, Black women move a touch ahead of White women in the 1956-64 cohort. It is mainly the progressive benefit formula in play here: the increase in work among all women lessens somewhat the impact of spousal and survivors' benefits relative to the progressive benefit formula. Hispanic men and women generally do better than other groups: the impact of mortality seems to weigh less heavily on them than Blacks, although Hispanics are still at a disadvantage on this factor relative to Whites.

Factors affecting redistribution by education

When it comes to educational classes, we can see that it is mortality especially that hurts the high school drop-outs relative to other groups (on own benefits, -1.60 percent even for the 1956-64 cohort of men). For women, however, the mortality factor is less. Meanwhile, the progressive benefit formula tends to help them more on the basis of their own earnings (reflecting the lower level of earnings involved), while, for received benefits, women with less education again tend to gain both because of the additional spousal and survivors' benefits and the advantages provided by the progressive benefit formula.

For shared benefits, the impact of the progressive benefit formula is not enough to offset losses due to mortality for males. By the 1956-64 cohort, however, most individuals have graduated from high school, and both male and female high school graduates do slightly better in their rates of return than those with college education. (Remember that this may not translate to a higher net benefit, depending upon what discount rate one uses).

Factors affecting redistribution by lifetime earnings quintile

When it comes to quintiles of lifetime earnings, we see that the lowest earnings quintile has a lower rate of return on own benefits than many other quintiles. This confirms that much of the differential for this group comes from inadequate years of coverage (since, under the baseline, other sources of redistribution have been eliminated). Otherwise, the progressive benefit formula generally works as expected. For instance, for men's own benefits in the 1956-64 cohort, the formula adds 1.11 percent to the return for the second quintile and subtracts -0.66 percent from the fifth quintile. Mortality, however, has a regressive impact, hurting lower-earning groups more than higher-earning ones, but sometimes enough to offset the progressivity of the benefit formula.

Looking at shared benefits as one measure of progressivity, it turns out that the returns by quintile fall in monotonic fashion under current law for both males and females and for all cohorts. In the first quintile, sharing (in contrast to own benefits) adds more to returns for lower-income individuals—reflecting marriages of some lower-earnings to some higher-earnings individuals. The progressive benefit formula remains important here, while mortality differentials have been pared significantly. On net, this yields a moderate degree of progressivity.

CONCLUSION

This paper has examined in a variety of ways the extent to which Social Security or Old-Age-and-Survivors' Insurance redistributes across cohorts, gender, and racial, educational, and earnings classes. As expected, early cohorts do better than later cohorts and women receive both higher net lifetime benefits and higher rates of return than men, although their annual benefits are often similar. It generally finds that Social Security provides higher rates of return to lower earnings classes (although it does not always provide higher net benefits). Nonetheless, a variety of lower-earnings groups sometimes receive even lower returns than do other groups with higher earnings. Blacks, for instance, often lose more because of mortality differences or because of less access to spousal and survivors' benefits than they gain because of the progressive benefit formula.

In addition to the broad range of data that this study provides on redistribution among groups, it also provides a unique break-out of the sources of the redistribution, with most differences in returns caused by spousal and survivors' benefits, mortality rates, and the returns provided by the progressive benefit formula. In providing more detail on exactly how much these various factors contribute to redistribution or progressivity, it provides policy makers with a handle on how different factors might be changed or reformed in any Social Security reform.

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TABLE 1. INTERNAL RATES OF RETURN, LIFETIME BENEFITS, NET LIFETIME BENEFITS, AND ANNUAL BENEFITS

INTERNAL RATES OF RETURN

Alive at time of 1990-94 SIPP Survey

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
ALL	2.9	3.8	3.7	2.5	3.2	3.1	2.4	2.9	2.9	2.3	2.7	2.7
MEN	2.3	2.4	2.9	1.9	1.9	2.4	1.8	1.9	2.2	1.6	1.7	2.0
WOMEN	4.1	5.9	4.3	3.5	4.8	3.7	3.3	4.2	3.4	3.0	3.7	3.2

Attain Age 62 or Older

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	2.5	2.5	3.1	2.2	2.2	2.7	2.1	2.1	2.5	1.8	1.9	2.2
WOMEN	4.2	6.0	4.4	3.7	5.0	3.9	3.4	4.3	3.6	3.1	3.8	3.4

LIFETIME BENEFITS (2% DISCOUNT, 1998 DOLLARS)

Alive at time of 1990-94 SIPP Survey

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	139,975	142,258	121,128	152,767	155,627	137,344	163,498	167,410	150,368	162,666	167,402	153,500
WOMEN	89,793	153,152	170,050	114,298	171,710	189,839	146,803	196,829	212,545	166,926	211,529	225,489

Attain Age 62 or Older

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	148,468	150,887	128,374	171,241	174,443	153,677	183,154	187,532	168,152	183,779	189,129	173,093
WOMEN	92,954	158,526	175,919	122,190	183,552	202,715	158,295	212,222	228,912	179,863	227,919	242,702

NET LIFETIME BENEFITS (2% DISCOUNT, 1998 DOLLARS)

Alive at time of 1990-94 SIPP Survey

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	12,611	14,894	28,525	(5,347)	(2,488)	15,908	(9,420)	(5,508)	10,907	(21,046)	(16,310)	(785)
WOMEN	42,232	105,591	89,597	43,799	101,211	83,871	49,968	99,994	83,551	48,259	92,863	80,780

Attain Age 62 or Older

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	19,540	21,959	34,714	7,936	11,139	27,938	3,186	7,564	23,232	(10,277)	(4,926)	10,638
WOMEN	44,859	110,431	94,848	50,078	111,439	94,793	58,472	112,399	96,732	57,262	105,318	94,011

ANNUAL BENEFITS (2% DISCOUNT, 1998 DOLLARS)

Alive at time of 1990-94 SIPP Survey

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	8,425	8,564	7,231	8,488	8,650	7,628	8,928	9,149	8,249	8,960	9,227	8,470
WOMEN	3,885	6,445	7,282	4,681	6,799	7,644	5,727	7,496	8,249	6,344	7,882	8,521

Attain Age 62 or Older

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	8,937	9,081	7,594	9,515	9,693	8,366	10,002	10,246	9,041	10,123	10,425	9,346
WOMEN	4,021	6,659	7,457	5,004	7,259	8,021	6,175	8,074	8,718	6,836	8,488	9,014

Source: The MINT ("Modeling Income in the Near Term") Model, v2.0

TABLE 2. INTERNAL RATES OF RETURN BY EDUCATION, RACE & EARNINGS QUINTILE

Alive at time of 1990-94 SIPP Survey

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	2.3	2.4	2.9	1.9	1.9	2.4	1.8	1.9	2.2	1.6	1.7	2.0
HS DROP	1.9	1.9	2.5	1.7	1.8	2.2	1.5	1.6	1.9	1.4	1.6	1.8
HS GRAD	2.4	2.5	3.0	1.8	1.9	2.4	1.8	1.9	2.3	1.7	1.8	2.0
COLLEGE	2.4	2.5	3.1	2.0	2.1	2.5	1.8	1.9	2.3	1.6	1.6	1.9
WHITE/NON-HIS	2.3	2.4	3.0	1.9	1.9	2.4	1.8	1.9	2.2	1.6	1.7	2.0
BLACK/NON-HIS	2.0	2.2	2.5	1.9	2.0	2.3	1.8	2.0	2.2	1.8	1.9	2.0
HISPANIC	2.4	2.5	3.0	2.1	2.2	2.6	1.9	2.0	2.3	1.8	1.9	2.2
OTHER	2.5	2.6	3.0	2.3	2.5	2.8	2.1	2.2	2.4	1.6	1.8	2.0
1ST QUINTILE	2.9	6.2	4.7	3.0	5.4	4.3	3.3	4.9	3.9	3.4	4.7	3.6
2ND QUINTILE	3.6	4.0	3.9	3.0	3.2	3.2	2.8	2.9	2.9	2.6	2.7	2.6
3RD QUINTILE	2.7	2.7	3.0	2.4	2.5	2.7	2.3	2.3	2.5	2.1	2.1	2.3
4TH QUINTILE	2.4	2.4	2.9	2.0	2.0	2.4	2.0	2.0	2.3	1.8	1.8	2.0
5TH QUINTILE	2.1	2.1	2.8	1.6	1.6	2.1	1.4	1.4	1.9	1.1	1.1	1.5

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
WOMEN	4.1	5.9	4.3	3.5	4.8	3.7	3.3	4.2	3.4	3.0	3.7	3.2
HS DROP	4.0	6.7	4.5	3.4	5.4	3.9	3.6	5.4	3.9	3.5	4.9	3.9
HS GRAD	4.1	5.8	4.3	3.6	4.9	3.7	3.3	4.2	3.4	3.1	3.8	3.3
COLLEGE	4.2	5.4	4.3	3.6	4.4	3.7	3.2	3.9	3.4	2.9	3.3	3.1
WHITE/NON-HIS	4.2	5.9	4.3	3.6	4.9	3.7	3.3	4.2	3.4	3.0	3.7	3.2
BLACK/NON-HIS	3.7	5.3	4.4	2.9	4.0	3.5	3.1	3.7	3.4	2.9	3.5	3.3
HISPANIC	4.3	6.1	4.6	3.4	4.8	3.9	3.4	4.4	3.7	3.2	4.0	3.5
OTHER	4.3	6.1	4.7	3.6	4.9	4.1	3.4	4.2	3.7	3.0	3.8	3.4
1ST QUINTILE	3.3	10.9	4.9	3.8	8.9	4.5	4.2	7.7	4.2	4.3	6.8	4.1
2ND QUINTILE	5.0	6.8	4.5	4.4	5.6	3.9	3.9	4.9	3.7	3.7	4.4	3.5
3RD QUINTILE	4.2	4.9	4.0	3.6	4.2	3.5	3.4	3.8	3.3	3.1	3.5	3.2
4TH QUINTILE	3.7	3.9	3.7	3.2	3.4	3.2	3.1	3.2	3.1	2.8	2.9	2.9
5TH QUINTILE	3.2	3.3	3.4	2.6	2.6	2.7	2.4	2.4	2.6	2.2	2.2	2.4

Source: The MINT ("Modeling Income in the Near Term") Model v2.0

TABLE 2. INTERNAL RATES OF RETURN BY EDUCATION, RACE, AND EARNINGS QUINTILE, continued

Attain Age 62 or Older

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	2.5	2.5	3.1	2.2	2.2	2.7	2.1	2.1	2.5	1.8	1.9	2.2
HS DROP	2.1	2.2	2.7	2.1	2.2	2.6	1.9	2.0	2.4	1.8	1.9	2.2
HS GRAD	2.6	2.6	3.2	2.1	2.2	2.6	2.1	2.2	2.5	1.9	2.0	2.3
COLLEGE	2.6	2.6	3.2	2.2	2.3	2.7	2.0	2.1	2.4	1.7	1.8	2.1
WHITE/NON-HIS	2.5	2.5	3.1	2.1	2.2	2.6	2.0	2.1	2.5	1.8	1.9	2.2
BLACK/NON-HIS	2.4	2.5	2.9	2.2	2.3	2.6	2.2	2.4	2.6	2.0	2.2	2.2
HISPANIC	2.6	2.6	3.2	2.6	2.6	3.0	2.2	2.3	2.6	1.9	2.1	2.4
OTHER	2.8	2.9	3.3	2.6	2.7	3.1	2.4	2.6	2.7	1.9	2.0	2.2
1ST QUINTILE	3.0	6.3	4.9	3.3	5.7	4.6	3.5	5.1	4.1	3.5	4.8	3.8
2ND QUINTILE	3.8	4.1	4.1	3.3	3.5	3.4	3.0	3.2	3.1	2.7	2.9	2.8
3RD QUINTILE	3.0	3.0	3.3	2.7	2.8	3.0	2.5	2.5	2.7	2.2	2.3	2.4
4TH QUINTILE	2.6	2.6	3.1	2.2	2.2	2.6	2.2	2.2	2.5	1.9	1.9	2.2
5TH QUINTILE	2.2	2.2	2.9	1.9	1.9	2.4	1.6	1.6	2.2	1.3	1.3	1.8

	1931-40			1941-45			1946-55			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared	Own	Rec'd	Shared
WOMEN	4.2	6.0	4.4	3.7	5.0	3.9	3.4	4.3	3.6	3.1	3.8	3.4
HS DROP	4.2	6.9	4.7	3.7	5.6	4.2	3.9	5.7	4.2	3.7	5.1	4.1
HS GRAD	4.2	5.9	4.3	3.7	5.1	3.9	3.5	4.4	3.6	3.2	4.0	3.4
COLLEGE	4.2	5.5	4.4	3.6	4.5	3.8	3.3	3.9	3.5	2.9	3.4	3.2
WHITE/NON-HIS	4.2	6.0	4.4	3.7	5.0	3.9	3.4	4.3	3.6	3.1	3.8	3.3
BLACK/NON-HIS	3.8	5.4	4.5	3.3	4.4	3.8	3.3	4.0	3.7	3.1	3.7	3.5
HISPANIC	4.4	6.2	4.7	3.7	5.1	4.1	3.6	4.5	3.9	3.4	4.2	3.7
OTHER	4.4	6.2	4.8	3.8	5.1	4.2	3.5	4.3	3.8	3.1	3.9	3.5
1ST QUINTILE	3.4	11.0	5.1	4.0	9.0	4.7	4.3	7.8	4.4	4.3	6.9	4.3
2ND QUINTILE	5.1	6.9	4.6	4.5	5.8	4.0	4.1	5.0	3.8	3.7	4.5	3.6
3RD QUINTILE	4.3	4.9	4.1	3.7	4.3	3.6	3.5	3.9	3.4	3.2	3.6	3.3
4TH QUINTILE	3.8	4.0	3.8	3.3	3.5	3.3	3.2	3.3	3.2	2.9	3.0	3.0
5TH QUINTILE	3.4	3.4	3.5	2.9	2.9	3.0	2.6	2.7	2.8	2.4	2.4	2.6

Source: The MINT ("Modeling Income in the Near Term") Model v2.0

TABLE 3. LIFETIME BENEFITS (2% DISCOUNT) BY EDUCATION, RACE & EARNINGS QUINTILE

Alive at time of 1990-94 SIPP Survey

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	139,975	142,258	121,128	162,666	167,402	153,500
HS DROP	91,060	92,460	78,445	84,992	89,708	82,660
HS GRAD	148,410	150,364	127,637	152,980	157,793	145,286
COLLEGE	170,400	174,313	149,585	222,017	226,585	206,212
WHITE/NON-HIS	149,566	151,669	128,291	173,503	177,823	161,900
BLACK/NON-HIS	90,428	94,445	85,701	119,221	125,123	121,024
HISPANIC	101,053	102,611	88,356	127,800	133,895	124,346
OTHER	106,840	110,524	99,435	162,768	168,635	156,321
1ST QUINTILE	8,649	28,704	36,363	40,267	64,707	74,428
2ND QUINTILE	55,161	62,224	63,156	101,038	106,040	107,672
3RD QUINTILE	91,545	92,538	85,138	141,213	143,577	135,449
4TH QUINTILE	145,971	146,257	124,917	196,146	197,089	176,414
5TH QUINTILE	202,000	202,036	164,165	238,607	238,780	207,464

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
WOMEN	89,793	153,152	170,050	166,926	211,529	225,489
HS DROP	50,583	113,718	126,651	79,738	126,329	137,798
HS GRAD	92,602	155,944	174,330	153,746	198,303	212,919
COLLEGE	134,708	198,461	215,031	236,629	280,514	293,875
WHITE/NON-HIS	92,238	158,870	177,535	176,899	224,904	240,665
BLACK/NON-HIS	79,839	125,675	132,438	135,851	161,167	165,889
HISPANIC	78,522	133,963	146,275	130,349	170,579	182,830
OTHER	80,876	130,869	143,375	170,433	223,352	237,346
1ST QUINTILE	8,538	120,879	144,122	54,269	148,350	173,171
2ND QUINTILE	78,289	139,817	160,448	138,977	183,827	203,972
3RD QUINTILE	136,876	168,148	181,753	195,217	222,012	234,342
4TH QUINTILE	202,528	217,283	219,578	263,500	274,149	275,680
5TH QUINTILE	268,590	269,582	262,617	325,775	327,857	320,588

Source: The MINT ("Modeling Income in the Near Term") Model v2.0

TABLE 3. LIFETIME BENEFITS BY EDUCATION, RACE, AND EARNINGS QUINTILE, continued

Attain Age 62 or Older

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	148,468	150,887	128,374	183,779	189,129	173,093
HS DROP	99,442	100,971	85,596	102,458	108,143	99,321
HS GRAD	157,192	159,257	135,061	175,246	180,759	166,072
COLLEGE	176,188	180,234	154,592	236,293	241,155	219,204
WHITE/NON-HIS	157,337	159,546	134,854	195,406	200,271	182,014
BLACK/NON-HIS	102,458	107,009	96,936	141,454	148,457	143,271
HISPANIC	108,061	109,727	94,462	141,403	148,148	137,327
OTHER	116,345	120,358	108,167	183,606	190,223	175,706
1ST QUINTILE	9,101	30,206	38,181	46,384	74,537	85,514
2ND QUINTILE	58,792	66,320	67,275	111,220	116,726	118,292
3RD QUINTILE	101,399	102,499	94,177	155,264	157,863	148,742
4TH QUINTILE	155,511	155,812	132,953	216,865	217,907	194,817
5TH QUINTILE	209,563	209,596	170,219	281,374	281,578	244,017

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
WOMEN	92,954	158,526	175,919	179,863	227,919	242,702
HS DROP	53,797	120,888	134,517	91,921	145,605	158,572
HS GRAD	95,342	160,550	179,388	165,785	213,827	229,317
COLLEGE	137,221	202,163	218,956	247,709	293,649	307,405
WHITE/NON-HIS	95,266	164,074	183,255	189,343	240,720	257,324
BLACK/NON-HIS	83,563	131,469	138,503	151,860	180,152	185,272
HISPANIC	82,153	140,125	152,853	142,534	186,525	199,562
OTHER	84,001	135,925	148,707	179,179	234,814	249,325
1ST QUINTILE	8,946	126,629	150,825	58,506	159,921	186,411
2ND QUINTILE	80,636	143,996	165,149	147,053	194,508	215,629
3RD QUINTILE	140,587	172,702	186,625	207,920	236,458	249,373
4TH QUINTILE	207,849	222,992	225,302	284,336	295,818	297,214
5TH QUINTILE	283,894	284,872	277,428	375,459	377,859	368,987

Source: The MINT ("Modeling Income in the Near Term") Model v2.0

TABLE 4. NET LIFETIME BENEFITS (2% DISCOUNT) BY EDUCATION, RACE & EARNINGS QUINTIL

Alive at time of 1990-94 SIPP Survey

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	12,611	14,894	28,525	(21,046)	(16,310)	(785)
HS DROP	(3,840)	(2,440)	9,825	(17,400)	(12,684)	(4,610)
HS GRAD	16,791	18,746	32,366	(16,611)	(11,798)	2,011
COLLEGE	19,824	23,737	38,772	(32,938)	(28,369)	(5,351)
WHITE/NON-HIS	13,897	16,000	31,025	(24,313)	(19,993)	(1,952)
BLACK/NON-HIS	940	4,957	11,682	(9,058)	(3,156)	(342)
HISPANIC	11,435	12,993	21,600	(10,195)	(4,099)	7,357
OTHER	12,502	16,187	23,156	(19,328)	(13,462)	(2,257)
1ST QUINTILE	2,269	22,324	19,645	15,547	39,988	30,494
2ND QUINTILE	22,459	29,522	27,459	17,910	22,911	19,355
3RD QUINTILE	16,670	17,663	22,547	3,457	5,821	10,429
4TH QUINTILE	16,292	16,578	28,624	(14,707)	(13,764)	1,069
5TH QUINTILE	7,291	7,327	33,021	(80,583)	(80,409)	(35,171)

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
WOMEN	42,232	105,591	89,597	48,259	92,863	80,780
HS DROP	22,990	86,125	70,329	29,769	76,361	65,794
HS GRAD	43,725	107,067	90,880	46,626	91,183	77,832
COLLEGE	63,810	127,562	112,063	60,128	104,013	94,474
WHITE/NON-HIS	43,923	110,555	93,082	50,923	98,928	84,492
BLACK/NON-HIS	31,630	77,466	68,468	36,205	61,520	60,322
HISPANIC	39,308	94,750	83,288	43,811	84,041	74,737
OTHER	37,892	87,884	78,902	47,992	100,912	91,076
1ST QUINTILE	2,988	115,329	90,325	30,879	124,960	95,245
2ND QUINTILE	47,154	108,682	90,304	60,475	105,326	86,717
3RD QUINTILE	65,032	96,304	86,764	61,231	88,025	79,867
4TH QUINTILE	80,120	94,875	91,265	60,766	71,415	73,102
5TH QUINTILE	83,172	84,163	90,293	18,474	20,556	41,705

Source: The MINT ("Modeling Income in the Near Term") Model v2.0

TABLE 4. NET LIFETIME BENEFITS BY EDUCATION, RACE, AND EARNINGS QUINTILE, continued

Attain Age 62 or Older

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	19,540	21,959	34,714	(10,277)	(4,926)	10,638
HS DROP	2,763	4,292	15,741	(7,981)	(2,296)	5,472
HS GRAD	24,216	26,281	38,936	(3,905)	1,608	15,276
COLLEGE	25,318	29,364	43,586	(24,789)	(19,927)	2,966
WHITE/NON-HIS	20,490	22,699	36,842	(12,929)	(8,064)	9,981
BLACK/NON-HIS	11,030	15,581	21,076	855	7,857	10,686
HISPANIC	16,213	17,879	25,848	(2,634)	4,111	15,533
OTHER	22,250	26,263	31,275	(8,150)	(1,533)	9,244
1ST QUINTILE	2,733	23,838	21,501	19,178	47,332	37,642
2ND QUINTILE	25,779	33,307	30,932	24,017	29,523	26,293
3RD QUINTILE	26,258	27,358	30,731	10,420	13,019	17,765
4TH QUINTILE	25,341	25,642	36,275	(5,294)	(4,251)	10,933
5TH QUINTILE	13,721	13,755	38,472	(63,217)	(63,012)	(16,570)

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
WOMEN	44,859	110,431	94,848	57,262	105,318	94,011
HS DROP	25,894	92,985	77,726	38,049	91,733	82,082
HS GRAD	46,132	111,339	95,584	55,516	103,559	91,157
COLLEGE	65,835	130,776	115,438	68,847	114,787	105,514
WHITE/NON-HIS	46,473	115,282	98,244	59,845	111,221	97,637
BLACK/NON-HIS	34,742	82,648	73,924	47,150	75,442	74,611
HISPANIC	41,719	99,691	88,918	51,301	95,291	87,779
OTHER	40,893	92,817	83,946	54,581	110,216	100,168
1ST QUINTILE	3,314	120,998	96,504	33,873	135,288	105,940
2ND QUINTILE	49,414	112,773	94,646	66,187	113,643	96,439
3RD QUINTILE	68,234	100,349	91,248	69,278	97,816	90,459
4TH QUINTILE	84,501	99,643	96,122	73,235	84,718	87,589
5TH QUINTILE	95,709	96,687	103,512	46,671	49,071	72,283

Source: The MINT ("Modeling Income in the Near Term") Model v2.0

TABLE 5. ANNUAL BENEFITS (2% DISCOUNT) BY EDUCATION, RACE AND EARNINGS QUINTILE

Alive at time of 1990-94 SIPP Survey

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	8,425	8,564	7,231	8,960	9,227	8,470
HS DROP	7,237	7,345	6,092	6,344	6,693	6,052
HS GRAD	8,630	8,740	7,362	8,587	8,843	8,143
COLLEGE	9,165	9,396	8,084	11,066	11,320	10,376
WHITE/NON-HIS	8,814	8,938	7,491	9,353	9,589	8,741
BLACK/NON-HIS	6,508	6,765	6,078	7,140	7,540	7,306
HISPANIC	6,946	7,045	5,921	7,863	8,186	7,507
OTHER	6,705	6,954	6,336	9,121	9,468	8,897
1ST QUINTILE	626	1,875	2,387	2,748	4,175	4,739
2ND QUINTILE	4,177	4,566	4,419	6,426	6,720	6,617
3RD QUINTILE	6,382	6,446	5,803	8,633	8,745	8,040
4TH QUINTILE	9,036	9,052	7,598	10,760	10,797	9,561
5TH QUINTILE	11,336	11,340	9,161	11,906	11,915	10,562

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
WOMEN	3,885	6,445	7,282	6,344	7,882	8,521
HS DROP	2,584	5,554	6,278	3,629	5,583	6,198
HS GRAD	4,044	6,550	7,464	6,098	7,656	8,341
COLLEGE	5,109	7,300	7,989	8,101	9,414	9,951
WHITE/NON-HIS	3,928	6,571	7,488	6,563	8,186	8,902
BLACK/NON-HIS	3,952	6,120	6,475	5,884	6,833	7,022
HISPANIC	3,413	5,822	6,484	5,334	6,834	7,478
OTHER	3,513	5,466	6,122	6,239	8,124	8,773
1ST QUINTILE	424	5,070	6,273	2,251	5,593	6,709
2ND QUINTILE	3,596	6,030	7,035	5,611	7,134	7,972
3RD QUINTILE	5,957	7,164	7,796	7,527	8,378	8,903
4TH QUINTILE	8,332	8,875	8,959	9,820	10,158	10,287
5TH QUINTILE	10,244	10,344	10,074	11,159	11,221	11,143

Source: The MINT ("Modeling Income in the Near Term") Model v2.0

TABLE 5. ANNUAL BENEFITS BY EDUCATION, RACE, AND EARNINGS QUINTILE, continued

Attain Age 62 or Older

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
MEN	8,937	9,081	7,594	10,123	10,425	9,346
HS DROP	7,903	8,021	6,600	7,647	8,069	7,082
HS GRAD	9,141	9,254	7,707	9,837	10,130	9,082
COLLEGE	9,476	9,715	8,296	11,778	12,048	10,866
WHITE/NON-HIS	9,272	9,400	7,806	10,533	10,800	9,621
BLACK/NON-HIS	7,374	7,665	6,776	8,471	8,946	8,450
HISPANIC	7,428	7,533	6,316	8,699	9,057	8,141
OTHER	7,301	7,572	6,784	10,289	10,680	9,668
1ST QUINTILE	658	1,973	2,431	3,166	4,809	5,296
2ND QUINTILE	4,452	4,867	4,678	7,074	7,397	7,137
3RD QUINTILE	7,069	7,140	6,335	9,492	9,615	8,712
4TH QUINTILE	9,626	9,640	8,005	11,897	11,937	10,422
5TH QUINTILE	11,760	11,762	9,439	14,040	14,050	12,025

	1931-40			1956-64		
	Own	Rec'd	Shared	Own	Rec'd	Shared
WOMEN	4,021	6,659	7,457	6,836	8,488	9,014
HS DROP	2,748	5,867	6,546	4,184	6,410	6,955
HS GRAD	4,163	6,736	7,614	6,576	8,252	8,820
COLLEGE	5,205	7,436	8,083	8,480	9,855	10,271
WHITE/NON-HIS	4,057	6,778	7,655	7,024	8,757	9,353
BLACK/NON-HIS	4,136	6,364	6,711	6,578	7,632	7,751
HISPANIC	3,571	6,064	6,662	5,833	7,473	7,966
OTHER	3,649	5,677	6,255	6,559	8,541	9,080
1ST QUINTILE	444	5,291	6,445	2,427	6,018	7,063
2ND QUINTILE	3,704	6,200	7,173	5,937	7,547	8,312
3RD QUINTILE	6,118	7,352	7,961	8,016	8,923	9,332
4TH QUINTILE	8,551	9,108	9,152	10,596	10,953	10,932
5TH QUINTILE	10,828	10,864	10,537	12,861	12,932	12,522

Source: The MINT ("Modeling Income in the Near Term") Model v2.0

TABLE 6. INTERNAL RATES OF RETURN

(Alive at time of 1990-94 SIPP Survey)

IRRs on Own Benefits By Gender

SCENARIO	1931-40		1956-64	
	Men	Women	Men	Women
1. Baseline*	3.16	3.20	2.33	2.36
2. Progressive Benefit Formula	0.01	1.03	-0.02	0.46
3. Actual Age of Retirement	-0.06	-0.02	-0.03	0.04
4. Actual Mortality	-0.78	-0.07	-0.66	0.16
5. Cumulative Impact on Redistribution (2+3+4)	-0.83	0.94	-0.71	0.66
6. Current Law (1+5)	2.33	4.14	1.62	3.01

IRRs on Men's Own Benefits By Race/Ethnicity

SCENARIO	1931-40			1956-64		
	White	Black	Hispanic	White	Black	Hispanic
1. Baseline*	3.16	3.12	3.17	2.33	2.34	2.34
2. Progressive Benefit Formula	-0.05	0.40	0.42	-0.09	0.32	0.32
3. Actual Age of Retirement	-0.06	-0.09	-0.02	-0.04	0.01	0.01
4. Actual Mortality	-0.71	-1.40	-1.14	-0.61	-0.89	-0.92
5. Cumulative Impact on Redistribution (2+3+4)	-0.82	-1.08	-0.74	-0.74	-0.57	-0.59
6. Current Law (1+5)	2.34	2.05	2.43	1.59	1.77	1.76

IRRs on Women's Own Benefits By Race/Ethnicity

SCENARIO	1931-40			1956-64		
	White	Black	Hispanic	White	Black	Hispanic
1. Baseline*	3.21	3.15	3.14	2.35	2.35	2.36
2. Progressive Benefit Formula	1.02	1.00	1.19	0.41	0.62	0.78
3. Actual Age of Retirement	-0.03	-0.03	0.03	0.02	0.12	0.11
4. Actual Mortality	-0.04	-0.38	-0.03	0.21	-0.15	-0.01
5. Cumulative Impact on Redistribution (2+3+4)	0.95	0.59	1.19	0.65	0.59	0.88
6. Current Law (1+5)	4.17	3.73	4.33	3.00	2.95	3.23

IRRs on Men's Own Benefits By Education

SCENARIO	1931-40			1956-64		
	HS Drop	HS Grad	College	HS Drop	HS Grad	College
1. Baseline*	3.17	3.15	3.18	2.33	2.31	2.37
2. Progressive Benefit Formula	0.34	0.02	-0.26	0.58	0.13	-0.42
3. Actual Age of Retirement	-0.02	-0.07	-0.08	0.07	-0.03	-0.07
4. Actual Mortality	-1.62	-0.68	-0.40	-1.60	-0.72	-0.31
5. Cumulative Impact on Redistribution (2+3+4)	-1.30	-0.74	-0.74	-0.95	-0.63	-0.80
6. Current Law (1+5)	1.86	2.41	2.44	1.39	1.68	1.56

IRRs on Women's Own Benefits By Education

SCENARIO	1931-40			1956-64		
	HS Drop	HS Grad	College	HS Drop	HS Grad	College
1. Baseline*	3.10	3.21	3.23	2.38	2.35	2.36
2. Progressive Benefit Formula	1.48	1.06	0.59	1.31	0.65	0.02
3. Actual Age of Retirement	0.03	-0.04	0.00	0.18	0.06	-0.03
4. Actual Mortality	-0.58	-0.09	0.33	-0.39	0.02	0.50
5. Cumulative Impact on Redistribution (2+3+4)	0.94	0.94	0.93	1.10	0.73	0.49
6. Current Law (1+5)	4.03	4.15	4.16	3.49	3.08	2.85

* Benefit = 41.2% of AIME; Fixed Age of Retirement = 63.14; Fixed Age of Death = 84.05

Source: The MINT ("Modeling Income in the Near Term") Model, v2.0

TABLE 6. INTERNAL RATES OF RETURN, continued

(Alive at time of 1990-94 SIPP Survey)

IRRs on Received Benefits By Gender

SCENARIO	1931-40		1956-64	
	Men	Women	Men	Women
1. Baseline*	3.21	5.24	2.44	3.11
2. Progressive Benefit Formula	0.01	0.27	-0.05	0.11
3. Actual Age of Retirement	-0.05	-0.10	0.01	0.04
4. Actual Mortality	-0.79	0.48	-0.69	0.43
5. Cumulative Impact on Redistribution (2+3+4)	-0.83	0.65	-0.73	0.58
6. Current Law (1+5)	2.38	5.89	1.71	3.69

IRRs on Men's Received Benefits By Race/Ethnicity

SCENARIO	1931-40			1956-64		
	White	Black	Hispanic	White	Black	Hispanic
1. Baseline*	3.20	3.26	3.23	2.42	2.53	2.50
2. Progressive Benefit Formula	-0.05	0.38	0.40	-0.12	0.26	0.28
3. Actual Age of Retirement	-0.04	-0.08	0.00	0.00	0.08	0.04
4. Actual Mortality	-0.72	-1.37	-1.14	-0.64	-0.94	-0.91
5. Cumulative Impact on Redistribution (2+3+4)	-0.82	-1.06	-0.74	-0.75	-0.60	-0.59
6. Current Law (1+5)	2.38	2.20	2.48	1.67	1.93	1.91

IRRs on Women's Received Benefits By Race/Ethnicity

SCENARIO	1931-40			1956-64		
	White	Black	Hispanic	White	Black	Hispanic
1. Baseline*	5.32	4.53	5.19	3.13	2.79	3.25
2. Progressive Benefit Formula	0.22	0.55	0.53	0.05	0.44	0.42
3. Actual Age of Retirement	-0.10	-0.09	-0.08	0.03	0.11	0.10
4. Actual Mortality	0.49	0.31	0.47	0.48	0.11	0.26
5. Cumulative Impact on Redistribution (2+3+4)	0.61	0.78	0.91	0.55	0.66	0.78
6. Current Law (1+5)	5.94	5.30	6.10	3.68	3.45	4.03

IRRs on Men's Received Benefits By Education

SCENARIO	1931-40			1956-64		
	HS Drop	HS Grad	College	HS Drop	HS Grad	College
1. Baseline*	3.21	3.19	3.26	2.55	2.42	2.45
2. Progressive Benefit Formula	0.33	0.01	-0.26	0.53	0.09	-0.45
3. Actual Age of Retirement	0.00	-0.06	-0.07	0.12	0.02	-0.03
4. Actual Mortality	-1.63	-0.69	-0.41	-1.62	-0.75	-0.34
5. Cumulative Impact on Redistribution (2+3+4)	-1.29	-0.74	-0.74	-0.98	-0.64	-0.82
6. Current Law (1+5)	1.92	2.45	2.52	1.57	1.78	1.63

IRRs on Women's Received Benefits By Education

SCENARIO	1931-40			1956-64		
	HS Drop	HS Grad	College	HS Drop	HS Grad	College
1. Baseline*	6.04	5.22	4.66	3.99	3.18	2.86
2. Progressive Benefit Formula	0.49	0.26	0.07	0.68	0.23	-0.22
3. Actual Age of Retirement	-0.15	-0.10	-0.06	0.10	0.06	0.00
4. Actual Mortality	0.35	0.45	0.76	0.13	0.33	0.68
5. Cumulative Impact on Redistribution (2+3+4)	0.69	0.62	0.76	0.91	0.63	0.46
6. Current Law (1+5)	6.74	5.83	5.42	4.90	3.81	3.32

* Benefit = 41.2% of AIME; Fixed Age of Retirement = 63.14; Fixed Age of Death = 84.05

Source: The MINT ("Modeling Income in the Near Term") Model, v2.0

TABLE 6. INTERNAL RATES OF RETURN, continued

(Alive at time of 1990-94 SIPP Survey)

IRRs on Shared Benefits By Gender

SCENARIO	1931-40		1956-64	
	Men	Women	Men	Women
1. Baseline*	3.70	3.86	2.66	2.77
2. Progressive Benefit Formula	0.10	0.16	0.01	0.03
3. Actual Age of Retirement	-0.09	0.00	0.01	0.08
4. Actual Mortality	-0.77	0.31	-0.70	0.36
5. Cumulative Impact on Redistribution (2+3+4)	-0.77	0.46	-0.67	0.47
6. Current Law (1+5)	2.94	4.32	1.99	3.25

IRRs on Men's Shared Benefits By Race/Ethnicity

SCENARIO	1931-40			1956-64		
	White	Black	Hispanic	White	Black	Hispanic
1. Baseline*	3.72	3.52	3.68	2.65	2.58	2.73
2. Progressive Benefit Formula	0.04	0.46	0.48	-0.05	0.30	0.33
3. Actual Age of Retirement	-0.09	-0.11	-0.06	0.01	0.07	0.04
4. Actual Mortality	-0.71	-1.34	-1.09	-0.65	-0.96	-0.89
5. Cumulative Impact on Redistribution (2+3+4)	-0.76	-1.00	-0.67	-0.69	-0.59	-0.53
6. Current Law (1+5)	2.96	2.52	3.01	1.96	1.99	2.20

IRRs on Women's Shared Benefits By Race/Ethnicity

SCENARIO	1931-40			1956-64		
	White	Black	Hispanic	White	Black	Hispanic
1. Baseline*	3.86	3.79	3.95	2.76	2.72	2.86
2. Progressive Benefit Formula	0.11	0.44	0.42	-0.04	0.40	0.34
3. Actual Age of Retirement	0.00	-0.04	0.00	0.07	0.14	0.14
4. Actual Mortality	0.33	0.17	0.28	0.41	0.07	0.17
5. Cumulative Impact on Redistribution (2+3+4)	0.43	0.57	0.70	0.44	0.61	0.65
6. Current Law (1+5)	4.29	4.36	4.65	3.20	3.33	3.51

IRRs on Men's Shared Benefits By Education

SCENARIO	1931-40			1956-64		
	HS Drop	HS Grad	College	HS Drop	HS Grad	College
1. Baseline*	3.71	3.68	3.76	2.77	2.63	2.67
2. Progressive Benefit Formula	0.41	0.10	-0.16	0.58	0.15	-0.36
3. Actual Age of Retirement	-0.05	-0.09	-0.11	0.11	0.02	-0.03
4. Actual Mortality	-1.59	-0.68	-0.41	-1.64	-0.75	-0.36
5. Cumulative Impact on Redistribution (2+3+4)	-1.23	-0.67	-0.68	-0.95	-0.59	-0.75
6. Current Law (1+5)	2.48	3.00	3.08	1.82	2.04	1.92

IRRs on Women's Shared Benefits By Education

SCENARIO	1931-40			1956-64		
	HS Drop	HS Grad	College	HS Drop	HS Grad	College
1. Baseline*	4.08	3.84	3.68	3.15	2.78	2.69
2. Progressive Benefit Formula	0.38	0.14	-0.03	0.56	0.13	-0.28
3. Actual Age of Retirement	0.00	0.00	0.00	0.18	0.10	0.02
4. Actual Mortality	0.06	0.30	0.67	-0.03	0.26	0.65
5. Cumulative Impact on Redistribution (2+3+4)	0.43	0.43	0.64	0.71	0.50	0.40
6. Current Law (1+5)	4.51	4.27	4.32	3.87	3.27	3.09

* Benefit = 41.2% of AIME; Fixed Age of Retirement = 63.14; Fixed Age of Death = 84.05

Source: The MINT ("Modeling Income in the Near Term") Model, v2.0

TABLE 6. INTERNAL RATES OF RETURN, continued

(Alive at time of 1990-94 SIPP Survey)

IRRs on Men's Own Benefits By Income Quintiles

SCENARIO	1931-40					1956-64				
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
1. Baseline*	0.74	3.01	3.14	3.16	3.18	1.91	2.28	2.34	2.34	2.35
2. Progressive Benefit Formula	2.35	1.78	0.75	0.19	-0.41	2.04	1.11	0.52	0.11	-0.66
3. Actual Age of Retirement	0.74	-0.03	-0.02	-0.07	-0.08	0.12	-0.05	0.01	-0.07	-0.05
4. Actual Mortality	-0.97	-1.16	-1.20	-0.88	-0.54	-0.70	-0.76	-0.78	-0.60	-0.58
5. Cumulative Impact on Redistribution (2+3+4)	2.13	0.59	-0.48	-0.77	-1.04	1.47	0.30	-0.26	-0.56	-1.28
6. Current Law (1+5)	2.87	3.60	2.66	2.40	2.14	3.37	2.58	2.08	1.78	1.07

IRRs on Women's Own Benefits By Income Quintiles

SCENARIO	1931-40					1956-64				
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
1. Baseline*	0.78	3.24	3.31	3.29	3.20	2.02	2.37	2.40	2.38	2.35
2. Progressive Benefit Formula	2.70	2.20	0.98	0.28	-0.31	2.16	1.31	0.62	0.17	-0.57
3. Actual Age of Retirement	0.35	-0.08	-0.01	-0.04	-0.02	0.15	0.06	0.03	0.01	0.01
4. Actual Mortality	-0.49	-0.33	-0.08	0.16	0.37	-0.07	-0.08	0.09	0.23	0.39
5. Cumulative Impact on Redistribution (2+3+4)	2.56	1.79	0.90	0.40	0.04	2.24	1.28	0.73	0.41	-0.18
6. Current Law (1+5)	3.34	5.03	4.21	3.69	3.24	4.26	3.65	3.13	2.79	2.18

IRRs on Men's Received Benefits By Income Quintiles

SCENARIO	1931-40					1956-64				
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
1. Baseline*	5.76	3.64	3.19	3.17	3.18	4.19	2.60	2.41	2.36	2.35
2. Progressive Benefit Formula	0.97	1.38	0.71	0.19	-0.41	0.90	0.87	0.47	0.10	-0.66
3. Actual Age of Retirement	-0.03	-0.03	0.01	-0.05	-0.07	0.09	0.07	0.07	-0.03	-0.03
4. Actual Mortality	-0.51	-1.04	-1.22	-0.90	-0.56	-0.53	-0.82	-0.81	-0.63	-0.59
5. Cumulative Impact on Redistribution (2+3+4)	0.43	0.31	-0.50	-0.76	-1.04	0.46	0.11	-0.28	-0.57	-1.28
6. Current Law (1+5)	6.19	3.95	2.69	2.40	2.14	4.65	2.72	2.13	1.79	1.07

IRRs on Women's Received Benefits By Income Quintiles

SCENARIO	1931-40					1956-64				
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
1. Baseline*	10.52	6.10	4.00	3.38	3.21	6.15	3.57	2.77	2.46	2.36
2. Progressive Benefit Formula	0.09	0.35	0.50	0.24	-0.31	0.19	0.44	0.35	0.11	-0.58
3. Actual Age of Retirement	-0.31	-0.10	-0.01	-0.03	-0.03	0.00	0.09	0.06	0.02	0.02
4. Actual Mortality	0.64	0.47	0.38	0.33	0.39	0.48	0.31	0.31	0.30	0.39
5. Cumulative Impact on Redistribution (2+3+4)	0.41	0.71	0.87	0.54	0.04	0.67	0.84	0.72	0.44	-0.17
6. Current Law (1+5)	10.93	6.81	4.87	3.92	3.26	6.82	4.41	3.49	2.90	2.19

IRRs on Men's Shared Benefits By Income Quintiles

SCENARIO	1931-40					1956-64				
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
1. Baseline*	4.29	3.67	3.51	3.60	3.80	3.45	2.62	2.55	2.56	2.67
2. Progressive Benefit Formula	1.17	1.35	0.75	0.25	-0.33	0.87	0.79	0.45	0.12	-0.56
3. Actual Age of Retirement	-0.03	-0.09	-0.03	-0.08	-0.12	0.05	0.05	0.06	-0.01	-0.02
4. Actual Mortality	-0.72	-1.04	-1.18	-0.89	-0.54	-0.72	-0.86	-0.81	-0.64	-0.58
5. Cumulative Impact on Redistribution (2+3+4)	0.42	0.22	-0.46	-0.71	-0.99	0.20	-0.01	-0.29	-0.54	-1.16
6. Current Law (1+5)	4.71	3.90	3.05	2.89	2.80	3.65	2.61	2.25	2.02	1.51

IRRs on Women's Shared Benefits By Income Quintiles

SCENARIO	1931-40					1956-64				
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
1. Baseline*	4.55	3.99	3.47	3.29	3.27	3.49	2.87	2.60	2.52	2.50
2. Progressive Benefit Formula	0.07	0.21	0.27	0.13	-0.28	0.12	0.25	0.18	0.01	-0.54
3. Actual Age of Retirement	-0.04	0.01	0.02	0.01	0.00	0.10	0.11	0.09	0.06	0.04
4. Actual Mortality	0.36	0.31	0.28	0.29	0.37	0.43	0.29	0.31	0.30	0.40
5. Cumulative Impact on Redistribution (2+3+4)	0.39	0.53	0.57	0.43	0.10	0.65	0.65	0.58	0.37	-0.10
6. Current Law (1+5)	4.95	4.52	4.04	3.72	3.37	4.14	3.52	3.18	2.89	2.40

* Benefit = 41.2% of AIME; Fixed Age of Retirement = 63.14; Fixed Age of Death = 84.05

Source: The MINT ("Modeling Income in the Near Term") Model, v2.0

APPENDIX. BACKGROUND DATA FOR CURRENT LAW OASI, PERSONS BORN 1956-1964

Sex	Quintiles of Death- adjusted Own Earnings Ages 22- 61	Educational Attainment	Race and Hispanicity	Lifetime Own Payroll Tax Discounted at 2% to Age 62 (1998 dollars)	AIWF at Retirement (1998 dollars)	Age at Retirement	Age at Death
All				150,687	2,591	62.5	81.9
All Men				183,712	3,161	62.4	77.2
Men	1ST			24,719	449	62.6	75.1
	2ND			83,129	1,493	63.3	76.6
	3RD			137,756	2,399	62.9	77.1
	4TH			210,854	3,601	62.4	78.3
	5TH			319,190	5,451	61.3	77.8
Men		HS DROP		102,392	1,849	61.9	71.6
		HS GRAD COLLEGE		169,591	2,916	62.3	76.8
Men			WHT N/HISP	254,955	4,349	62.6	80.9
			BLK N/HISP	197,816	3,393	62.3	77.7
			HISPANIC	128,279	2,260	62.0	74.7
			OTHER	137,995	2,381	62.7	76.4
All Women				182,097	3,185	62.4	77.7
Women	1ST			118,666	2,039	62.6	86.5
	2ND			23,390	400	62.4	85.2
	3RD			78,501	1,390	63.1	86.4
	4TH			133,986	2,308	62.7	87.1
	5TH			202,734	3,464	62.5	87.3
Women		HS DROP		307,301	5,200	62.0	87.3
		HS GRAD COLLEGE		49,969	891	62.3	80.8
Women			WHT N/HISP	107,120	1,846	62.7	85.7
			BLK N/HISP	176,501	3,005	62.6	90.9
			HISPANIC	125,977	2,158	62.5	87.3
			OTHER	99,646	1,738	63.0	82.5
				86,539	1,493	62.8	84.4
				122,441	2,115	62.7	88.2

Source: The MINT ("Modeling Income in the Near Term") Model, v2.0