Replacement of Earnings of the Disabled Under Social Security: Levels & Trends 1969-75

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ABSTRACT

Between 1969 and 1975 the number of social security disability beneficiaries rose by nearly 80 percent and the number of applications rose by over 75 percent. To many observers this experience, plus the drop in the recovery rate, pointed to large incentives, particularly high benefit levels, to apply for disability insurance benefits and to remain on the beneficiary rolls. This study examines the rate of replacement of earnings by disability benefits over the period 1969-75 in order to assess the economic incentives for individuals to apply for benefits.

Replacement rates were examined over time to determine trends in these rates, and cross sectionally to determine differences in these rates among individuals of differing characteristics. The three measures employed to test the rate's sensitivity to the specification were the last nonzero years of earnings prior to onset of disability, the highest 5 years of earnings of the 10 years prior to onset, and the average monthly earnings over the working lifetime.

Replacement rates were discovered to have risen substantially over the period 1969-75. The upward trend appears to have ended in 1973 or 1974 probably due to increases in the maximum taxable earnings under social security.

Certain groups have been found to have higher rates of replacement, on the average, and a larger proportion of members with "high" replacement rates. Among the groups with higher rates of replacement are women, racial minorities, younger workers, workers with dependents, and workers with a history of low earnings.

Median benefits were compared to median predisability earnings of the beneficiary population and median earnings of the total working population through calculation of replacement ratios. Holding age and sex constant, replacement ratios based on predisability earnings are considerably higher than those based on earnings of the total working population. This is attributable to the fact that the predisability earnings of beneficiaries tend to be lower than the earnings of the nondisabled working population. This result tends to dispel the notion that the incentives are high for the nondisabled or marginally impaired individual to apply for benefits.

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FOREWORD

This study of replacement rates for disabled persons using data from the Continuous Work-History Sample (CWHS) is a milestone in the Social Security Administration research program. For the first time, the data presented enable one to trace how benefits paid to disabled workers and the concomitant rates at which pre-disability earnings are replaced have actually changed over a 7-year period.

The data for each year are based on the data in the 1-percent CWHS sample on newly entitled beneficiaries. The replacement rate is calculated as the ratio of family disability benefits to one of three denominators: (a) average monthly earnings in the last nonzero year of earnings prior to the date of onset of the disabling condition; (b) average indexed monthly earnings (AIME) since 1951; (c) average monthly earnings in the 5 years of highest indexed earnings during the 10 years prior to the onset of disability.

In addition to the longitudinal perspective, the data have been analyzed in the cross section to illustrate the effects of race, sex, age, previous earnings, and family benefit category on replacement rates.

Many people have made important contributions to this study. Aaron Krute, Barry Bye, Leo McManus, and Aaron Prero (the latter from the Division of Statistics) were involved in the planning and execution of this project from its outset several years ago. Michael Hagan, a former member of the Division of Disability Studies, contributed to an interim report that appeared 2 years ago. Kay Merrick and Mike Bostron programed the many tables in the report. Dianne Jarrell typed the several drafts of this paper with assistance from Marilyn Roach, Marva Franklin, and Linda Parr. Finally, the authors acknowledge the computational assistance of Mary Brown and Sylvia Baskin.

By bringing together this wealth of information concerning the replacement of earnings of the disabled, it is hoped that light will be shed on the debate concerning the proper rate of replacement.

John J. Carroll
Director,
Office of Research and Statistics

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INTRODUCTION

Rapid and largely unforeseen growth in the social security disability insurance (SSDI) program has been met with increasing alarm as the disability insurance trust fund is led to depletion and payroll taxes are increased. Although recent and proposed future tax increases have assured the stability of the trust fund, spiraling costs are still a nemesis to policymakers. Between 1969 and 1978 the number of disabled workers receiving benefits more than doubled from 1.4 million to nearly 2.9 million while yearly applications for disability benefits rose 63 percent from 725,000 to 1,184,760.[1] At the same time, the cost of the program increased more than fourfold, from $2.5 billion in 1969 to $13.0 billion in 1978. This growth in applications, awards and beneficiaries over this period is illustrated graphically in figure 1.

Much of the growth in the program has been attributed to high replacement rates of predisability earnings by SSDI benefits. Policy proposals reducing benefits and/or setting ceilings on the rate of replacement have recently been the focus of policymakers. Too high a rate, it is often argued, will provide incentives to apply for benefits or to remain on the benefit rolls, regardless of the severity of the disabling condition, which would expand the disability rolls and overburden the disability insurance trust fund. On the other hand, too small a rate of replacement may provide benefits which are not adequate to prevent poverty or other economic hardship. H.R. 3236, the Social Security Disability Insurance Amendments of 1979, proposes such a ceiling on replacement rates and would set a limit on benefits at 80-85 percent of the worker's average indexed monthly earnings (AIME)[2] or 150-160 percent of the worker's primary insurance amount (PIA), whichever is lower, but not less than the worker's PIA.[3]

Much of the discussion of replacement rates and incentives has centered on the historical evidence of increasing application rates with the upward trend in replacement of earnings by SSDI. For the most part, past evidence has been based not on actual data but rather on simulations of the replacement rate for a hypothetical worker. This study presents data based entirely on the actual benefits and earnings data for a sample of new disability beneficiaries from 1969 through 1975. Although rising replacement rates are but one factor to consider in the increased applications and number of beneficiaries, this analysis

[1]Most of the summary statistics presented in this paper come from the *Annual Statistical Supplements* of the *Social Security Bulletin* (1969 to 1975 editions). Other statistics are unpublished at the present time and come from internal Social Security Administration sources.

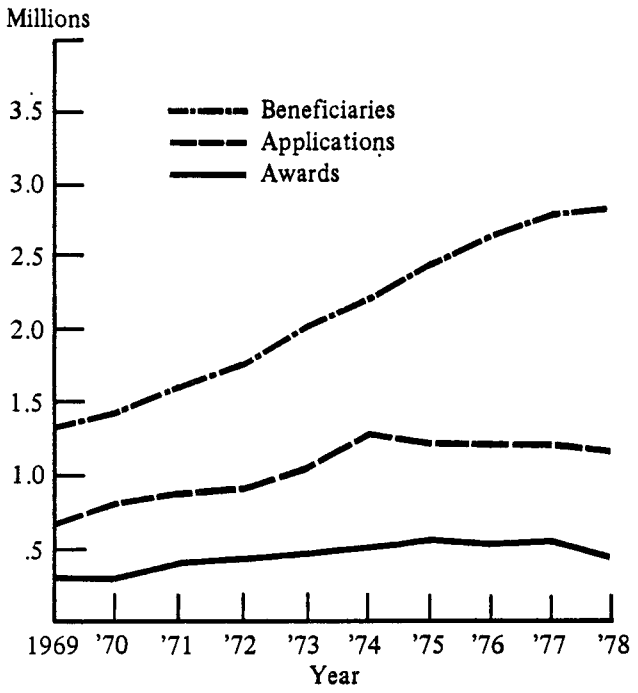
[2]The amount of *average monthly earnings* is used as the basis for determining a worker's primary insurance amount. The average is computed by (1) calculating the worker's creditable earnings after 1950 (or the year after he reaches age 21) and up to the year of attainment of age 62 for women, age 65 for men, or of death or onset of disability; (2) omitting up to 5 years of lowest or zero earnings; and (3) dividing the cumulative amount by the number of elapsed months during the same period. An alternative computational method takes into account the worker's earnings after 1936. The method yielding the highest amount is used.

Average indexed monthly earnings are similar to the above computation but each year's earnings are wage indexed to 2 years prior to retirement, death, or onset of disability, as per the 1977 amendments. The indexing formula weights the individual worker's actual earnings in year X with the ratio of the average annual wages for all workers in the update year (year Y) to average annual wages for all workers in year X. This, in theory, corrects for both price level and productivity changes. The underlying assumptions are that wages have kept pace with inflation and the composition of the labor force has not changed.

[3]*Primary insurance amount* is the monthly amount that would be payable to a retired worker who begins to get benefits at age 65 or to a disabled worker. This amount, which is related to the worker's average monthly earnings, is also the amount used as a base for computing all types of benefits payable on the basis of an individual's earnings record.

reveals that for new beneficiaries median replacement rates rose about 27 percent from 50 percent of predisability earnings in 1969 to 63 percent in 1974.

FIGURE 1. – Trends in applications, awards, and beneficiaries, 1969-78



This study also examines differences in replacement rates among various demographic subgroups. It reports, for example, that high replacement rates are generally found among groups with low earnings. Due to the social insurance principles by which the PIA is computed, increasing earnings are associated with lower replacement rates. More specifically the high replacement rates were found among the young, females, and minorities. Increasing age was found to diminish replacement rates for both males and females, although the decline moderates or reverses itself for the oldest age groups. In the past high rates of replacement have served to compensate over time for the lost earnings growth which might be expected of the young had they not become disabled. Replacement rates for the white population were found to be smaller than the rates for minority races, and the result holds for both sexes. Benefits to females were found to replace larger proportions of earnings than benefits to males, and this generalization holds across race. Finally, and again due to social insurance goals, workers with dependents receive larger benefit amounts and hence larger replacement rates than worker-only beneficiaries.

The purpose of this research is twofold. First, it attempts to put the growth in the program into historical perspective. The incentives created by higher replacement rates are only one of several reasons for growth. Second, it analyzes the rate of predisability earnings by SSDI benefits, identifies changes in the rate over time, discusses differences among various groups of persons (for example, race, sex, earnings category, age), and describes those persons with high replacement rates.

SOURCES OF GROWTH

Several causes for the larger beneficiary rolls and higher program costs are identifiable. Among these reasons are the following:[4]

(1) an increase in the size of the work force and the number of workers covered under social security;

(2) higher unemployment rates;

(3) more information about transfer programs available and accessible;

[4]Contrary to popular opinion the shifting age distribution has not accounted for much of this increase. The largest incidence of disabling conditions occurs between age 45 and retirement. Between 1970 and 1977 the proportion of working-age population (21-64) represented by workers 45-64 fell from 40.71 percent to 37.80 percent. Thus one might expect the rate of disabling conditions to decline, although it increased substantially over this period. (Source: *U.S. Statistical Abstract*, 1978, table 30.)

(4) greater incentives to apply for benefits due to larger average benefit amounts and increases in the rate of replacement of earnings;

(5) fewer persons leaving the disability beneficiary rolls despite increased outlays for rehabilitation by Federal, State, and local agencies;

(6) more liberal administration of the SSDI program.

The general population of the United States has grown, and consequently the number of workers has risen. This in turn has caused a rise in the number of workers paying social security payroll taxes and in the number of persons covered (that is, eligible to collect benefits) under social security. Workers insured for disability benefits by social security rose by 24 percent from 1969 to 1978, increasing from 71,240,000 to 88,510,000 during this period. This moderate rise in the number of insured workers explains very little of the increase in the beneficiary population.[5] Considering only the ratio in 1969 of beneficiaries to the insured population, the expanding insured base provides for an increase of 338,000 new beneficiaries and accounts for only 23 percent of the actual increase of 1,486,000. In addition one might argue that the ratio of beneficiaries to the insured population ought to drop because the postwar baby boom would be expanding the insured population at younger ages where there is a smaller probability of becoming disabled.

The American economy has witnessed a structural change in the past decade, one effect being a long term increase in the unemployment rate. The annual unemployment rate rose from 3.9 percent in 1969 to a peak of 8.5 percent in 1975 before dropping somewhat to 6.0 percent by 1978. Because disabled workers tend to be among the group of "last hired, first fired," this rise in the unemployment rate can be expected to cause much higher rates of unemployment among the disabled population.[6] This may cause individuals to perceive themselves as unemployable due to a disability whereas, in more favorable labor market conditions, they might be able to find suitable employment.

Another impetus to applications has been the increase in information available to individuals about transfer programs. The greatest increase in information may have occurred with the creation of the supplemental security income (SSI) program in 1974. This program synthesized existing State welfare programs into a single program under Federal administration. This change to Federal jurisdiction provided many applicants for SSI with information about other Federal programs for which they might qualify including, in this case, social security disability insurance. In most instances, those individuals who were believed to qualify for benefits under programs other than SSI were directed to apply for them. While applications for SSDI increased from 725,000 in 1969 to 1,184,760 in 1978, the effect of the SSI program on SSDI applications is particularly noticeable during 1974, the first year of the program. Between 1973 and 1974 applications jumped by 25 percent, from 1,067,000 to 1,331,000 (figure 1).

Although the disability rolls have doubled in size, the number of workers leaving the rolls due to recovery has declined from 38,000 in 1969 to 34,000 in 1976. This translates to a decline in the recovery rate from 29.3 per 1,000 disabled workers to 12.6 per 1,000 disabled workers. This decline occurred despite the fact that expenditures on rehabilitation of disabled social security recipients grew from $15 million in 1969 to $89 million in 1976.

[5]To be insured in the event of disability, the individual must be fully insured (one quarter of coverage for each year after 1950 or year of attainment of age 21, whichever is later, not to exceed a maximum of 40 quarters) and have at least 20 quarters of coverage in the 40-quarter period ending with the quarter in which disability occurred. If the worker is under age 31 he must be insured for at least half the quarters since attainment of age 21; a minimum of 6 quarters of coverage is required. Blind individuals need only fully insured status.

[6]For a discussion of the relationship between health and unemployment see Paul Burgess and Jerry Kingston, "The Effect of Health on the Duration of Unemployment," *Monthly Labor Review*, April 1974, pp. 53-54. To understand the relationship between unemployment and applications see: M. E. Lando "The Effect of Unemployment on Applications for Disability Insurance," *1974 Proceedings of the Business and Economics Section of the American Statistical Association;* John C. Hambor, *Unemployment and Disability: An Econometric Analysis with Time Series Data*, Staff Paper No. 20, January 1975; Lawrence C. Thompson and Paul N. Van de Water, "The Short-Run Behavior of the Social Security Trust Funds," *Technical Analysis Paper No. 8*, Office of the Assistant Secretary for Planning and Evaluation, Dept. of Health, Education, and Welfare, December 1975.

Perhaps the largest impetus to increases in the social security disability rolls has been the increased incentives to apply. Among these incentives have been the historical increase in benefit amounts and addition of health insurance coverage under Medicare for those receiving disability benefits for at least 2 years, reduction in the length of the waiting period, and a lifting of the requirement of recent quarters of coverage for blind persons. Previous research has shown the increase in the ratio of average monthly benefits to average spendable earnings to be a highly significant variable in determining the number of applications in a given time period.[7]

The increase in benefit amounts can be attributed to several changes in the social security legislation. First, over the 1969-75 period the maximum earnings taxable for social security was increased four times, from $7,800 to $14,100. An increase in the taxable maximum raises the base on which benefits are computed and hence raises one's average monthly earnings. The second major legislative change was the increase in the proportion of earnings used in computing the PIA. The absolute maximum family benefit was also raised between 1969 and 1975 from $434.40 to $914.80. This amounted to an increase of 110 percent, double the Consumer Price Index increases of 55 percent over the same period.[8]

These new formulations provided for large increases in actual benefit amounts paid over this 7-year period. This can be seen in the doubling of the average monthly benefit amount for all individual beneficiaries from $112.74 in 1969 to $225.90 in 1975.[9] This 100-percent increase in the average monthly benefit amount is substantially greater than the CPI increase of 47 percent for the same period. These increases in benefit levels are not unique to the SSDI program. The changes in the legislation produced comparable changes in the retirement and survivors program also.

The increase in average benefit amounts for the population as a whole gives little insight into individual incentives. The decision to apply for disability benefits depends, among other things, on an individual's expected benefit relative to expected earnings. For this reason one must consider not the average absolute benefit for the entire population but instead the average relative benefit for the members of a specific cohort.

THE CONCEPT OF REPLACEMENT RATES

It is necessary to develop a measure which will reflect not only the incentives to apply for benefits but also incentives to remain on the disability rolls. A simple measure may be obtained by creating a ratio of the benefit amount to earnings. The rationale behind this measure is the belief that individuals prefer leisure to work, and thus the higher the benefit relative to earnings the greater the probability an individual will choose to accept the benefit and not work.

Replacement rates can be employed to infer many things about benefit levels. Some of the issues addressed by replacement rates are adequacy, incentives, and equity. High rates of replacement indicate benefit levels which provide adequate financial support to prevent poverty. High replacement rates among lower income groups are desirable to assure adequacy, and this consideration is evident in the social security legislation. Though high replacement

[7]See M. E. Lando and T. R. Hopkins, "Modeling Applications for Disability Insurance," paper presented at the Allied Social Sciences Association Meetings, New York City, Dec. 29, 1977.

[8]Recent decoupling legislation should help slow the increase in benefits and put them more in line with the increase in the CPI. Automatic cost-of-living increases on top of higher wages due to inflation caused the high rate of growth in benefits. Under the decoupled scheme only current beneficiaries will receive cost-of-living raises, while current workers will have indexed wages and a new benefit formula with fixed percentages and bend points which are automatically adjusted to average wage increases.

[9]Another increase in the average benefit amount, this time to $245.17, occurred in 1976.

rates are desirable to assure adequacy of benefits, such rates are the antithesis of the work ethic. High rates of replacement will provide great incentives to apply for benefits regardless of the severity of one's disabling condition and disincentives to return to the labor force irrespective of a partial or complete recovery. Equity or fairness in benefits is implied by an equal rate of replacement for all individuals. The goal of equity, of course, runs contrary to the goal of adequacy where resources are limited.

In 1973 a path breaking paper by Bixby presented actual data for retirees under social security; but to date such data do not exist for the disabled or survivors.[10] Subsequent work has been done by Fox, Reno, and Leimer with the first including private pensions as well as social insurance benefits in the calculation of replacement rates.[11]

Recently, replacement rates for the disabled were estimated by the Office of the Actuary using a sample of awards added to the benefit rolls during 1 week in October 1976.[12] Unlike that work, this paper looks at changes over time to see how the incentives to apply for benefits have changed. It also examines differences in replacement rates by additional demographic characteristics such as sex, race, and number of dependents. Several conceptual issues should be discussed first in relation to the appropriateness of replacement rates as a measure of incentives. Some of these issues are unique to the treatment of disabled persons; others pertain to the use of replacement rates in determining retirement incentives, or to the incentives in applying for other transfer programs.

The Denominator

The first issue arises in the choice of a measure of earnings for the denominator of the replacement rate. Does one consider an individual's predisability earnings or his potential earnings after the onset of disability? As a measure of the adequacy of disability payments, one might wish to employ earnings prior to disability, even though the worker's incentive to apply for benefits or continue working is probably tied to his potential postdisability earnings, provided he is able to work. Measuring potential postdisability earnings presents a problem, because a beneficiary may not be involved in substantial gainful activity and still receive benefits. It is improper to assume potential earnings would be the same as those of a nondisabled individual in the same age/sex/race cohort. Disability has been shown to reduce one's earnings by reducing wages and hours worked; in addition, disabled workers have been found to have characteristics different from nondisabled individuals, some of which determine earnings.[13] Disabled workers, for example, have less education on the average than the nondisabled and hence have lower earnings to start. Using the earnings of disabled persons who are working as a measure of potential earnings for those who are disabled but do not work presents similar problems. There must be a fundamental difference between the groups, such as a difference in severity, occupation, education, or other characteristics, which causes certain workers to be unable or unwilling to work. Applying the postdisability earnings of one group to another may provide a biased replacement rate.[14] For these reasons there are not measurable postdisability earnings for disabled individuals.

[10] "Earnings Replacement at Retirement Under Social Security," Issue Analysis Paper, Social Security Administration, mimeo, July 1973.

[11] Alan Fox, "Alternative Measures of Earnings Replacement for Social Security Benefits," in *Reaching Retirement Age; Findings From a Survey of Newly Entitled Workers 1968-70,* Research Report No. 47, 1976, and "Earnings Replacement Rates of Retired Couples: Findings from the Retirement History Study," *Social Security Bulletin,* January 1979 (*Retirement History Study* Report No. 15); Virginia Reno, "Replacement Rates Under the Social Security System," Office of Research and Statistics, mimeo, April 1978; Dean Leimer, "An Empirical Analysis of Alternative Social Security Benefit Structures," *Studies in Income Distribution* No. 9, August 1978, and "The Role of the Replacement Rate in the Design of the Social Security Benefit Structure," Office of Research and Statistics, Staff Paper No. 36, December 1979.

[12] F. R. Bayo and J. F. Faber, "Actual Replacement Rates for Disabled Worker Beneficiaries," Actuarial Note No. 94, January 1978.

[13] See, for example, Kathryn H. Allan, "First Findings of the 1972 Survey of the Disabled: General Characteristics," *Social Security Bulletin,* October 1976; M. Grossman and L. Benham, "Health, Hours and Wages," in the *Economics of Health and Medical Care,* ed. Mark Perlman, New York: Halsted Press, 1974, pp. 205-232; and Harold Luft, "The Impact of Poor Health on Earnings," *Review of Economics and Statistics,* February 1975, pp. 43-57.

[14] In addition the available data set does not contain information on earnings of the working disabled.

The measure of earnings to be employed in this study must be based on predisability earnings, providing a downwardly biased measure of the incentive to apply for benefits or to remain on the beneficiary rolls. The true choice between earned income and benefits will not be reflected, and the earned income component will be overstated. The second issue arises in how to measure one's predisability earnings. Should the earnings measure reflect most recent earnings, permanent or lifecycle earnings, or some other measure of earnings capacity? If one uses most recent earnings, they might be understated if health deteriorated over a long period of time with concomitant reduction in earned income. If one chooses the permanent earnings denominator, such as average monthly earnings over the working lifetime, one has problems of understatement due to inflation and productivity change over time. For younger workers there will be an understatement of permanent earnings because they will not have reached their earnings peak.

A third issue in dealing with the denominator is taxes. Benefits under social security are not taxable; but earned income is subject to Federal, State, and local income taxes as well as social security tax. Failure to account for taxes will bias the replacement rate down, understating the incentive to apply for benefits. In addition to the tax problems, the disabled individual no longer must pay the costs associated with having a job (such as transportation to and from work, work clothes, etc.). Ignoring these expenses also makes the denominator seem larger than it is, again causing the calculated replacement rate to understate the incentives to accept benefits.

Unearned income also affects the formulation of the denominator. The extent to which asset income and earnings of the spouse and other family members contribute to the household support is important to the decision to seek benefits. Even if unearned income appears in the numerator as well as the denominator, raising this amount will tend to raise replacement rates. Hence, the smaller the proportion of household income composed of the disabled person's earnings, the greater the incentive to apply for benefits.

The final problem associated with the denominator is unique to social security records data. Earnings above the maximum taxable level under social security are not reported. Thus, for persons with earnings above this limit ($16,500 in 1977) the computed replacement rate will overstate the true replacement rate.

The Numerator

Several issues are involved in the choice of an appropriate measure of benefits, that is, the numerator for the replacement rate. The measure usually employed is the amount of social security disability payments received, although this measure causes problems for several reasons.

First, social security disability insurance and other programs are not mutually exclusive; disabled individuals may simultaneously collect several types of benefits including worker's compensation (subject to the limitation that combined benefits not exceed 80 percent of the worker's predisability earnings) and private insurance payments either in lump sum or income stream form. The worker may also be eligible to collect SSI benefits and State welfare benefits and to obtain food stamps. In addition to these other transfer programs, social security itself increases the value of the benefit package by extending Medicare coverage to disabled workers after 24 months on the disability rolls. The true replacement rate should reflect these additional transfer payments or an imputed value for noncash benefits like Medicare.

Second, disability may distort the work-leisure tradeoff for married individuals. It may be advantageous for the spouse to substitute time in the labor force for time at home while the disabled worker collects benefits. This choice would be particularly attractive if the worker had dependent children (generally two or more) to put the worker at the maximum level of benefits. In this situation earnings of the spouse would not reduce the amount of benefits paid to the family. In order to obtain a gross family income replacement measure, it might be appropriate to include the increased family income if other family members choose to enter the labor market. Failure to consider the family income structure may understate the adequacy of benefits if the wife and/or older child expand their labor market

activities, or may overstate the adequacy if they must withdraw from the labor force to supply home nursing services.[15]

The issues previously raised are the predominant shortcomings encountered in replacement rate analysis. These factors, along with the method of construction of the ratio should be borne in mind when considering the replacement rate either as a measure of incentives or adequacy.

CONSTRUCTION OF THE REPLACEMENT RATE

The Data

The data employed in this study come from the Social Security Administration's Continuous Work-History Sample (CWHS)—a 1-percent sample of all social security accounts established. The subsample appearing in this research is a 1-percent sample of all new disability entitlements from 1969 to 1975.[16] These work history data have been merged with individual benefits in force (IBIF) records to provide complete information on earnings histories and benefit levels. (See the appendix for more information on the CWHS and IBIF records.)

Table 1 presents the number of sample cases broken down according to age, sex, and race. The cell sizes in all but the white male category are too small for reliability, and further breakdowns may be misleading. For this reason several tables are presented for white males only; and in certain instances all years (1969 through 1975) have been pooled to increase cell size.

The linked CWHS and IBIF data source has several shortcomings. First, earnings records are for the individuals only; there is no information on family income or other transfer income sources. In addition the reported earnings histories for these individuals are annual figures and are truncated at the taxable limit on earnings for social security. There is no information on tax liability or work expenses; and the only control variables available are sex, race, number of beneficiary dependents, and age. Information is also available as to the date of onset of the disability and the date of entitlement to benefits.

Formulation of the Replacement Rates

The replacement rates employed in this paper are formulated as the ratio of the monthly family benefit amount to measures of the average taxable (under social security) monthly earnings of the worker prior to the onset of disability. The average monthly earnings figure (the denominator of the ratio) has been computed using three methods. The first measure is average monthly earnings in the last nonzero year of earnings prior to the stated date of onset of the disabling condition. The replacement rate based on this denominator should reflect how well the most current predisability earnings are replaced by disability benefits.

The second denominator chosen is indexed average monthly earnings over the working lifetime. This formulation should, at least for older workers, reflect replacement of permanent (or lifecycle) earnings by benefits. Persons with fewer than 2 years of earnings after age 21 were removed from this computation, a process which eliminates most persons with an alleged year of onset prior to age 24. The only difference between this formulation and the formula applied by the Social Security Administration beginning in 1979 is that the SSA formula drops up to 5 years of lowest earnings from its computations. These 5 dropout years would lower the median replacement rate slightly. The largest difference would occur among the younger age groups and those who had years of zero or near zero earnings.

[15]The amendments to the Social Security Act, proposed in 1978, provide for attendant benefits for a nonworking spouse who must stay at home to care for the disabled worker. This differs from the current law requiring that spouses be aged or have dependent children to qualify for benefits.

[16]The latter is not a complete reporting year. It is about 95 percent complete, although past experience has shown such preliminary data to be consistent with the completed data set. However, due to possible unreliability in this year's data, 1974 is used in graphs and tables examining changes.

The third replacement rate formulation used in this paper is based on a denominator of average monthly earnings over the highest 5 years of indexed earnings during the 10 years immediately prior to the onset of disability. This measure is intended to pick up recent peak earnings relative to the benefit amount. Persons under age 30 were eliminated from this computation to facilitate computation requiring 10 years of earnings.

The deletion of observations for the computing of the lifetime earnings and high 5 of the past 10 replacement rates causes the three samples to vary somewhat in composition. Since the deletions are of young persons there may be a slight downward bias in these rates in terms of comparability with the last nonzero year replacement rate. In those tables which control for age the bias will be limited to the youngest age group and will not affect the results for the older groups. As can be seen in the table below, the number of cases deleted is small and should not cause a large difference in the value of the median.

Denominator	Entire sample	White males
	Number of observations	
Last nonzero year	28,819	17,266
Lifetime earnings	27,762	16,611
Highest 5 years of past 10	26,676	15,958
	Cases lost	
Last nonzero year	0	0
Lifetime earnings:		
Number	1,057	655
Percent	3.7	3.8
Highest 5 years of past 10:		
Number	2,143	1,308
Percent	7.4	7.6

The indexing procedure employed in this study is similar to the social security procedure discussed previously. The index values for each year, given in the appendix, are based on the average earnings of all workers in that year. All benefits and earnings are indexed to the year 1974, not to 2 years prior to entitlement as done by SSA.

Weights from the year of entitlement to 1974 will, of course, cancel leaving the only difference in the formulations the time span from the second year prior to onset to the year of entitlement. The data indicate that 40 percent of entitlements occur in the same year as onset, and that 95 percent of entitlements occur within 1 year of onset. Thus the difference in results of the two formulations is small.

As predicted, the computed value of the replacement rate changes somewhat according to the specification of predisability earnings (table A). The largest replacement rates are obtained by the formulations with the denominators of last nonzero year of earnings prior to onset and lifetime earnings prior to onset. The first quartile and median replacement rates based on these two formulations are nearly identical, varying by less than 5 percentage points. The third quartile replacement rate for last nonzero year earnings exceeded the rate based on lifetime earnings in all years by an average of 10 percentage points.

Although one might expect the last year prior to onset to represent high earnings and hence yield low replacement rates, there are two countervailing forces. First, these earnings were not indexed, and for most persons the last nonzero year of earnings occured at least 1 year prior to entitlement.[17] This will present a ratio with a slightly deflated denominator and hence the larger ratio. Second, for many individuals, especially older workers, there may be tendencies for health to deteriorate and for earnings to fall prior to the recognized onset of a disabling condition. This will also lower the earnings in the last nonzero year prior to onset and raise the replacement rate.

The replacement rate computation based on the highest 5 indexed earnings years of the 10 years prior to onset yields median replacement rates substantially lower than the other denominators. This measure of peak earnings lowers the median replacement rates by 35 percent relative to the other two formulations. Compared with these prime earnings years, benefits appear very much smaller. The median replacement rate for all individuals over the

[17]There is a 5-month waiting period between onset and entitlement. Adding the fact that this paper uses annual figures only, it is likely that there is a lag of 12 to 18 months between onset and the first annual figure for benefits presented here.

TABLE A.—Median and quartile replacement rates by year of entitlement and measure of predisability earnings

Quartile	1969	1970	1971	1972	1973	1974	1975	1969-75 total	Percent increase 1969-74
	Last nonzero year								
25th percentile	33.1	34.7	36.4	45.5	44.0	45.2	42.0	40.8	36.4
Median	50.5	51.7	54.7	61.9	62.6	64.2	58.7	58.1	27.1
75th percentile	80.7	81.8	84.5	97.1	107.9	107.8	95.7	95.3	33.5
	Lifetime earnings								
25th percentile	33.2	34.6	37.1	43.3	46.1	45.1	47.0	41.8	35.7
Median	49.7	51.6	55.7	60.0	64.1	62.9	62.0	58.5	26.7
75th percentile	72.0	73.6	78.6	85.7	93.4	91.5	87.1	84.2	27.0
	Highest 5 years of last 10								
25th percentile	27.6	28.2	28.8	30.1	30.8	29.0	30.4	29.4	8.7
Median	36.0	37.4	38.6	41.9	43.6	41.5	41.9	40.0	15.1
75th percentile	49.6	50.8	52.8	58.1	60.0	57.8	55.2	55.4	16.6

period 1969-75 was 58.1 percent compared with the last nonzero year prior to onset and 58.5 percent compared with indexed lifetime earnings, but only 40.0 percent compared with the highest 5 of last 10 years.

The three formulations of the replacement rates based on the different measures of earnings are highly correlated (that is, they tend to move in the same direction over time and across cohorts) and differ only in absolute magnitude. The detailed tables presented at the conclusion of this report contain all three rates in order to show the differences in replacement of earnings across cohorts or among table cells. The discussion, however, focuses not on the differences in the three rates, but rather on trends in replacement rates over time and differences in replacement of earnings according to the independent variables of sex, race, age, beneficiary category, and earnings category. The denominator of lifetime earnings calculated in this paper is the closest to the recently legislated social security formulation of average monthly earnings and is thus the one of primary interest in the discussion. As mentioned previously, the primary difference between this measure of earnings and SSA's average indexed monthly earnings is that the former does not employ the 5 dropout years.

TRENDS IN REPLACEMENT RATES 1969-75

As the replacement rate is intended to measure incentives to apply for disability benefits, it is important to observe any possible upward trends in replacement rates which might reflect one of two things: increased incentives to apply for benefits and hence increased numbers of applications, or decreased incentives to recover and hence increased numbers of beneficiaires. Table A presents the median and quartile replacement rates for each denominator by year of entitlement. The changes in the replacement rate based on lifetime earnings illustrate an upward trend in replacement rate, at least to 1973, for all three quartiles. In 1974 there is actually a reduction in median replacement rates. This may be partly explained by large increases in the taxable earnings limit during these years after 1974 that affected the amount of earnings on which the denominator of the replacement rate is calculated.

In the past, preliminary data have been found to be consistent with the actual final data; but the reliability of the 1975 data is suspect; and verification of a continued downward trend requires additional data. Large increases in the taxable limit on earnings in the latter years may, however, explain lower replacement rates despite higher average benefit amounts.

It is interesting to observe that the largest absolute increases in replacement rates occurred among those individuals who initially had the highest replacement rates—those in the 75th percentile; those in the 25th percentile had the smallest absolute change in the replacement of earnings. This may reflect Congressional desires to maintain or improve the relative adequacy of disability payments: the higher replacement rates are found among those groups with the lowest incomes (including the young, minority groups, females, and others with historically low earnings) and those beneficiaries with dependents also receiving benefits on the worker's record. These findings are detailed in the next section of this report.

Table B lends further support to the upward trend in replacement rates. The table presents the distribution of the beneficiary population by replacement rates. The percentage of the beneficiary population receiving benefits which replace less than 40 percent of income declined up to 1974 while the percentage receiving moderate benefits increased. The percent

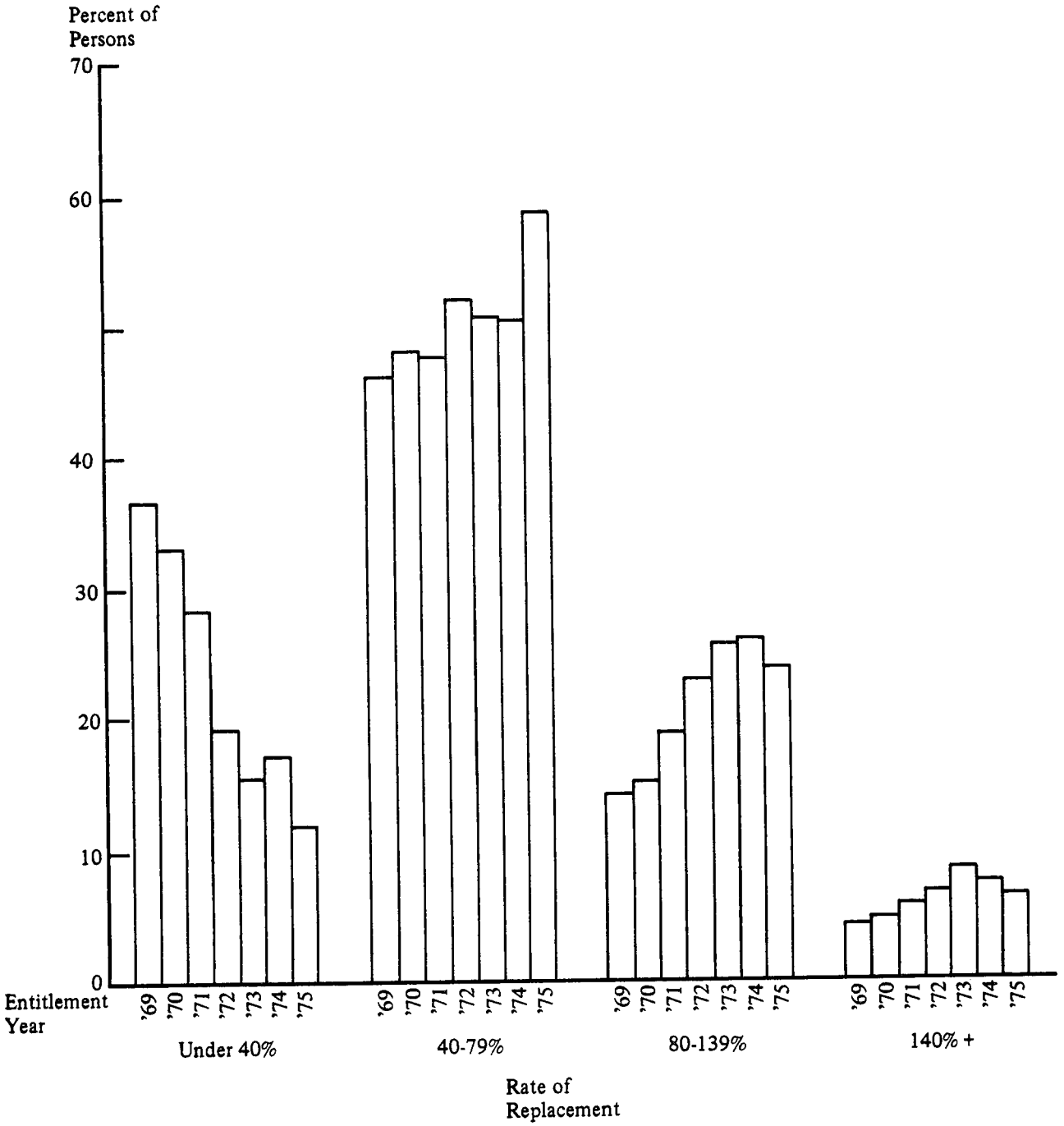
TABLE B.—Percentage distribution of replacement rates by year of entitlement

Year	Less than 40	40-79	80-99	100-139	140-199	200 and over
	Last nonzero year					
Total	23.2	45.5	8.1	7.3	4.8	11.2
1969	36.1	38.5	6.2	5.7	4.6	8.8
1970	32.4	41.8	6.1	6.6	3.2	8.8
1971	29.4	43.7	7.3	6.7	4.4	8.4
1972	15.1	51.0	10.1	7.0	4.7	12.2
1973	18.5	46.0	8.6	7.3	6.0	13.6
1974	16.6	46.9	9.2	8.5	5.1	13.5
1975	21.3	47.3	7.9	8.2	4.2	11.1
	Lifetime earnings					
Total	21.5	50.7	11.8	9.6	3.8	2.6
1969	36.2	45.8	8.2	5.9	2.2	1.7
1970	33.0	47.9	9.0	5.9	2.8	1.5
1971	28.3	47.6	10.7	7.9	3.5	1.9
1972	19.2	51.8	12.7	9.7	3.8	2.7
1973	15.1	50.5	13.5	11.7	4.0	4.3
1974	16.7	50.4	13.3	12.3	4.4	3.0
1975	11.8	58.4	12.8	10.6	4.1	2.3
	Highest 5 years of last 10					
Total	49.2	45.4	2.7	1.6	0.5	0.8
1969	60.3	36.6	1.4	1.0	.4	.3
1970	55.7	40.9	1.5	1.1	.5	.2
1971	52.4	43.4	2.3	1.2	.5	.2
1972	46.3	47.4	3.2	2.1	.5	.5
1973	43.6	48.8	3.3	2.0	.6	1.7
1974	47.0	46.6	3.5	2.0	.5	.5
1975	55.5	49.7	2.6	1.6	.4	.3

of persons receiving large replacement rates, that is, 100 percent and over, decreased slightly after 1973, perhaps helping to slow the upward drift in replacement rates. These downward trends in the percent of low replacement rates and upward trends in high replacement rates can be seen in more detail in figure 2.

At this point an important question must be raised. Is the upward trend in replacement rates due to a

FIGURE 2.—Trends in distribution of replacement rates using lifetime earnings denominator (percent of total entitlements by year)

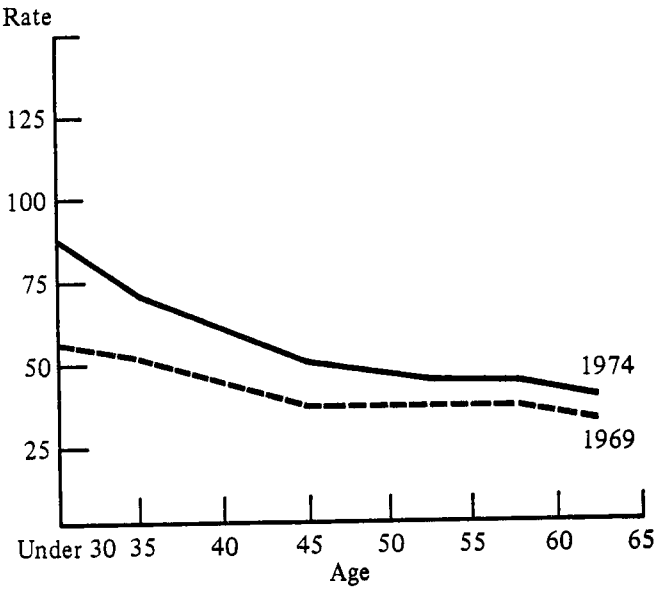


structural change in the beneficiary population—that is, changes in the demographic characteristics of the population of disabled persons towards those who receive higher replacement of earnings—or is it due to across-the-board increases in the benefit amounts? Tables 2 through 9 show similar upward drifts in replacement rates until 1973 with slight reductions occuring in 1974 and 1975 even when controlling for age, sex, race, earnings category, and benefit category. The upward trend is present both for the median replacement rate and for the proportion of persons receiving "high" replacement rates, although the effect is more pronounced when considering the change in the median replacement rate. This supports the idea that replacement rates rose, not due to the influx of beneficiaries with different characteristics, but instead because of an overall increase in benefits relative to predisability earnings for all individuals.

Figure 3 illustrates the shift in the rate of replacement over the 1969-74 period. The median replacement rates based on lifetime earnings for white males receiving worker-only benefits (that is, no dependent) are plotted for 1969 and 1974 across the various ages at entitlement. The chart shows a shift upward in the replacement rates, indicating increased incentives to apply for benefits. The shift is not equidistant but rather seems to favor younger workers in this sex/race/beneficiary category.

The percentage increases in replacement rates are shown in table C. The largest rate of increase in replacement rates occurred for young males, middle-aged females, and older persons of both sexes.

FIGURE 3. – Median replacement rates by age at entitlement for white males receiving worker-only benefits, 1969 and 1974



The rate of increase in replacement rates varied dramatically according to the formulation, but the median replacement rate increased in all sex/age categories. There does not seem to be any consistent difference in the increase or rate of increase by race. The difference attributable to race appears to vary according to the specification of the replacement rate denominator and the period of change in question.

DIFFERENTIALS IN THE RATE OF EARNINGS REPLACEMENT

It is often argued that the replacement of earnings is not the same across all groups within the population and thus certain individuals will have a greater proclivity to forsake employment and apply for disability benefits. This portion of the study examines differences in replacement rates across sex, race, age, earnings, and beneficiary categories and identifies those characteristics which combine to yield high rates of replacement of earnings.

In order to determine how high replacement rates are, and hence how large the incentives to apply for benefits are, two measures of the relative magnitude of benefits are considered. The first is the median replacement rate which represents the expected benefit for an average (the middle) individual in a particular group. The median was chosen over the mean as a measure of central tendency due to the volatility of the mean in a skewed distribution such as the one encountered in this examination.

The second measure of the magnitude of replace-

TABLE C.—Absolute and percentage change in median replacement rates for selected groups, 1969-74

Age, sex, and race	Last nonzero year		Lifetime earnings		Highest 5 years of last 10	
	Absolute	Percentage	Absolute	Percentage	Absolute	Percentage
Age						
Males:						
Under 30	33.4	44.5	26.4	36.5	---	---
30-39	23.1	34.4	15.0	19.8	12.9	24.6
40-49	15.8	29.1	13.4	22.8	9.3	21.4
50-54	9.9	19.2	6.7	13.4	3.8	9.9
55-59	9.3	20.5	6.6	15.0	.6	1.6
60-64	16.8	45.9	11.6	32.7	3.9	12.3
Females:						
Under 40	25.7	32.6	14.7	16.6	12.9	24.2
40-49	9.4	17.8	24.0	36.2	6.8	17.9
50-54	13.0	24.1	24.0	40.7	6.6	18.4
55-59	8.2	16.0	12.6	23.1	4.8	14.1
60-64	14.0	32.0	21.8	48.2	9.3	28.8
Race						
Males:						
White	14.2	29.8	11.0	24.7	3.6	10.2
Black	17.5	30.6	10.0	16.6	6.0	14.6
Other[1]	6.9	9.1	16.2	25.7	5.8	13.4
Females:						
White	11.1	21.4	19.5	36.7	6.6	19.4
Black	18.8	32.4	23.1	31.2	4.0	8.7
Other[1]	−40.0	−33.5	35.0	50.4	−.5	−.9

[1]Few observations make these figures unreliable.

ment rates is the percent of individuals in a particular group who have "high" rates of replacement. In this case "high" was chosen to be a replacement rate of 80 percent or over. The rationale for this cutoff is that a replacement rate of 80 percent will result in benefits equaling or exceeding the after-tax predisability earnings of most individuals, and thus result in incentives to apply. For reasons previously stated, the discussion here is limited to the replacement rate based on the lifetime earnings denominator.

Race and Sex

Table D presents differences in median replacement rates by sex and race. Replacement rates for minorities exceed those for whites overall, as well as during each year of the period under study. Over the period in question whites had a median replacement rate of 57 percent; blacks had median replacement rates of 72 percent and other minorities had median rates of 76 percent. Such large differences between

TABLE D.—Median replacement rates by race and sex

Race and sex	1969	1974	1969-75 combined
Total	49.7	62.9	58.5
White			
Total	47.1	59.8	56.6
Males	44.7	55.7	53.3
Females	53.0	72.5	67.2
Black			
Total	64.9	76.8	72.5
Males	60.0	70.0	66.2
Females	74.0	97.1	88.5
Other races			
Total	64.5	86.5	76.2
Males	63.2	79.5	71.7
Females	---	[1]104.5	96.2

SOURCE: Table 2: Lifetime earnings denominator.

[1]This cell has fewer than 30 (3,000 weighted) observations and the result may be unreliable. Cells with fewer than five observations are deleted from this table.

rates of whites and those of minority races are not unexpected. It is well known that the latter generally have lower earnings. Part of the earnings differential in lifetime earnings may be a function of higher unemployment and lower labor force participation rates among racial minorities.[18] Under the provisions of the Social Security Act the lower a worker's earnings are, the higher his benefits will be relative to those earnings.

Over the 7-year period in question the median replacement rate rose, although not continuously, for all races. The median replacement rate for whites grew 12 percentage points between 1969 and 1975, which translates to a 25-percent increase in replacement rates over the period. The increase in median replacement rates for blacks was only 9.5 percentage points and the increase for other races was 22.5 percentage points. These represent increases of 15 percent and 35 percent, respectively, for the two groups.

Table E gives the proportions of persons with high replacement rates, broken down by sex and race.

TABLE E.—Percent of persons with high replacement rates

Race and sex	1969	1974	1969-75 combined
Total	18.0	32.9	27.8
White			
Total	15.3	30.2	25.1
Males	12.0	25.0	20.1
Females	24.1	42.0	37.1
Black			
Total	33.2	46.9	42.1
Males	28.2	37.6	34.1
Females	43.4	63.4	57.3
Other races			
Total	30.8	55.9	46.8
Males	31.4	50.0	41.9
Females	---	[1]73.3	64.7

SOURCE: Table 3: Lifetime earnings denominator
[1]See table D, footnote 1.

[18]See, for example, W. G. Bowen and T. A. Finegan, *The Economics of Labor Force Participation*, Princeton, New Jersey: Princeton University Press, 1969, p. 45.

The proportion of minorities with high replacement rates is considerably larger than the proportion of whites. Only 25 percent of the whites entitled between 1969 and 1975 had high replacement rates; but 42 percent of the blacks and 47 percent of other races had high rates. The proportion of individuals with high replacement rates grew for each race between 1969 and 1973 with slight declines noted in 1974 and/or 1975. Between 1969 and 1974 the proportion of individuals with high replacement rates doubled for whites and increased 85 percent for other races and 34 percent for blacks. During 1974, the most recent year of complete data, 30 percent of whites had high replacement rates while 47 percent of the blacks and 56 percent of other races had replacement rates in excess of 80 percent.

Over time the median replacement rate and the proportion of beneficiaries receiving high replacement rates increased regardless of race, hence increasing the incentives irrespective of race. But because minorities receive higher replacement of earnings relative to their lifetime earnings prior to disability, they would seem to have more incentives both to apply for benefits and stay on the rolls.

Table D also shows that the median replacement rates for all females were about 30 percent higher than those for males and that the proportion of females receiving high replacement rates exceeded the rate for males by approximately 75 percent. This sex differential is apparent across all three race categories. Within each race the females received higher replacement rates, and the difference was greater for minorities than for whites. Over the entire period under consideration white females had median replacement rates 14 percentage points or 26 percent higher than white males, while the difference by sex for blacks was 22 percentage points and 33 percent, and the difference for other races was 24 percentage points and 34 percent.

When high replacement rates are considered (table E), the pattern is the same. Thirty-seven percent of white females received high replacement rates while only 20 percent of the white males were in that category. The absolute differential was larger for minorities—57 percent of black women but only 34 percent of black men, and 65 percent of other women but only 42 percent of other men. Thus incentives would appear to be greater for women, especially minority women.

This, as the race differential, can be expected because replacement rates are higher for low earners. Women have historically tended to take a secondary position in the labor force and hence have had lower participation rates and lower earnings which in turn raises the replacement rate. In addition there is a high probability for women, regardless of education and occupation, to withdraw from the labor force during the childbearing years. These nonearning years will lower lifetime earnings and hence average monthly earnings based on this period, creating large differentials in replacement rates by sex.[19] On the other hand, women are less likely than men to have dependent spouses because of social pressure towards the male as the primary labor force participant. This reduces the number of women who receive the maximum benefit amount based on the worker's earnings record (worker, spouse, and child benefits). However, one need only have two dependent children to still receive maximum benefits regardless of the status of the husband. If many female beneficiaries have only one child, while male beneficiaries have a dependent spouse and one or more children, replacement rates for females would be small relative to those of the male beneficiaries.

TABLE F.—Median replacement rates by sex and age

Age and sex	1969	1974	1969-75 combined
Total	49.7	62.9	58.5
Total			
Under 30	72.4	98.7	91.2
30-39	77.4	93.2	88.4
40-49	60.6	76.0	71.0
50-54	52.2	63.9	60.0
55-59	46.9	55.7	53.3
60-64	37.2	52.3	49.0
Males			
Under 30	72.4	98.7	91.2
30-39	75.5	90.5	84.9
40-49	58.7	72.1	67.8
50-54	49.6	57.9	55.4
55-59	44.1	50.7	49.0
60-64	35.5	47.2	44.9
Females			
Under 40	88.1	102.7	99.2
40-49	66.3	90.3	84.7
50-54	58.9	82.9	72.9
55-59	54.3	69.5	65.3
60-64	45.3	67.1	58.6

SOURCE: Table 4: Lifetime earnings denominator.

Age

Differences in median replacement rates by age are presented in table F.[20] The data show that replacement rates decline as the age at entitlement increases. The median replacement rate for the youngest age group was 86 percent higher than the rate for the oldest group.

Three factors contribute to the low replacement rates for older individuals. First, the social security method of computing the PIA, which has been discussed previously,[21] causes a relatively larger reduction in the length of the earnings record for younger persons; it also weighs their peak earnings years more heavily while older individuals must count a larger proportion of their low earnings years. Second, young persons are more likely to obtain benefits for dependent children and spouses than are older persons whose children are on their own and whose spouses have not yet reached 62. Each dependent increases the amount of benefits paid to the family by 50 percent of the worker's PIA, subject to the family maximum.[22] Third, earnings tend to grow over the lifetime at least to a point, and higher earnings yield lower replacement rates. Relative to other

[19]Because this study does not drop the 5 lowest earnings years, it produces a slightly lower AIME amount than that of the SSA formulation. Thus replacement rates for women are high relative to the replacement rate provided for by SSA. The problem is most acute for younger women with fewer years of earnings to average out zero earnings years and for those with patterns of discontinuous labor force participation.

[20]Although this table presents data for all races, the pattern is the same for each race considered separately.

[21]Five dropout years are allowed regardless of age or time in the labor force, subject to fully insured status and a minimum of 2 years of earnings for the calculation of average monthly earnings. Insured status is determined by a minimum of 20 quarters of coverage of the past 40 quarters, with the exception that those under 30 must have the greater of six quarters of coverage or the number of quarters elapsed since age 21.

[22]The maximum benefit level generally falls at about 1.75 times the worker's PIA, which amounts to additional benefits for a dependent spouse plus half a child.

groups, the young received higher replacement rates due to the lack of wage indexing prior to legislative changes effective in 1979.

The proportion of persons receiving high replacement rates declines with age (table G). In fact, the proportion of the youngest beneficiaries receiving high replacement rates was nearly four times as great as that of the oldest beneficiaries: 62 percent of those under age 30 received high replacement rates compared with 16 percent of those 60-64.

The trend in replacement rates was up in all age categories between 1969 and 1975, although there were some slight declines after 1973. Median replacement rates increased most during this period, both absolutely and relatively, for the youngest (23 percentage points, 32 percent) and oldest (16 percentage points, 43 percent) age groups (table 4). The relative increases for the other age groups were all approximately the same; their median replacement rates increased by about 20 percent.

TABLE G.—Percent of persons with high replacement rates by sex and age

Age and sex	1969	1974	1969-75 combined
Total	18.0	32.9	27.8
Total			
Under 30	41.0	67.6	61.9
30-39	47.3	66.9	60.4
40-49	23.9	45.4	38.0
50-54	17.0	31.2	26.8
55-59	14.2	23.6	20.1
60-64	6.7	20.5	15.9
Males			
Under 30	41.0	67.6	61.9
30-39	43.8	66.1	57.3
40-49	19.1	39.3	31.0
50-54	12.0	20.5	18.8
55-59	10.6	16.6	13.8
60-64	4.7	14.6	11.2
Females			
Under 40	53.4	68.5	66.4
40-49	35.3	59.0	54.0
50-54	27.6	53.2	42.7
55-59	23.5	37.2	33.9
60-64	12.6	34.3	27.9

SOURCE: Table 5: Lifetime earnings denominator.

The proportion of persons receiving high replacement rates also increased for all ages. The largest absolute change occurred for those under 30; the proportion receiving high replacement rates grew from 41 percent to 70 percent, a 71-percent increase (table 6). Although the proportion receiving high replacement rates in the 60-64 age group grew only from 7 percent to 16 percent, this represented a 135-percent increase. Most of the other age groups had about a 70-percent increase over this period.

Controlling for sex does not alter the pattern of decline in replacement rates by age. Both median replacement rates and the proportion receiving high replacement rates decline monotonically with increasing age at entitlement, regardless of sex. Based on lifetime earnings, females retain their higher median replacement rates relative to males throughout all age groups. There is little variation in the difference in median replacement rates across the age groups. Data from table F show that replacement rates for women were between 14 and 17 percentage points higher than those for men at all ages in the period under study. In relative terms, however, the percentage difference in median replacement rates increases with age. The proportion of females with high rates of replacement exceeds the proportion of males at all age groups. The differences in the proportion with high replacement rates increase with age, both absolutely and relatively.

Controlling for age does change the male-female comparison for the replacement rates based on last nonzero year and highest 5 of the past 10 years (table 5). The replacement rates based on these formulations show median male replacement rates exceeded those for females in the 40-49 and 50-54 age groups, while the lifetime earnings replacement rate indicates females earned higher replacement rates across all ages. This must be a function of the absence of years of zero earnings in the last year of earnings denominator and of zero or lowest nonzero earnings in the highest 5 of 10 denominator; these years, however, are included in the lifetime earnings denominator. Including the low earnings years, which are prevalent in a woman's lifecycle due to childbearing, lowers the denominator and raises replacement rates. Considered differently, if benefits are based on an average of lifetime earnings, two workers who have identical AIME's and benefits may have different earnings histories. If one of

them has a history of discontinuous labor force participation with substantial time out of the labor force, he will have a lower rate of replacement when the identical benefit amount is compared with recent or peak earnings.

In summary one may say that not only are such differences in replacement rates to be expected, but they may change according to the formulation of the replacement rate.

Earnings Category

The primary insurance amount, the basis for computing social security benefits, is a declining function of average monthly earnings. The proportion of earnings credited toward the PIA declines as earnings increase. As a result, replacement rates decrease as earnings increase if other factors are held constant.

Table H demonstrates the decline in median replacement rates by earnings category for white males.[23] These categories are defined as follows: *low earnings* includes those whose indexed average monthly earnings over the lifetime were less than two-thirds the median earnings for all workers; *medium earnings* includes earnings which were at least two-thirds, but less than 1-1/3 times the median earnings for all workers; and *high earnings* includes those whose earnings exceeded 1-1/3 times the average monthly earnings of all workers. The choice of these groups is not entirely arbitrary. The median averaged indexed monthly earnings for all workers was approximately $600 in 1974 (the indexing base year). Thus, the low earnings category picks up those whose average indexed monthly earnings are below $400 per month. This figure is very close to the poverty level for a family of four ($420 per month) in 1974, and persons in the low earnings group can be assumed to have lifetime earnings which probably place them in or near poverty. The high earnings category picks up those whose average indexed monthly earnings exceed $800 per month. In 1974 only 25 percent of all workers covered by social security had earnings exceeding this amount.

One may expect the replacement rate to fall as one passes from the low to the medium earnings category and to fall again from the medium to the high earnings category. Table H reveals this expected decline over the 1969-75 period; controlling for age shows a similar consistent decline.[24] The median replacement rates tended to fall within each earnings category as age at entitlement increased, although the decline was not monotonic.

TABLE H.—Median replacement rates for white males by age and predisability earnings category

Age and earnings category	1969	1974	1969-75 combined
Total	44.7	55.7	53.3
Total:			
Low	67.3	89.6	81.9
Medium	36.5	51.4	48.4
High	33.0	35.5	34.8
Under 30:			
Low	87.8	115.9	113.8
Medium	53.8	82.4	75.9
High	---	[1]67.0	62.8
30-39:			
Low	89.5	107.5	102.6
Medium	66.2	83.2	76.3
High	---	[1]71.5	68.4
40-49:			
Low	74.1	97.7	87.4
Medium	49.7	66.7	61.5
High	[1]54.5	[1]60.2	55.3
50-54:			
Low	66.9	83.9	81.2
Medium	38.7	53.2	49.7
High	[1]32.8	39.2	37.3
55-59:			
Low	62.4	83.0	74.4
Medium	35.2	46.8	44.2
High	[1]34.0	34.4	33.5
60-64:			
Low	57.1	78.2	71.6
Medium	31.9	43.6	40.3
High	[1]30.8	32.5	32.8

SOURCE: Table 6: Lifetime earnings denominator.
[1]See table D, footnote 1.

[23]White males were chosen to represent a homogeneous category if other groups had too few observations.

[24]There are several years and age categories where the replacement rate for high earners exceeded the replacement rate for medium earners. In all these cases table cells contained few observations and hence produce results subject to confounding by the effects of other variables (table 6).

From 1969 to 1975, the proportion of individuals receiving high replacement rates (table I) also declined from low to medium earnings category and again from the medium to high earnings category. Controlling for age produces a decline within each category, although the decline was monotonic only for the low and medium earnings categories.

Over the time period under study, persons in the low earnings category received the largest increases in median replacement rates. Hence, low earners would be expected to have greater incentives to apply for benefits and/or stay on the rolls.

Table J contains the median replacement rates by earnings category for several race and sex categories. In order to achieve acceptable cell sizes, it was necessary to combine all the years of entitlements (1969 through 1975). A pattern of decline in median replacement rates similar to that found for white males was present with respect to increasing earnings for each sex and race category. It is interesting to note that while the pattern of declining replacement rates by age is not altered when controlling for earnings level, blacks lose their advantage over whites in median rates of replacement at many ages. While women maintain larger median replacement rates in the low earnings category, in the medium and high earnings categories males achieve higher median rates of replacement.

Table K presents the percent of persons with high replacement rates according to earnings category by age, sex, and race. Again the pattern of decline is similar irrespective of race, sex, or age. The proportion of persons with high replacement rates declines with age, even when earnings category is held constant. As with median replacement rates, women and blacks often lose their high replacement rate advantage under constant earnings levels. Apparently many differences in replacement rates attributable to demographic characteristics disappear when one controls for the level of earnings.

TABLE I.—Percent of white males with high replacement rates by age and predisability earnings category

Age and earnings category	1969	1974	1969-75 combined
Total	12.0	25.0	20.1
Low	33.5	61.1	52.4
Medium	2.8	14.9	10.0
High	0	1.0	1.2
Under 30	36.8	68.4	61.4
Low	[1]58.6	84.8	79.3
Medium	[1]15.4	52.2	45.5
High	---	[1]0	14.3
30-39	42.2	65.1	55.8
Low	65.4	81.1	74.9
Medium	22.7	56.9	44.9
High	---	[1]33.3	25.0
40-49	16.3	38.4	29.4
Low	43.0	65.6	59.5
Medium	4.1	29.4	17.0
High	[1]0	[1]0	2.4
50-54	8.2	19.0	17.5
Low	24.7	55.9	52.2
Medium	2.0	10.4	7.7
High	[1]0	0	.6
55-59	9.2	15.3	12.0
Low	30.3	53.9	43.0
Medium	0	4.8	3.2
High	[1]0	0	0
60-64	4.6	12.2	9.6
Low	16.5	48.3	38.0
Medium	.6	3.2	1.9
High	[1]0	0	.4

SOURCE: Table 7: Lifetime earnings denominator.
[1]See table D, footnote 1.

Beneficiary Category

Disabled workers who have dependents are eligible to obtain additional benefits[25] of 50 percent of the worker's PIA for each dependent, subject to the maximum benefit level. This maximum is usually equal to 1.75 times the worker's PIA, although it may vary between 1.50 and 1.88 times the worker's PIA. Thus one can expect a systematic difference in replacement rate by beneficiary category: the more dependents, the higher the replacement rate.

Table L shows median replacement rates by beneficiary category and age for the white male population. The four categories of benefits include the following: worker only, worker with an aged spouse,

[25]The following are definitions of the dependent status in this section: *child*—dependent child under 18 years of age, or 18 to 21 years of age and a full-time student, or a child disabled before attaining 22 years of age; *dependent spouse with child*—nonworking dependent spouse of a disabled worker who has at least one dependent child under 18; *aged spouse*—dependent spouse of a disabled worker who has reached age 62; *dependent parents*—parents of a disabled worker who are dependent on the worker for at least half of their support.

TABLE J.—Median replacement rates for 1969-75 entitlements by race, sex, age, and predisability earnings category

Age and earnings category	White			Black			Total[1]
	Male	Female	Total	Male	Female	Total	
Total	53.3	67.2	56.6	66.2	88.5	72.5	58.5
Under 30:							
Low	113.8	---	113.8	110.3	---	110.3	113.1
Medium	75.9	---	75.9	75.2	---	75.2	75.7
High	62.8	---	62.8	---	---	---	62.6
30-39:							
Low	102.6	111.0	106.7	102.8	114.3	107.7	107.2
Medium	76.3	60.8	73.6	74.1	[2]58.1	72.3	73.5
High	68.4	---	68.4	---	---	---	68.4
40-49:							
Low	87.4	95.6	91.2	83.7	104.3	91.2	91.5
Medium	61.5	47.6	58.8	59.7	[2]50.2	58.3	58.7
High	55.3	---	55.0	---	---	---	55.0
50-54:							
Low	81.2	83.6	82.5	75.6	92.7	83.9	83.0
Medium	49.7	45.6	48.8	51.9	45.9	50.8	49.1
High	37.3	---	37.2	[2]38.1	---	[2]38.1	37.1
55-59:							
Low	74.4	75.6	75.2	75.7	91.8	83.0	76.5
Medium	44.2	44.2	44.2	48.6	46.8	48.2	44.7
High	33.5	[2]29.5	33.4	[2]34.2	---	[2]34.2	33.4
60-64:							
Low	71.6	72.2	71.9	79.1	87.4	83.2	73.5
Medium	40.3	44.2	41.3	46.4	43.7	46.0	41.7
High	32.8	[2]29.5	32.8	[2]33.4	---	[2]33.4	32.8

[1]Total includes other races. However, results for this group are not presented separately due to small cell sizes.
[2]See table D, footnote 1.

worker with child, and worker with spouse and child.[26]

As expected, the replacement rates for the categories of families receiving dependents' benefits exceed those for individual workers. The largest median replacement rates in 1974 were obtained by worker, spouse, and child beneficiaries—82.2 percent—which is nearly double the median for worker-only beneficiaries (44.8 percent). Replacement rates for worker and child beneficiaries produced the second largest rate (71.6 percent), followed by the worker and aged spouse rate (53.2 percent). Families receiving dependents' benefits obtain larger replacement rates than worker-only households across age groups, although the relative magnitudes of the rates change with age. Previous tables have shown that the replacement rate tended to fall as age at entitlement increased; but for certain beneficiary categories, replacement rates rose slightly for the oldest age group, as demonstrated in figure 4.

A larger proportion of workers with dependents have higher replacement rates than worker-only beneficiaries (table M). Over the period 1969-75 only 9.4 percent of the latter had high replacement rates while 13.3 percent of worker with aged spouse households, 30.2 percent of worker with child beneficiaries, and 42.9 percent of worker, spouse, and child units had high replacement rates. The propor-

[26]The last two categories may not be exact in specification. The worker and child category may contain, in addition to workers with a single child and working spouse, workers with any number of children if there is no spouse (that is, deceased, unmarried parent, missing spouse, etc.). The worker with dependent spouse and children category contains workers whose spouse is employed and not dependent; but the number of children put the worker above the maximum benefit level. For the purpose of this analysis, parents of the disabled worker who are eligible for benefits cannot be separated from children as beneficiaries.

tion of persons with high replacement rates tends to decline with increasing age at entitlement, even controlling for beneficiary category.

The median replacement rates and percent of persons with high replacement rates for the various beneficiary categories by age, sex, and race (tables N and O) are consistent with the result for white males shown in figure 4. Families that received dependents' benefits receive higher rates of replacement than worker-only households. Controlling for the presence of additional beneficiaries does not alter the previously determined patterns of replacement rates: blacks still have higher replacement rates than whites; replacement rates for women still exceed those of the men; and replacement rates tend to drop with increasing age at entitlement.

From table 8 it is evident that growth occurred in median replacement rates for each beneficiary category over the period 1969-75 although slight declines occurred in the rates after 1973. The largest growth occurred for worker-only beneficiaries, whose replacement rates grew 39 percent. The three categories for families receiving dependents' benefits grew at much slower rates—between 9 and 17 percent over the same period. There were similar increases, evident in table 9, in the proportion of persons receiving high rates of replacement.

Thus incentives to apply for benefits or to remain on the rolls appear to be greater for workers with dependents than for workers only, because the social security benefit formula provides extra benefits for

TABLE K.—Percent of persons entitled in 1969-75 who have high replacement rates by race, sex, age, and predisability earnings category

Age and earnings category	White			Black			Total[1]
	Male	Female	Total	Male	Female	Total	
Total	20.1	37.1	25.1	34.1	57.3	42.1	27.8
Under 30:							
Low	79.3	---	79.3	76.4	---	76.4	78.7
Medium	45.5	---	45.5	43.8	---	43.8	45.2
High	14.3	---	14.3	---	---	---	15.4
30-39:							
Low	74.4	77.9	76.1	76.2	85.8	80.1	77.2
Medium	44.9	25.0	40.9	41.1	[2]13.3	38.1	40.7
High	25.0	---	25.0	---	---	---	25.0
40-49:							
Low	59.5	66.0	62.8	55.5	71.5	62.9	63.0
Medium	17.0	4.5	15.3	15.7	[2]0	14.1	15.2
High	2.4	---	2.4	---	---	---	2.3
50-54:							
Low	52.2	54.0	53.2	44.0	62.8	54.1	53.7
Medium	7.7	1.8	6.7	8.8	0	7.4	6.9
High	.6	---	.6	[2]0	---	[2]0	.6
55-59:							
Low	43.0	43.7	43.4	44.6	62.4	53.4	45.6
Medium	3.2	.3	2.7	4.7	0	3.9	3.0
High	0	[2]0	0	[2]0	---	[2]0	0
60-64:							
Low	38.0	38.4	38.2	49.6	56.9	53.5	46.7
Medium	1.9	.4	1.6	7.3	0	6.4	2.0
High	.4	[2]0	.4	[2]0	---	[2]0	.4

[1]See table J, footnote 1.
[2]See table D, footnote 1.

TABLE L.—Median replacement rates by age and beneficiary category for white males

Age and beneficiary category	1969	1974	1969-75 combined
Total	44.7	55.7	53.3
Total:			
Worker only	34.8	44.8	41.8
Worker and aged spouse	46.2	53.2	52.7
Worker and child	57.7	71.6	67.6
Worker, spouse, and child	68.9	82.2	76.1
Under 30:			
Total	69.5	100.0	90.8
Worker only	56.2	88.0	76.9
Worker and aged spouse	---	---	---
Worker and child	[1]69.5	[1]99.5	98.3
Worker, spouse, and child	[1]91.2	117.3	101.2
30-39:			
Total	74.4	89.2	83.7
Worker only	53.1	70.8	65.9
Worker and aged spouse	---	---	---
Worker and child	[1]68.5	[1]92.2	86.2
Worker, spouse, and child	84.5	93.5	88.7
40-49:			
Total	56.7	71.4	67.1
Worker only	36.8	50.6	48.4
Worker and aged spouse	---	---	---
Worker and child	62.4	76.2	70.9
Worker, spouse, and child	69.2	83.5	75.4
50-54:			
Total	46.8	57.2	54.4
Worker only	35.0	43.9	41.7
Worker and aged spouse	---	---	---
Worker and child	[1]53.1	66.2	62.4
Worker, spouse, and child	64.5	74.4	72.2
55-59:			
Total	42.4	49.8	47.6
Worker only	35.1	43.8	40.4
Worker and aged spouse	[1]46.2	[1]54.0	51.8
Worker and child	53.9	59.2	61.3
Worker, spouse, and child	64.2	75.0	71.6
60-64:			
Total	35.3	45.3	43.7
Worker only	32.7	39.2	37.9
Worker and aged spouse	46.2	52.5	52.4
Worker and child	[1]54.0	63.7	58.5
Worker, spouse, and child	59.0	80.0	72.5

[1]See table D, footnote 1.

TABLE M.—Percent of white males with high replacement rates by age and beneficiary category

Age and beneficiary category	1969	1974	1969-75 combined
Total	12.0	25.0	20.1
Total:			
Worker only	5.5	11.4	9.4
Worker and aged spouse	5.0	13.1	13.3
Worker and child	14.9	38.3	30.2
Worker, spouse, and child	28.5	53.6	42.9
Under 30:			
Total	36.8	68.4	61.4
Worker only	21.2	58.5	46.5
Worker and aged spouse	---	---	---
Worker and child	[1]25.0	[1]75.0	76.7
Worker, spouse, and child	[1]68.4	82.3	78.2
30-39:			
Total	42.2	65.1	55.6
Worker only	24.3	39.1	32.7
Worker and aged spouse	---	---	---
Worker and child	[1]21.0	[1]85.2	59.8
Worker, spouse, and child	58.5	74.1	65.4
40-49:			
Total	16.3	38.4	29.4
Worker only	6.5	9.7	11.4
Worker and aged spouse	---	---	---
Worker and child	14.6	44.2	32.9
Worker, spouse, and child	26.0	55.9	40.9
50-54:			
Total	8.2	19.0	17.5
Worker only	4.7	9.3	8.6
Worker and aged spouse	---	---	---
Worker and child	[1]8.7	20.4	20.0
Worker, spouse, and child	15.1	35.9	32.6
55-59:			
Total	9.2	15.3	12.0
Worker only	6.7	9.8	7.2
Worker and aged spouse	[1]0	[1]6.2	7.3
Worker and child	13.9	28.8	19.3
Worker, spouse, and child	17.2	38.3	30.3
60-64:			
Total	4.6	12.2	9.6
Worker only	1.7	6.6	5.8
Worker and aged spouse	6.2	15.0	12.8
Worker and child	[1]16.7	25.6	19.3
Worker, spouse, and child	24.4	50.7	33.3

[1]See table D, footnote 1.

dependents. However the replacement rates increased faster for worker-only beneficiaries between 1969 and 1975, thereby increasing their incentives to apply for and continue to receive benefits. The smaller increase in benefits for the family categories may be a function of more wives seeking employment[27] thus reducing the average number of dependents and consequently slowing the increase in replacement rates for beneficiaries with dependents.

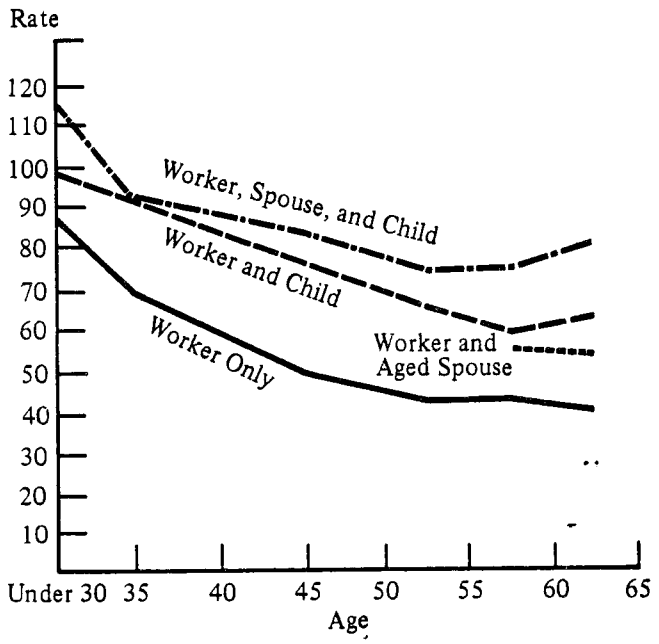
[27]For instance, between 1965 and 1975 the labor force participation rate of married women with husband present grew from 34.7 percent to 44.4 percent.

REPLACEMENT RATES RELATIVE TO EARNINGS OF THE WORKING POPULATION

Arguments are often heard that earnings are replaced at too high a rate causing undue incentives to reduce labor force participation in favor of receiving disability benefits. However, many disabling conditions are the result of slowly deteriorating health which may lead to a history of low earnings and may result in the eventual withdrawal from the labor force. Therefore the replacement of earnings relative to the well population rather than relative to an individual's own earnings history, which may be substantially lower due to poor health, is evaluated in detail in tables 10 and 11. Comparing benefits with the earnings of the working population, other factors remaining the same, should give a more realistic appraisal of the replacement of earnings relative to earnings of persons not affected by poor health.[28]

Table P gives the median disability benefit amount, median average monthly earnings in the last nonzero year of earnings prior to onset (wage indexed to entitlement year) for beneficiaries entitled in that year, and median average monthly earnings for all workers.[29] A large disparity can be seen between the median earnings of workers and those of the disabled population. Even after indexing to account for wage level changes, this disparity is present for both sexes and across most ages. The several exceptions to this rule are females aged 60-64 in 1969, 1971, 1972, 1973, and 1975 and females under 40 in 1975 (table 11); for these groups the relative rate for the disabled is less than that for the working population. Intuitively one might expect the difference in earnings of the disabled (prior to onset) and working populations to increase as age increases. Disabilities that occur at younger ages are more likely to be caused by accidents, resulting in a sudden drop in earnings; disabling conditions at older ages, however, are more likely to be the result of a slow deterioration of health, hence causing very low earnings prior to entitlement. However, the opposite is true. Table P shows a clear tendency for the difference in earnings to decline with increasing age at entitlement. In 1974 for example, the last nonzero earnings year prior to onset (indexed to year of entitlement), the median earnings of entitled males under 30 represented 50 percent of the median for all workers of the same age. At the prime earnings age of 40-49 the ratio of earnings increased to 67 percent, and at the oldest age group (60-64) the ratio increased to 87 percent. For the year 1974, females under age 40 who were disabled witnessed earnings equivalent to 82 percent of the earnings of all workers during that year. For women in the age group 40-49, earnings of the disabled increased to 96 percent of all workers' earnings; and for the age group 60-64, the earnings were slightly greater than 96 percent.

FIGURE 4. – Median replacement rate for white males by beneficiary category and age at entitlement, 1974 (lifetime earnings denominator)



[28]Many differences must be considered here including sex, race, education, and occupation. Data limitations limit the present analysis to controlling for age and sex only.

[29]Unfortunately data on median earnings taxable under social security were not available for the well, or nonbeneficiary, working population; the data, therefore, are constrained to look at all workers (including the disabled who work). The earnings for the disabled prior to onset and all workers are both subject to underreporting due to the truncation at the social security taxable maximum.

The table also indicates, as the above figures show, that the magnitude of the difference in earnings between the disabled and the working population is larger for males than for females in both absolute and relative terms. Median earnings of women are substantially less than the earnings of men at all points in the lifecycle which explains partially the absolute difference in earnings. The explanation for the relative difference is not clear. Perhaps, due to the secondary nature of their participation, women find it easier to reduce their employment hours without suffering a large reduction in the wage rate. It has been found that women, even in good health, choose to work part time, part year, or both. In 1975, for instance, 33 percent of working women worked part time, nearly three times the part-time

TABLE N.—Median replacement rates for 1969-75 entitlements by race, sex, age, and beneficiary category

(Lifetime earnings denominator)

Age and beneficiary category	White			Black			Total[1]
	Male	Female	Total	Male	Female	Total	
Total	53.3	67.2	56.6	66.2	88.5	72.5	58.5
Under 30:							
Worker only	76.9	---	76.9	76.9	---	76.9	77.0
Worker and aged spouse	---	---	---	---	---	---	---
Worker and child	98.3	---	98.3	[2]124.5	---	[2]124.5	103.7
Worker, spouse, and child	101.2	---	101.2	99.5	---	99.5	100.8
30-39:							
Worker only	65.9	73.5	69.6	75.0	86.8	77.4	71.7
Worker and aged spouse	---	---	---	---	---	---	---
Worker and child	86.2	114.6	102.8	98.1	121.2	112.1	105.3
Worker, spouse, and child	88.7	---	88.7	97.0	---	97.0	89.9
40-49:							
Worker only	48.4	64.7	53.7	56.7	83.1	66.3	55.8
Worker and aged spouse	---	---	---	---	---	---	---
Worker and child	70.9	114.8	88.1	76.5	131.6	96.8	90.0
Worker, spouse, and child	75.4	---	75.4	82.1	---	82.1	76.2
50-54:							
Worker only	41.7	65.0	50.2	51.5	78.0	59.6	51.9
Worker and aged spouse	---	---	---	---	---	---	---
Worker and child	62.4	108.1	73.9	74.2	127.8	95.3	76.1
Worker, spouse, and child	72.2	---	72.3	76.9	---	76.9	72.9
55-59:							
Worker only	40.4	60.9	47.6	51.9	80.2	59.4	49.1
Worker and aged spouse	51.8	---	52.0	[2]79.5	---	[2]79.5	52.7
Worker and child	61.3	114.5	67.1	73.0	[2]144.5	80.2	69.8
Worker, spouse, and child	71.6	---	71.6	76.2	---	76.2	72.3
60-64:							
Worker only	37.9	56.5	44.2	49.0	78.4	57.2	45.6
Worker and aged spouse	52.4	[2]64.5	52.4	51.2	---	51.2	52.4
Worker and child	58.5	102.8	61.4	72.8	[2]119.5	75.5	65.2
Worker, spouse, and child	72.5	---	72.4	85.6	---	85.6	73.9

[1]See table J, footnote 1.
[2]See table D, footnote 1.

TABLE O.—Percent of persons entitled in 1969-75 who have high replacement rates by race, sex, age, and beneficiary category

Age and beneficiary category	White			Black			Total[1]
	Male	Female	Total	Male	Female	Total	
Total	20.1	37.1	25.1	34.1	57.3	42.1	27.8
Under 30:							
Worker only	46.5	---	46.5	46.2	---	46.2	46.5
Worker and aged spouse	---	---	---	---	---	---	---
Worker and child	76.7	---	76.7	85.7	---	85.7	78.6
Worker, spouse, and child	78.2	---	78.2	76.9	---	76.9	77.8
30-39:							
Worker only	32.7	42.8	37.8	42.6	58.0	46.9	40.0
Worker and aged spouse	---	---	---	---	---	---	---
Worker and child	59.8	84.2	75.9	75.0	89.1	84.0	78.0
Worker, spouse, and child	65.4	---	65.4	76.5	---	76.5	67.1
40-49:							
Worker only	11.4	33.8	21.0	22.8	53.3	35.4	24.2
Worker and aged spouse	---	---	---	---	---	---	---
Worker and child	32.9	81.2	58.1	43.9	85.6	66.5	59.9
Worker, spouse, and child	40.9	---	41.0	53.7	---	53.7	42.8
50-54:							
Worker only	8.6	33.4	19.0	11.8	48.1	29.2	20.8
Worker and aged spouse	---	---	---	---	---	---	---
Worker and child	20.0	78.5	42.2	39.6	83.7	60.4	45.2
Worker, spouse, and child	32.6	---	32.8	45.3	---	45.3	35.0
55-59:							
Worker only	7.2	28.0	14.9	18.2	50.6	32.3	17.2
Worker and aged spouse	7.3	---	8.0	[2]50.0	---	[2]50.0	11.0
Worker and child	19.3	80.2	31.8	35.6	[2]84.6	50.6	35.4
Worker, spouse, and child	30.3	---	30.3	42.1	---	42.1	32.4
60-64:							
Worker only	5.8	23.2	11.4	16.4	48.8	30.6	13.6
Worker and aged spouse	12.8	[2]28.6	13.0	23.3	---	23.3	13.8
Worker and child	19.3	72.4	25.8	36.4	[2]75.0	42.3	29.4
Worker, spouse, and child	33.3	---	33.2	58.0	---	58.0	37.2

[1]See table J, footnote 1.
[2]See table D, footnote 1.

rate of 12.4 percent for working men.[30] Further substantiation can be gained by considering the percent of the labor force working part time and part year: 21.2 percent of working women fall in this category but only 8 percent of working men.

Computations were made of the ratios of median benefits to both the median earnings in the last nonzero year of earnings prior to onset for the disabled population (indexed to their year of entitlement) and for the median earnings for the working population in the same year. These ratios are presented in table Q by age and sex. As expected the ratio of benefits to last nonzero earnings of disabled individuals exceeds the ratio of benefits to earnings of all workers. In 1974, the largest differential in the two measures occurred for young (under 30) males, who obtained a ratio of benefits to preonset earnings

[30]Source: Table B-14, *1977 Employment and Training Report of the President*, U. S. Govt. Print. Off., 1977.

which was twice as large as the ratio of benefits to earnings for all workers in that year. Whereas the ratio declined monotonically over the lifecycle for the disabled male population, the ratio of benefits to the earnings of the working population declined also, but the decline was not monotonic.

TABLE P.—Median benefit amount, median average indexed monthly earnings for last nonzero year prior to onset of disability, and median average monthly earnings for the working population by age and sex

Age and sex	1969			1974		
	Median benefit amount[1]	Median last nonzero earnings[2]	Median earnings, all persons[3]	Median benefit amount[1]	Median last nonzero earnings[2]	Median earnings, all persons[3]
Males						
Under 30	$128.03	$192.51	$388.75	$245.05	$272.04	$539.68
30-39	192.34	342.71	667.83	369.03	497.45	926.08
40-49	175.57	438.95	700.17	320.78	668.13	991.25
50-54	161.73	430.50	662.67	289.21	663.08	964.58
55-59	155.38	418.51	610.67	273.52	661.89	888.33
60-64	144.69	473.01	533.00	270.21	647.48	747.50
Females						
Under 40	133.34	203.40	226.42	240.07	262.45	319.17
40-49	119.21	258.88	283.58	191.24	375.76	392.25
50-54	109.08	223.83	297.58	176.23	308.28	409.75
55-59	101.55	240.38	296.75	174.60	315.99	406.25
60-64	110.88	278.70	276.08	174.54	338.09	350.42

[1]From the Current Work-History Survey 1-percent file.
[2]From the Current Work-History Survey 1-percent file (wage indexed from year of onset to year of entitlement).
[3]From tables 41 and 42, 1975 *Social Security Bulletin, Annual Statistical Supplement;* the present table contains some weighted medians for grouping purposes.

TABLE Q.—Median benefits relative to median average indexed monthly earnings for disabled workers prior to disability and the working population by sex and age

(In percent)

Age and sex	1969		1974	
	Last nonzero year for disabled	This year for all workers	Last nonzero year for disabled	This year for all workers
Males				
Under 30	66.5	32.9	90.1	45.4
30-39	56.1	28.8	74.2	39.8
40-49	40.0	25.1	48.0	32.4
50-54	37.6	24.4	43.6	30.0
55-59	37.1	25.4	41.3	30.8
60-64	30.6	27.2	41.7	36.2
Females				
Under 40	68.0	61.1	91.5	75.2
40-49	46.0	42.0	50.9	48.8
50-54	48.7	36.7	57.2	43.0
55-59	42.2	34.2	55.2	43.0
60-64	39.8	40.2	51.6	49.8

SOURCE: Table 11.

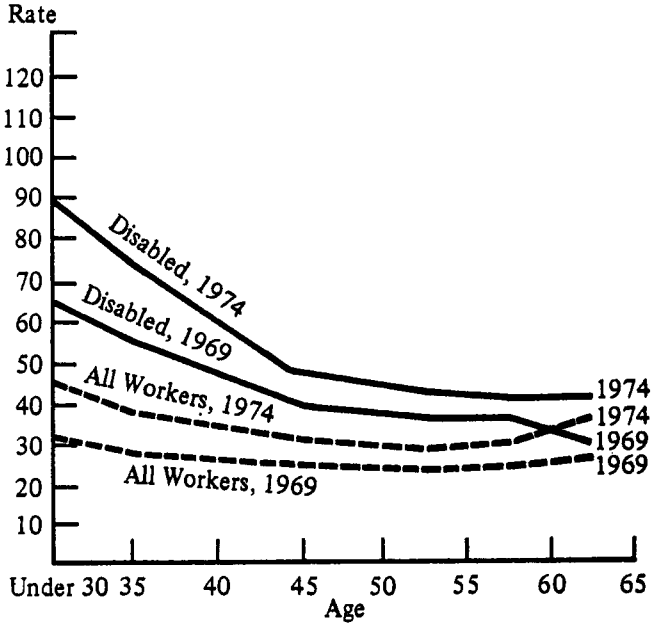
The ratio of median benefits to median earnings prior to onset for disabled females was also greater than the ratio of median benefits to median earnings of the working population. Again the highest ratios of benefits to earnings occurred in the youngest age group. For both men and women, the ratios of median benefits to median earnings of the working population appear to decline until reaching a minimum at either the 50-54 or 55-59 age group at which point the ratios begin to increase. In all cases the median benefit to earnings ratios for women exceed those for men.

All age and sex cohorts exhibited a general trend upward in both ratios over the period 1969-74. This is reflected in figure 5 which plots the two ratios for the male population by age at entitlement.

The foregoing analysis has attempted to demonstrate several things. First, comparisons of an individual's benefits to predisability earnings may overstate the true replacement of earnings relative to the working population with the same characteristics.[31] This phenomenon may cause policymakers to believe that high replacement rates are overly adequate in terms of providing income or that benefits are inequitable across cohorts. The foregoing comparison, however, shows that relative to the earnings of the working population, the replacement rate is actually very low; and across cohorts the variance in the median benefits relative to median earnings of the working population is substantially smaller than the variance of benefits relative to the last nonzero earnings of the beneficiary population.[32]

If replacement rates are indicative of the incentives to apply for or continue accepting SSDI benefits, this comparison has shown that replacement rates based on the earnings of the disabled tend to overstate the incentives for a well or even marginally impaired individual.

FIGURE 5. – Median benefits relative to median earnings of the disabled male sample and the population of all male workers



The two methods of computing rates of replacement employed in this paper are intended to provide the reader with an overview of the relationship between benefits and earnings. Each method is based on certain (different) assumptions and portrays a slightly different story about the incentives, adequacy, and equity issues. To interpret the results and address the above issues, one must not lose sight of the basic assumptions. True measures of incentives, adequacy, and equity may lie somewhere in between the two techniques.

[31] Again this is only a partial analysis; other factors should be considered in an effort to get a true adjusted difference.

[32] Given the similarities and correlations discovered to exist between the last nonzero year and lifetime earnings denominators, one might expect this pattern to be similar if data were available that would permit comparison of the lifetime earnings of the disabled with those of the well population.

DETAILED TABLES

TABLE 1.—Number[1] of disabled individuals in sample by age, sex, race, and year of entitlement

Age, sex, and race	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
All persons	2,994	3,433	3,945	4,042	5,070	4,917	4,418	28,819
Males								
Total	2,173	2,489	2,808	2,840	3,450	3,397	3,100	20,257
White								
Total	1,855	2,107	2,375	2,451	2,940	2,879	2,659	17,266
Under 30	148	139	142	166	209	223	208	1,235
30-39	126	163	146	186	212	233	200	1,266
40-49	301	351	378	369	457	430	396	2,682
50-54	283	325	380	392	462	463	412	2,717
55-59	469	542	623	621	735	724	680	4,394
60-64	528	587	706	717	865	806	763	4,972
Black								
Total	282	347	400	366	463	472	405	2,735
Under 30	44	36	30	23	34	44	41	252
30-39	28	44	42	34	62	64	47	321
40-49	60	85	89	79	97	79	59	548
50-54	46	51	62	65	72	89	65	450
55-59	63	67	96	87	117	85	90	605
60-64	41	64	81	78	81	111	103	559
Other races								
Total	36	35	33	23	47	46	36	256
Under 30	3	3	1	3	6	5	5	26
30-39	5	---	5	3	4	6	6	29
40-49	8	4	8	2	7	10	8	47
50-54	6	7	5	5	11	5	4	43
55-59	8	7	6	3	8	12	8	52
60-64	6	14	8	7	11	8	5	59
Females								
Total	821	944	1,137	1,202	1,620	1,520	1,318	8,562
White								
Total	684	769	956	1,020	1,348	1,250	1,063	7,090
Under 40	96	90	96	120	181	159	139	881
40-49	128	138	159	151	212	180	160	1,128
50-54	123	141	169	205	270	213	172	1,293
55-59	170	222	264	278	364	366	287	1,951
60-64	167	178	268	266	321	332	305	1,837
Black								
Total	131	164	172	177	258	254	244	1,400
Under 40	15	14	20	23	33	31	35	171
40-49	22	29	40	32	58	49	51	281
50-54	35	31	31	42	52	52	42	285
55-59	35	41	52	42	63	59	64	356
60-64	24	49	29	38	52	63	52	307
Other races								
Total	6	11	9	5	14	16	11	72
Under 40	2	1	3	1	---	3	2	12
40-49	3	1	1	---	4	6	3	18
50-54	1	1	1	1	5	5	3	17
55-59	---	3	---	---	---	2	1	6
60-64	---	5	4	3	5	---	2	19

[1] As this is a 1-in-100 sample, there are two implied zeros after each number in this table.

NOTE: These numbers are for the last nonzero earnings denominator; the other two formulations may contain slightly fewer cases.

TABLE 2.—Median replacement rates by race, sex, and year of entitlement

Race and sex	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Last nonzero year							
* * Total	50.5	51.7	54.7	61.9	62.6	64.2	58.7	58.1
White								
Total	48.8	50.3	53.2	60.8	60.7	62.1	57.7	56.9
Males	47.7	49.5	53.1	61.6	60.1	61.9	56.8	56.5
Females	51.7	52.5	53.6	59.0	62.2	62.8	59.8	57.8
Black								
Total	57.5	60.8	64.0	67.9	73.3	75.4	68.7	67.8
Males	57.2	57.9	62.2	66.1	73.1	74.7	64.7	65.9
Females	58.0	69.5	68.8	71.0	73.6	76.9	77.6	71.9
Other races								
Total	79.5	53.4	62.6	84.5	78.2	82.0	77.8	72.2
Males	75.5	52.5	60.6	89.5	92.0	82.4	84.5	73.7
Females	(1)119.5	(1)56.2	(1)67.0	(1)36.2	(1)59.5	(1)79.5	(1)57.0	(1)68.1
	Lifetime earnings							
Total	49.7	51.6	55.7	60.0	64.1	62.9	62.0	58.5
White								
Total	47.1	49.6	53.6	58.3	61.2	59.8	59.5	56.6
Males	44.7	47.1	49.9	55.2	56.7	55.7	56.1	53.3
Females	53.0	55.9	61.6	67.2	73.5	72.5	74.6	67.2
Black								
Total	64.9	63.3	68.9	72.1	81.3	76.8	74.5	72.5
Males	60.0	59.0	64.0	65.8	74.1	70.0	66.8	66.2
Females	74.0	71.9	87.5	88.1	94.8	97.1	92.4	88.5
Other races								
Total	64.5	54.2	74.5	(1)84.5	87.3	86.5	87.0	76.2
Males	63.2	52.5	72.0	(1)79.5	78.2	79.5	81.2	71.7
Females	---	(1)57.5	(1)89.5	(1)94.5	(1)112.8	(1)104.5	(1)102.8	96.2
	Highest 5 years of last 10							
Total	36.0	37.4	38.6	41.9	43.6	41.5	41.9	40.0
White								
Total	35.3	36.5	37.5	40.4	41.9	39.9	40.6	38.8
Males	35.7	37.3	37.8	39.3	41.2	39.4	40.0	38.7
Females	34.3	34.7	36.8	42.2	43.0	40.9	41.9	39.0
Black								
Total	42.3	44.9	47.1	49.2	51.5	47.9	47.4	47.6
Males	40.9	43.4	44.8	49.0	51.2	46.8	46.2	46.4
Females	45.4	47.8	52.3	49.5	52.0	49.3	49.5	49.7
Other races								
Total	45.5	34.9	46.2	(1)45.0	48.9	50.5	52.7	46.5
Males	43.7	34.2	46.2	(1)45.5	47.7	49.5	53.7	45.6
Females	---	(1)37.5	(1)46.2	---	(1)50.9	(1)52.4	(1)50.9	48.9

[1]This cell has fewer than 30 (3,000 weighted) observations and the result may be unreliable. Cells with fewer than five observations are deleted from this table.

TABLE 3.—Percent of persons with high replacement rates by race, sex, and year of entitlement

Race and sex	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Last nonzero year							
Total	25.4	25.7	26.8	33.9	35.5	36.3	31.4	31.4
White								
Total	23.8	24.0	25.5	33.0	33.8	34.3	29.4	29.8
Males	22.0	22.4	24.1	32.5	32.3	33.0	28.1	28.4
Females	28.6	28.1	28.8	34.2	37.1	37.4	32.6	33.2
Black								
Total	32.4	35.0	35.0	38.3	44.7	46.6	41.4	39.9
Males	30.8	31.7	32.5	37.2	44.3	45.8	37.0	37.8
Females	35.9	42.1	40.7	40.7	45.4	48.0	48.8	44.0
Other races								
Total	50.0	30.4	23.8	53.6	49.2	51.6	48.9	44.2
Males	47.2	28.6	24.2	56.5	55.3	52.2	52.8	45.7
Females	[1]66.7	[1]36.4	[1]22.2	[1]40.0	[1]28.6	[1]50.0	[1]36.4	38.9
	Lifetime earnings							
Total	18.0	19.2	24.1	29.0	34.4	32.9	29.9	27.8
White								
Total	15.3	16.8	21.5	26.7	31.1	30.2	27.0	25.1
Males	12.0	13.6	17.0	23.0	25.4	25.0	19.9	20.1
Females	24.1	25.7	32.6	36.0	43.6	42.0	46.7	37.1
Black								
Total	33.2	31.8	37.5	41.3	51.7	46.9	44.2	42.1
Males	28.2	27.2	29.3	32.9	44.5	37.6	33.6	34.1
Females	43.4	41.1	56.0	58.7	64.9	63.4	61.3	57.3
Other races								
Total	30.8	23.9	45.0	55.6	55.9	55.9	56.8	46.8
Males	31.4	20.0	40.6	50.0	48.9	50.0	51.5	41.9
Females	---	[1]36.4	[1]62.5	[1]80.0	[1]78.6	[1]73.3	[1]72.7	[1]64.7
	Highest 5 years of last 10							
Total	3.1	3.4	4.2	6.3	7.6	6.4	4.9	5.4
White								
Total	2.7	2.5	3.3	5.6	6.7	5.6	4.0	4.6
Males	1.9	2.3	3.0	5.4	6.1	5.0	3.7	4.1
Females	4.7	3.0	4.1	5.9	7.8	6.9	4.7	5.6
Black								
Total	5.8	9.0	10.1	10.7	12.9	10.3	8.8	10.0
Males	3.4	7.5	6.9	8.5	12.2	8.5	6.3	8.0
Females	10.3	12.0	17.4	15.2	14.2	13.5	12.7	13.7
Other races								
Total	5.4	2.3	2.5	4.1	12.7	14.3	19.5	9.5
Males	6.1	3.1	3.1	5.0	7.3	14.6	22.6	9.1
Females	---	[1]0	[1]0	---	[1]28.6	[1]13.3	[1]10.0	10.6

[1] See table 2, footnote 1.

TABLE 4.—Median replacement rates by sex, age, and year of entitlement

Age and sex	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Last nonzero year							
Total	50.5	51.7	54.7	61.9	62.6	64.2	58.7	58.1
Total								
Under 30	75.0	78.6	89.8	95.6	106.0	108.4	100.7	94.7
30-39	71.8	71.8	80.8	86.3	99.3	94.2	82.3	86.0
40-49	53.9	55.4	63.5	70.7	70.5	68.8	61.9	64.6
50-54	52.6	50.3	55.2	63.0	59.6	63.1	56.0	57.4
55-59	47.1	47.7	49.6	57.3	56.4	56.2	54.6	53.8
60-64	37.6	43.2	44.8	52.9	52.8	54.7	52.2	50.1
Males								
Under 30	75.0	78.6	89.8	95.6	106.0	108.4	100.7	94.7
30-39	67.2	68.9	75.2	82.2	93.1	90.3	77.7	80.4
40-49	54.2	54.4	64.8	71.8	71.7	70.0	60.4	65.2
50-54	51.8	49.8	55.5	65.0	62.1	61.7	55.7	57.6
55-59	45.3	45.6	48.1	56.6	54.8	54.6	52.1	52.3
60-64	36.5	40.0	43.1	52.2	51.8	53.3	50.7	48.5
Females								
Under 40	79.0	81.5	100.3	96.8	122.2	104.8	89.8	96.9
40-49	53.1	59.5	59.2	66.9	65.5	62.5	65.4	62.2
50-54	53.9	51.6	54.8	58.2	57.1	66.9	56.7	57.0
55-59	51.1	51.5	52.1	58.8	60.8	59.3	59.3	56.9
60-64	43.8	50.8	48.6	54.5	55.2	57.8	55.5	53.8
	Lifetime earnings							
Total	49.7	51.6	55.7	60.0	64.1	62.9	62.0	58.5
Total								
Under 30	72.4	85.0	78.4	98.6	96.0	98.7	95.1	91.2
30-39	77.4	74.6	86.4	90.0	98.5	93.2	86.6	88.4
40-49	60.6	61.4	69.7	74.8	76.7	76.0	73.1	71.0
50-54	52.2	52.4	56.0	62.5	65.2	63.9	63.6	60.0
55-59	46.9	46.1	50.5	54.4	56.5	55.7	55.9	53.3
60-64	37.2	40.3	45.4	50.5	53.0	52.3	53.1	49.0
Males								
Under 30	72.4	85.0	78.4	98.6	96.0	98.7	95.1	91.2
30-39	75.5	74.1	82.0	87.1	94.7	90.5	81.0	84.9
40-49	58.7	58.4	67.4	71.9	74.4	72.1	67.7	67.8
50-54	49.6	50.0	51.0	58.1	58.3	57.9	58.3	55.4
55-59	44.1	41.5	45.8	49.8	51.8	50.7	51.9	49.0
60-64	35.5	37.6	40.5	46.4	49.3	47.2	50.0	44.9
Females								
Under 40	88.1	76.5	100.0	100.7	108.2	102.7	99.1	99.2
40-49	66.3	74.2	85.0	88.6	87.2	90.3	94.0	84.7
50-54	58.9	59.5	68.2	70.9	78.8	82.9	83.7	72.9
55-59	54.3	54.1	61.1	66.6	71.5	69.5	71.8	65.3
60-64	45.3	51.2	54.3	59.1	65.1	67.1	64.6	58.6

TABLE 4.—Median replacement rates by sex, age, and year of entitlement—*Continued*

Age and sex	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Highest 5 years of last 10							
Total	36.0	37.4	38.6	41.9	43.6	41.5	41.9	40.0
Total								
Under 30	---	---	---	---	---	---	---	---
30-39	52.6	54.0	58.7	65.0	68.7	65.4	61.2	61.9
40-49	42.0	44.0	46.2	51.4	52.2	49.8	47.0	47.4
50-54	37.3	38.6	38.8	42.2	42.2	42.1	42.3	40.6
55-59	35.0	35.3	36.0	38.6	39.4	36.9	38.5	37.2
60-64	31.8	33.2	34.7	36.4	37.5	36.9	36.6	35.4
Males								
Under 30	---	---	---	---	---	---	---	---
30-39	52.4	54.3	57.7	64.9	68.7	65.2	60.8	61.7
40-49	43.4	44.8	47.0	53.2	55.5	52.6	47.4	48.5
50-54	38.2	40.7	39.2	42.9	43.1	42.0	42.6	41.2
55-59	35.4	35.3	36.0	37.0	37.8	36.0	37.0	36.4
60-64	31.6	32.9	34.3	35.4	36.6	35.5	35.8	34.7
Females								
Under 40	53.1	52.8	63.0	65.2	68.6	66.0	62.3	62.6
40-49	38.1	40.4	43.5	47.6	47.6	44.9	46.1	44.7
50-54	35.7	35.2	38.1	41.2	41.1	42.3	41.7	39.3
55-59	34.0	35.3	36.0	43.1	43.4	38.8	42.8	39.0
60-64	32.3	34.1	36.0	39.4	40.4	41.6	38.8	37.6

TABLE 5.—Percent of persons with high replacement rates by sex, age, and year of entitlement

Age and sex	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Last nonzero year							
Total	25.4	25.7	26.8	33.9	35.5	36.3	31.4	31.4
Total								
Under 30	45.6	48.9	59.5	67.2	70.7	76.5	66.9	63.6
30-39	41.9	41.7	51.0	57.2	67.3	62.7	52.2	55.2
40-49	26.6	28.3	32.7	38.1	28.9	36.9	32.0	33.9
50-54	24.7	23.7	24.4	33.0	30.5	32.6	26.6	28.5
55-59	24.8	21.9	20.9	28.3	28.7	28.6	26.9	26.0
60-64	14.5	18.7	18.2	23.7	25.0	27.5	23.2	22.2
Males								
Under 30	45.6	48.9	59.5	67.2	70.7	76.5	66.9	63.6
30-39	36.5	36.7	44.6	53.4	63.7	60.7	47.8	50.8
40-49	24.7	24.6	32.0	38.7	38.5	35.8	30.0	32.5
50-54	23.3	22.4	21.5	31.8	32.1	29.4	24.1	26.8
55-59	23.2	20.6	19.6	26.9	25.7	25.6	24.4	23.9
60-64	12.5	16.4	16.6	23.2	22.5	25.6	20.8	20.2
Females								
Under 40	49.6	51.4	61.3	63.2	72.0	65.8	58.5	61.8
40-49	31.4	38.1	34.5	36.6	39.8	39.2	36.4	36.9
50-54	27.7	26.6	30.8	35.1	27.8	39.3	32.3	31.7
55-59	29.3	24.8	24.0	31.6	34.7	34.4	32.3	30.8
60-64	20.4	25.4	22.3	25.1	31.5	31.9	29.2	27.4

TABLE 5.—Percent of persons with high replacement rates by sex, age, and year of entitlement—*Continued*

Age and sex	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Lifetime earnings							
Total	18.0	19.2	24.1	29.0	34.4	32.9	29.9	27.8
Total								
Under 30	41.0	56.0	48.8	69.2	66.7	67.6	69.7	61.9
30-39	47.3	40.8	58.1	65.5	74.0	66.9	57.5	60.4
40-49	23.9	25.2	34.5	43.8	46.3	45.4	39.7	38.0
50-54	17.0	18.4	23.5	28.2	32.6	31.2	29.3	26.8
55-59	14.2	13.5	17.8	19.4	25.0	23.6	22.6	20.1
60-64	6.7	10.5	13.6	15.3	20.8	20.5	17.9	15.9
Males								
Under 30	41.0	56.0	48.8	69.2	66.7	67.6	69.7	61.9
30-39	43.8	38.7	53.2	63.0	72.7	66.1	51.8	57.3
40-49	19.1	18.0	26.1	37.8	42.3	39.3	28.1	31.0
50-54	12.0	15.0	17.5	22.4	22.6	20.5	18.3	18.8
55-59	10.6	9.8	13.4	13.1	16.9	16.6	14.1	13.8
60-64	4.7	7.1	9.7	11.9	15.3	14.6	11.6	11.2
Females								
Under 40	53.4	46.2	68.5	70.8	76.2	68.5	67.6	66.4
40-49	35.3	44.7	54.0	58.5	54.4	59.0	65.0	54.1
50-54	27.6	26.2	36.8	39.1	49.2	53.2	53.7	42.7
55-59	23.5	22.3	27.8	33.4	41.4	37.2	41.3	33.9
60-64	12.6	20.4	23.9	24.1	34.8	34.3	33.2	27.9
	Highest 5 years of last 10							
Total	3.1	3.4	4.2	6.3	7.6	6.4	4.9	5.4
Total								
Under 30	---	---	---	---	---	---	---	---
30-39	10.0	8.7	12.9	21.8	28.3	22.9	17.5	18.7
40-49	1.8	3.2	6.2	6.6	7.3	6.9	4.4	5.4
50-54	3.9	4.0	4.2	6.1	5.9	4.7	3.4	4.7
55-59	3.4	3.1	2.9	4.3	5.2	4.3	3.8	4.0
60-64	1.3	2.1	2.5	4.0	5.4	4.2	3.3	3.5
Males								
Under 30	---	---	---	---	---	---	---	---
30-39	5.4	8.4	11.9	20.7	26.0	20.8	16.7	16.9
40-49	1.1	2.7	4.3	5.1	6.1	6.6	3.9	4.5
50-54	2.7	3.9	3.6	6.1	5.9	3.2	2.9	4.1
55-59	3.2	2.3	2.5	3.5	4.5	3.9	3.1	3.4
60-64	.7	1.6	2.0	4.0	4.9	3.2	2.6	2.9
Females								
Under 40	20.0	10.0	15.9	25.4	33.6	29.0	19.8	23.7
40-49	3.3	4.4	10.5	10.4	9.8	7.7	5.6	7.7
50-54	6.4	4.1	5.5	6.1	5.8	7.8	4.6	5.9
55-59	3.9	4.9	3.8	5.9	6.6	5.2	5.4	5.2
60-64	3.2	3.4	3.7	3.9	6.6	6.4	5.0	4.9

TABLE 6.—Median replacement rates for white males by age and predisability earnings category

Age and earnings category	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Last nonzero year							
Total	47.7	49.5	53.0	61.6	60.1	61.9	56.8	56.5
Total:								
Low	67.9	71.5	74.6	92.5	92.7	97.5	87.2	83.9
Medium	41.0	46.3	50.9	58.0	57.8	58.5	56.0	53.8
High	32.4	34.6	34.6	49.8	46.3	45.3	37.0	56.5
Under 30:								
Low	84.1	93.2	127.0	121.5	141.3	125.2	123.9	116.3
Medium	53.8	61.6	67.8	73.5	70.2	92.4	76.3	71.7
High	---	(1)64.5	(1)67.0	(1)52.0	(1)86.2	(1)76.2	(1)59.5	64.5
30-39:								
Low	76.4	89.5	87.5	95.3	134.5	125.8	102.8	98.2
Medium	57.9	59.2	69.2	78.1	86.2	78.5	70.1	72.7
High	---	---	---	(1)81.5	---	(1)71.5	(1)52.0	67.0
40-49:								
Low	59.1	67.8	74.5	91.6	81.0	97.7	89.5	80.7
Medium	51.2	51.4	62.9	69.2	69.6	66.7	57.8	62.4
High	(1)42.8	(1)46.2	(1)52.0	(1)66.2	(1)70.9	(1)62.8	(1)43.4	55.2
50-54:								
Low	67.4	74.5	70.4	89.5	102.8	86.4	61.7	76.9
Medium	46.9	46.0	52.5	62.1	58.6	59.6	56.1	55.3
High	(1)32.8	(1)42.6	38.6	51.3	49.0	50.9	41.0	46.2
55-59:								
Low	70.7	70.5	63.2	86.0	70.8	80.2	77.1	73.5
Medium	39.0	42.3	46.1	54.3	53.6	52.8	53.2	50.4
High	(1)34.0	33.2	33.1	51.5	45.9	44.3	34.6	40.0
60-64:								
Low	55.3	53.9	64.9	83.9	74.7	82.7	72.5	69.7
Medium	34.3	38.8	42.1	50.9	50.2	52.4	51.6	47.0
High	(1)29.9	31.9	32.5	45.2	42.6	39.4	35.7	37.0
	Lifetime earnings							
Total	44.7	47.1	49.9	55.2	56.7	55.7	56.1	53.3
Total:								
Low	67.3	73.2	80.7	85.6	89.6	89.6	85.7	81.9
Medium	36.5	38.7	43.4	50.4	52.5	51.4	53.4	48.4
High	33.0	34.4	33.6	33.3	34.6	35.5	37.1	34.8
Under 30:								
Low	87.8	105.1	114.5	121.7	117.5	115.9	118.0	113.8
Medium	53.8	70.8	57.8	87.2	76.2	82.4	80.0	75.9
High	---	(1)62.8	(1)54.5	(1)49.5	(1)84.5	(1)67.0	(1)67.5	62.8
30-39:								
Low	89.5	91.8	104.2	103.5	111.2	107.5	105.9	102.6
Medium	66.2	68.8	71.4	81.9	88.0	83.2	73.6	76.3
High	---	---	---	(1)72.0	---	(1)71.5	(1)59.5	68.4
40-49:								
Low	74.1	75.1	89.8	91.7	94.2	97.7	86.4	87.4
Medium	49.7	50.3	62.7	65.7	67.5	66.7	62.4	61.5
High	(1)54.5	(1)45.2	(1)52.4	(1)64.1	(1)67.5	(1)60.2	(1)47.0	55.3
50-54:								
Low	66.9	75.3	80.3	86.5	92.5	83.9	86.2	81.2
Medium	38.7	41.3	42.1	51.6	53.5	53.2	54.7	49.7
High	(1)32.8	(1)42.6	35.6	32.3	36.8	39.2	41.2	37.3
55-59:								
Low	62.5	68.0	75.3	75.9	76.8	83.0	77.5	74.4
Medium	35.2	35.1	38.6	45.8	48.5	46.8	50.4	44.2
High	(1)34.0	32.9	31.8	32.9	33.2	34.4	34.8	33.5
60-64:								
Low	57.1	63.2	69.0	73.8	79.3	78.2	74.7	71.6
Medium	31.9	33.4	36.1	43.1	45.9	43.6	47.8	40.3
High	(1)30.8	32.1	32.5	31.5	33.0	32.5	35.6	32.8

See footnote at end of table.

TABLE 6.—Median replacement rates for white males by age and predisability earnings category—*Continued*

Age and earnings category	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Highest 5 years of last 10							
Total	35.7	37.3	37.8	39.3	41.2	39.4	40.0	38.7
Total:								
Low	42.3	45.7	48.4	51.9	52.4	52.1	49.5	49.2
Medium	34.2	35.6	36.1	37.5	38.7	37.2	38.7	36.9
High	35.7	37.3	37.8	39.3	41.2	39.4	40.0	38.7
Under 30:								
Low	---	---	---	---	---	---	---	---
Medium	---	---	---	---	---	---	---	---
High	---	---	---	---	---	---	---	---
30-39:								
Low	53.4	59.0	60.6	65.1	70.3	67.3	68.5	64.3
Medium	50.3	51.2	54.6	64.8	68.2	63.9	57.4	60.0
High	---	---	---	(1)66.6	---	69.5	53.8	64.7
40-49:								
Low	45.2	46.4	51.0	53.8	54.8	56.0	51.6	51.4
Medium	42.0	43.6	45.7	54.5	56.4	51.4	46.0	47.3
High	(1)47.0	(1)44.5	(1)45.5	(1)64.1	(1)66.2	(1)60.2	(1)42.0	50.3
50-54:								
Low	39.2	47.4	49.2	50.5	54.6	50.4	45.3	48.6
Medium	36.8	36.9	36.9	39.8	38.3	38.6	41.4	38.3
High	(1)32.8	(1)41.4	35.6	31.8	36.8	38.6	39.2	36.8
55-59:								
Low	43.3	44.5	46.2	49.3	48.8	49.3	47.0	47.0
Medium	33.1	33.1	34.0	34.4	35.5	33.3	35.3	34.1
High	(1)34.0	32.9	31.8	32.7	33.2	34.1	32.8	33.0
60-64:								
Low	36.4	38.9	43.3	49.7	47.1	47.6	45.1	44.4
Medium	30.6	31.8	32.4	33.5	34.7	33.5	33.9	33.0
High	(1)29.9	31.1	32.3	31.0	32.2	31.7	33.6	32.0

[1]See table 2, footnote 1.

TABLE 7.—Percent of white males with high replacement rates by age, predisability earnings category, and year of entitlement

Age and earnings category	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Last nonzero year							
Total	22.0	22.4	24.1	32.5	32.3	33.0	28.1	28.4
Low	41.2	45.0	46.0	59.2	56.4	60.8	54.3	53.1
Medium	22.9	15.5	18.7	25.1	22.7	26.4	23.2	21.6
High	0	0	.7	3.6	5.5	2.3	.5	2.2
Under 30	43.2	46.8	60.6	66.9	69.9	77.1	66.4	63.3
Low	53.0	62.0	77.5	82.5	83.8	82.9	84.4	76.6
Medium	23.9	19.5	34.8	44.6	40.0	65.0	44.0	40.5
High	---	(1)0	(1)14.3	(1)14.3	(1)75.0	(1)40.0	(1)7.1	22.4
30-39	31.8	34.4	41.8	54.3	62.7	56.6	46.0	48.6
Low	46.7	55.6	56.4	62.7	69.1	71.4	70.7	62.9
Medium	18.2	21.2	30.1	48.0	60.2	48.5	35.1	39.8
High	---	---	---	(1)66.6	---	(1)33.3	(1)0	25.0
40-49	23.9	22.5	30.4	38.8	37.2	33.5	30.6	31.5
Low	39.4	40.2	46.6	59.7	50.7	57.8	56.1	50.6
Medium	16.8	15.7	25.4	30.4	31.1	25.1	20.6	24.0
High	(1)0	(1)0	(1)0	(1)10.0	(1)33.3	(1)3.7	(1)0	7.1
50-54	21.6	22.2	21.0	30.1	29.4	28.3	21.4	25.3
Low	39.2	49.5	40.2	55.3	62.5	55.3	31.8	48.1
Medium	15.3	12.1	17.0	23.8	25.5	24.9	23.2	21.0
High	(1)0	(1)0	0	2.7	3.1	0	0	1.0
55-59	23.2	19.6	18.6	26.2	24.2	24.3	23.7	23.0
Low	44.8	43.4	34.3	54.0	43.7	50.3	48.3	45.6
Medium	14.3	13.9	17.8	22.0	24.0	20.8	23.2	19.7
High	(1)0	0	0	1.2	0	1.6	0	.5
60-64	11.9	16.2	16.3	22.4	21.5	24.1	19.4	19.4
Low	31.6	32.6	37.5	52.5	46.4	51.7	44.0	43.1
Medium	5.7	13.6	13.7	17.4	17.6	22.4	17.9	15.9
High	(1).4	0	0	.8	3.7	0	.6	.8

See footnote at end of table.

TABLE 7.—Percent of white males with high replacement rates by age, predisability earnings category, and year of entitlement—*Continued*

Age and earnings category	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Lifetime earnings							
Total	12.0	13.6	17.0	23.0	25.4	25.0	19.9	20.1
Low	33.5	40.6	51.3	55.9	60.1	61.1	57.7	52.4
Medium	2.8	3.7	6.0	12.8	15.9	14.9	9.3	10.0
High	0	0	.7	1.1	4.0	1.0	0	1.2
Under 30	36.8	56.5	52.2	69.0	64.7	68.4	65.8	61.4
Low	(1)58.6	78.4	72.7	81.8	78.1	84.8	87.5	79.3
Medium	(1)15.4	(1)37.0	36.7	63.2	45.6	52.2	50.9	45.5
High	---	(1)0	(1)16.7	(1)0	(1)66.7	(1)0	(1)0	14.3
30-39	42.2	35.8	49.0	62.3	72.3	65.1	51.5	55.8
Low	65.4	62.9	67.8	76.4	80.0	81.1	80.0	74.4
Medium	22.7	19.2	34.9	54.9	68.0	56.9	38.7	44.9
High	---	---	---	(1)33.3	---	(1)33.3	(1)0	25.0
40-49	16.3	15.7	24.7	36.9	39.7	38.4	27.0	29.4
Low	43.0	41.5	65.8	66.4	65.7	65.6	61.8	59.5
Medium	4.1	4.8	7.9	24.8	28.9	29.4	12.3	17.0
High	(1)0	(1)0	(1)0	(1)0	(1)16.7	(1)0	(1)0	2.4
50-54	8.2	14.2	17.2	21.7	20.6	19.0	17.5	17.5
Low	24.7	44.2	51.0	57.8	67.4	55.9	60.2	52.2
Medium	2.0	2.0	6.6	10.3	11.3	10.4	7.3	7.7
High	(1)0	(1)0	0	0	3.1	0	0	.6
55-59	9.2	7.8	11.1	12.1	14.6	15.3	11.8	12.0
Low	30.3	30.4	45.0	44.8	46.2	53.9	47.2	43.0
Medium	0	.3	1.5	3.5	7.5	4.8	3.1	3.2
High	(1)0	0	0	0	0	0	0	0
60-64	4.6	6.3	8.2	10.2	13.2	12.2	9.4	9.6
Low	16.5	26.5	35.5	40.0	49.7	48.3	41.5	38.0
Medium	.6	.5	1.0	2.1	3.7	3.2	1.4	1.9
High	(1)0	0	0	0	2.2	0	0	.4
	Highest 5 years of last 10							
Total	1.9	2.3	3.0	5.4	6.1	5.0	3.7	4.1
Low	6.3	7.8	11.1	16.1	16.1	16.3	12.4	12.6
Medium	0	.2	.3	2.0	3.4	1.5	1.3	1.4
High	0	.5	0	0	1.5	.8	0	.5
Under 30	---	---	---	---	---	---	---	---
Low	---	---	---	---	---	---	---	---
Medium	---	---	---	---	---	---	---	---
High	---	---	---	---	---	---	---	---
30-39	5.9	6.2	9.9	20.4	24.9	20.4	15.6	15.9
Low	11.5	16.4	20.7	33.8	33.8	31.5	28.4	26.3
Medium	1.5	0	2.4	12.9	20.3	12.3	9.0	9.5
High	---	---	---	(1)0	---	(1)25.0	(1)0	7.5
40-49	1.4	2.3	4.6	5.4	6.1	6.7	4.0	4.6
Low	4.4	7.6	14.4	11.0	15.7	18.8	12.2	12.5
Medium	0	0	.4	3.0	1.7	1.8	.4	1.1
High	(1)0	(1)0	(1)0	(1)0	(1)5.6	(1)0	(1)0	.8
50-54	2.1	3.1	3.4	5.6	4.6	2.4	1.9	3.4
Low	7.8	9.5	13.5	18.6	15.1	10.8	6.8	11.9
Medium	0	.5	0	1.2	1.9	0	.8	.7
High	(1)0	(1)0	0	0	3.1	0	0	.6
55-59	2.6	1.7	1.6	2.9	4.0	3.9	2.8	2.8
Low	8.5	5.2	7.1	10.4	10.8	15.0	11.1	9.9
Medium	0	.3	0	1.0	2.6	.7	.8	.8
High	(1)0	1.5	0	0	0	0	0	.2
60-64	.6	1.4	1.7	3.7	4.4	2.4	2.2	2.5
Low	2.3	5.3	7.2	15.3	14.2	11.0	9.4	9.6
Medium	0	.3	.2	.5	1.8	0	.5	.5
High	(1)0	0	0	0	1.5	0	0	.2

[1]See table 2, footnote 1.

TABLE 8.—Median replacement rates by age and beneficiary category for white males

Age and beneficiary category	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Last nonzero year							
Total	47.7	49.5	53.0	61.6	60.1	61.9	56.8	56.5
Worker only	36.8	38.0	39.2	52.8	50.5	52.0	48.4	47.2
Worker and aged spouse	47.1	47.6	50.8	54.8	55.5	55.4	53.3	53.0
Worker and child	58.5	60.4	64.9	78.9	75.6	72.7	67.1	70.0
Worker, spouse, and child	66.5	62.1	71.5	76.9	78.2	76.9	71.0	73.3
Under 30:								
Total	72.6	77.0	90.2	94.2	102.5	109.9	99.5	94.0
Worker only	63.3	70.9	85.2	90.6	99.0	105.1	94.8	89.0
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	(1)169.5	(1)99.5	(1)119.5	(1)109.5	126.2	(1)114.5	159.5	120.6
Worker, spouse, and child	(1)96.6	80.8	92.0	97.4	107.5	116.5	100.3	98.6
30-39:								
Total	65.1	66.4	73.8	82.8	91.0	85.5	76.5	78.3
Worker only	62.0	47.5	65.2	72.8	99.5	80.9	73.8	70.9
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	(1)69.5	(1)72.0	(1)74.5	(1)92.8	117.0	(1)94.5	78.5	87.5
Worker, spouse, and child	65.1	70.2	75.7	82.7	86.6	84.9	76.7	78.6
40-49:								
Total	53.2	53.8	63.9	72.4	71.4	69.5	61.6	65.1
Worker only	37.4	37.8	41.5	56.7	54.8	53.2	53.6	48.7
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	54.3	56.2	67.5	84.0	73.2	71.3	61.5	67.5
Worker, spouse, and child	63.5	58.8	69.5	73.1	75.7	73.3	65.6	70.4
50-54:								
Total	49.8	49.2	54.8	64.0	60.3	61.6	54.7	56.8
Worker only	36.7	37.5	39.5	54.6	47.3	51.1	43.1	46.3
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	(1)58.5	56.9	60.9	72.6	73.4	65.8	59.5	65.6
Worker, spouse, and child	61.7	56.3	69.3	72.9	74.3	73.5	65.0	69.4
55-59:								
Total	45.4	44.5	46.4	56.1	53.9	53.8	51.3	51.5
Worker only	36.2	36.8	37.9	51.8	48.7	48.8	44.5	45.2
Worker and aged spouse	(1)43.5	(1)45.1	(1)49.5	(1)52.8	(1)55.0	49.5	50.5	50.2
Worker and child	62.0	61.3	66.5	77.4	66.7	66.7	68.8	68.1
Worker, spouse, and child	67.8	59.0	71.2	75.8	75.5	74.4	68.9	71.8
60-64:								
Total	36.2	39.4	41.8	51.8	51.2	52.2	49.6	47.7
Worker only	33.5	36.0	36.2	48.6	47.4	47.7	43.6	42.1
Worker and aged spouse	47.3	48.6	51.2	55.7	54.7	56.3	53.2	53.2
Worker and child	(1)54.5	(1)57.3	56.0	(1)75.2	(1)63.8	73.5	61.8	63.7
Worker, spouse, and child	68.0	58.1	68.8	79.5	76.4	78.5	73.5	72.8
	Lifetime earnings							
Total	44.7	47.1	49.9	55.2	56.7	55.7	56.1	53.3
Worker only	34.8	35.0	36.6	43.9	46.2	44.8	48.2	41.8
Worker and aged spouse	46.2	50.2	48.2	54.3	58.2	53.2	53.0	52.7
Worker and child	57.7	59.7	62.0	73.2	75.7	71.6	67.4	67.6
Worker, spouse, and child	68.9	68.0	74.5	80.2	82.4	82.2	74.8	76.1
Under 30:								
Total	69.5	85.1	81.8	100.1	93.7	100.0	92.2	90.8
Worker only	56.2	(1)77.0	58.7	87.0	76.9	88.0	82.2	76.9
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	(1)69.5	(1)89.5	(1)89.5	(1)99.5	(1)112.8	(1)99.5	(1)104.5	98.3
Worker, spouse, and child	(1)91.2	88.2	98.2	107.0	104.5	117.3	98.2	101.2
30-39:								
Total	74.4	73.2	78.8	86.9	93.0	89.2	80.7	83.7
Worker only	53.1	52.6	66.8	68.5	73.1	70.8	68.1	65.9
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	(1)68.5	(1)76.2	(1)73.9	(1)93.8	106.8	(1)92.2	82.2	86.2
Worker, spouse, and child	84.5	76.0	85.4	90.0	94.8	93.5	88.0	88.2
40-49:								
Total	56.7	56.9	67.4	71.5	73.2	71.4	67.0	67.1
Worker only	36.8	37.9	42.4	51.4	52.0	50.6	53.9	48.4
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	62.4	59.5	66.9	76.3	78.8	76.2	71.3	70.9
Worker, spouse, and child	69.2	65.9	73.3	78.7	83.4	83.5	72.8	75.4

See footnote at end of table.

TABLE 8.—Median replacement rates by age and beneficiary category for white males—*Continued*

Age and beneficiary category	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Lifetime earnings (continued)							
50-54:								
Total	46.8	49.0	49.5	57.0	57.2	57.2	57.8	54.4
Worker only	35.0	35.3	35.0	45.0	45.3	43.9	49.0	41.7
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	[1]53.1	54.2	59.5	68.3	69.5	66.2	62.0	62.4
Worker, spouse, and child	64.5	64.9	74.3	76.0	75.9	74.4	70.6	72.2
55-59:								
Total	42.4	40.0	43.1	48.5	50.2	49.8	51.0	47.6
Worker only	35.1	34.1	36.4	42.3	43.9	43.8	46.1	40.4
Worker and aged spouse	[1]46.2	[1]50.2	[1]47.0	[1]55.5	[1]56.8	[1]54.0	[1]51.8	51.8
Worker and child	53.9	58.7	56.3	67.7	64.5	59.2	65.8	61.3
Worker, spouse, and child	64.2	62.3	71.3	75.5	76.2	75.0	71.3	71.6
60-64:								
Total	35.3	37.0	39.2	45.3	48.1	45.3	48.9	43.7
Worker only	32.7	33.5	35.0	39.2	43.4	39.2	44.6	37.9
Worker and aged spouse	46.2	50.2	48.3	53.8	57.3	52.5	52.7	52.4
Worker and child	[1]54.0	[1]54.5	56.3	[1]65.5	[1]63.8	63.7	58.4	58.5
Worker, spouse, and child	59.0	58.8	71.9	74.4	73.5	80.0	74.1	72.5
	Highest 5 years of last 10							
Total	35.7	37.3	37.8	39.3	41.2	39.4	40.0	38.7
Worker only	30.8	30.9	31.3	32.7	32.8	32.1	32.2	31.9
Worker and aged spouse	34.6	40.0	43.8	45.9	49.2	46.0	46.0	45.1
Worker and child	46.9	50.2	50.8	55.0	57.0	53.1	51.4	52.1
Worker, spouse, and child	52.0	50.7	52.7	65.7	66.3	65.1	56.1	58.2
Under 30:								
Total	---	---	---	---	---	---	---	---
Worker only	---	---	---	---	---	---	---	---
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	---	---	---	---	---	---	---	---
Worker, spouse, and child	---	---	---	---	---	---	---	---
30-39:								
Total	51.7	53.5	57.0	65.0	68.8	65.2	61.0	61.6
Worker only	35.2	33.8	46.0	45.7	51.5	49.8	51.2	46.8
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	[1]51.3	[1]54.2	[1]56.8	[1]63.5	74.2	[1]68.0	57.7	61.6
Worker, spouse, and child	58.8	57.1	62.7	70.3	71.7	69.9	67.5	67.0
40-49:								
Total	43.1	44.4	47.1	54.8	56.3	53.6	47.3	48.7
Worker only	31.1	31.5	31.3	34.0	33.8	32.5	34.1	32.6
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	48.5	49.1	50.2	56.7	60.2	53.4	50.0	52.2
Worker, spouse, and child	50.9	49.4	51.9	64.9	65.2	64.4	52.0	56.3
50-54:								
Total	37.2	40.3	39.0	41.7	41.8	42.0	42.1	40.5
Worker only	31.0	31.0	30.9	33.1	31.9	31.9	31.8	31.7
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	[1]44.0	50.0	51.5	54.1	56.7	51.1	51.0	51.6
Worker, spouse, and child	51.6	49.9	51.8	63.9	65.3	62.5	54.9	56.5
55-59:								
Total	35.2	34.9	35.2	36.2	36.9	35.5	36.2	35.8
Worker only	31.2	31.0	31.4	32.3	32.4	31.5	31.7	31.7
Worker and aged spouse	[1]39.5	[1]40.5	[1]46.4	[1]48.1	[1]51.0	[1]43.9	[1]44.5	45.6
Worker and child	46.5	50.4	51.1	53.3	51.2	52.2	51.4	51.1
Worker, spouse, and child	51.3	49.9	52.2	63.3	65.0	64.7	57.2	56.9
60-64:								
Total	31.6	32.8	33.7	34.8	35.8	34.8	35.3	34.2
Worker only	30.0	30.6	30.9	32.1	32.7	31.8	31.5	31.4
Worker and aged spouse	33.6	39.8	43.5	45.2	47.8	46.3	46.0	44.5
Worker and child	[1]41.5	[1]50.1	48.2	[1]51.4	[1]52.7	51.7	50.4	50.0
Worker, spouse, and child	51.6	49.3	51.1	66.9	65.4	65.0	59.2	57.4

[1] See table 2, footnote 1.

TABLE 9.—Percent of white males with high replacement rates by age and beneficiary category

Age and beneficiary category	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Last nonzero year							
Total	22.0	22.4	24.1	32.5	32.3	33.0	28.1	28.4
Worker only	18.0	18.9	19.5	26.6	25.4	27.7	24.0	23.3
Worker and aged spouse	15.0	18.3	15.6	20.4	22.4	22.5	16.4	19.1
Worker and child	27.5	30.3	32.2	49.0	44.3	39.8	34.4	37.2
Worker, spouse, and child	32.0	28.1	33.7	44.8	47.6	44.8	37.2	39.1
Under 30:								
Total	43.5	46.8	60.6	66.9	69.9	77.1	66.4	63.3
Worker only	35.1	43.0	54.7	59.8	62.9	73.6	60.6	57.4
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	(1)80.0	(1)57.1	(1)75.0	(1)55.6	(1)77.8	(1)93.3	(1)83.3	75.3
Worker, spouse, and child	(1)71.4	51.3	67.4	84.0	87.5	83.7	77.2	75.8
30-39:								
Total	31.8	34.4	41.8	54.3	62.7	56.6	46.0	48.6
Worker only	41.5	23.7	38.1	45.7	55.2	50.8	46.4	44.5
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	(1)42.1	(1)36.4	(1)42.1	(1)68.2	81.2	(1)66.7	(1)48.5	56.9
Worker, spouse, and child	22.7	37.9	41.8	54.3	62.7	56.6	46.0	48.6
40-49:								
Total	23.9	22.5	30.4	38.8	37.2	33.5	30.6	31.5
Worker only	18.0	22.0	26.5	37.1	28.8	29.7	31.6	27.8
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	17.1	22.4	36.4	54.1	40.1	36.5	27.9	34.2
Worker, spouse, and child	31.8	22.4	31.5	34.4	41.8	35.4	30.6	33.1
50-54:								
Total	21.6	22.2	21.0	30.1	29.4	28.3	21.4	25.3
Worker only	20.2	17.7	18.5	28.2	22.6	24.3	18.4	21.8
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	26.1	32.6	24.0	35.9	38.8	25.9	27.3	30.2
Worker, spouse, and child	(1)22.1	25.0	25.4	32.7	38.0	36.6	24.3	29.8
55-59:								
Total	23.2	19.6	18.6	26.2	24.2	24.3	23.7	23.0
Worker only	19.7	16.7	15.0	21.8	19.5	20.8	20.6	19.3
Worker and aged spouse	(1)0	(1)10.5	(1)15.8	(1)20.0	(1)21.0	(1)6.2	(1)0	11.3
Worker and child	30.6	29.2	34.9	45.2	28.3	30.5	35.3	33.1
Worker, spouse, and child	35.5	29.1	28.7	41.8	42.3	30.0	35.0	36.4
60-64:								
Total	11.9	16.2	16.3	22.4	21.5	24.1	19.4	19.4
Worker only	8.9	15.5	15.0	19.5	19.7	20.4	15.8	16.9
Worker and aged spouse	16.7	19.7	15.3	19.0	17.9	25.0	19.2	19.1
Worker and child	(1)16.7	(1)25.0	16.2	(1)42.1	(1)28.0	38.5	26.5	27.5
Worker, spouse, and child	33.3	14.8	27.5	50.0	42.6	47.8	40.3	37.2
	Lifetime earnings							
Total	12.0	13.6	17.0	23.0	25.4	25.0	19.9	20.1
Worker only	5.5	6.9	8.0	10.7	10.8	11.4	10.6	9.4
Worker and aged spouse	5.0	6.1	9.4	11.5	18.0	13.1	10.2	13.3
Worker and child	14.9	22.2	20.6	38.2	43.3	38.3	26.6	30.2
Worker, spouse, and child	28.5	26.4	38.7	51.0	54.4	53.6	39.6	42.9
Under 30:								
Total	36.8	56.5	52.2	69.0	64.7	68.4	65.8	61.4
Worker only	21.2	(1)48.3	27.3	53.5	46.3	58.5	52.5	46.5
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	(1)25.0	(1)66.7	(1)66.7	(1)75.0	(1)100.0	(1)75.0	(1)85.7	76.7
Worker, spouse, and child	(1)68.4	61.3	(1)75.9	86.1	85.7	82.5	79.2	78.2
30-39:								
Total	42.2	35.9	49.0	62.3	72.3	65.1	51.5	55.8
Worker only	24.3	18.9	32.5	37.2	41.5	39.1	28.6	32.7
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	(1)21.0	(1)40.9	(1)36.8	(1)72.7	84.4	(1)85.2	54.6	59.8
Worker, spouse, and child	58.5	40.8	59.5	69.5	83.1	74.1	62.7	65.4
40-49:								
Total	16.3	15.7	24.7	36.9	39.7	38.4	27.0	29.4
Worker only	6.5	8.7	11.2	16.1	11.3	9.7	15.8	11.4
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	14.6	17.2	22.7	44.3	48.3	44.2	31.2	32.9
Worker, spouse, and child	26.0	20.1	32.6	48.3	56.5	55.9	34.2	40.9

[1]See footnote at end of table.

TABLE 9.—Percent of white males with high replacement rates by age and beneficiary category—*Continued*

Age and beneficiary category	1969	1970	1971	1972	1973	1974	1975	1969-75 combined
	Lifetime earnings (continued)							
50-54:								
Total	8.2	14.2	17.2	21.7	20.6	19.0	17.5	17.5
Worker only	4.7	6.6	6.5	12.5	7.6	9.3	11.5	8.6
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	[1]8.7	17.4	16.0	25.6	28.6	20.4	18.2	20.0
Worker, spouse, and child	15.1	25.0	39.1	42.1	40.9	35.9	25.7	32.6
55-59:								
Total	9.2	7.8	11.1	12.1	14.6	15.3	11.8	12.0
Worker only	6.7	5.4	7.8	6.2	7.3	9.8	7.1	7.2
Worker and aged spouse	[1]0	[1]5.3	[1]5.3	[1]10.0	[1]15.8	[1]6.2	[1]4.8	7.3
Worker and child	13.9	16.7	16.3	19.1	18.9	28.8	17.7	19.3
Worker, spouse, and child	17.2	14.0	24.8	39.6	42.3	38.3	29.3	30.3
60-64:								
Total	4.6	6.3	8.2	10.2	13.2	12.2	9.4	9.6
Worker only	1.7	4.2	5.1	7.0	8.7	6.6	5.3	5.8
Worker and aged spouse	6.2	4.9	9.7	10.7	25.5	15.0	9.6	12.8
Worker and child	[1]16.7	[1]20.0	13.5	[1]31.6	[1]28.0	25.6	10.2	19.3
Worker, spouse, and child	24.4	20.4	27.5	33.9	32.4	50.7	37.7	33.3
	Highest 5 years of last 10							
Total	1.9	2.3	3.0	5.4	6.1	5.0	3.7	4.1
Worker only	3.3	1.5	1.7	3.7	3.3	2.5	2.2	2.4
Worker and aged spouse	0	1.2	2.1	3.6	11.9	2.8	.8	3.9
Worker and child	1.5	2.6	4.2	8.2	11.0	6.5	4.2	5.7
Worker, spouse, and child	3.6	4.3	5.8	9.4	10.2	10.8	7.6	7.7
Under 30:								
Total	---	---	---	---	---	---	---	---
Worker only	---	---	---	---	---	---	---	---
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	---	---	---	---	---	---	---	---
Worker, spouse, and child	---	---	---	---	---	---	---	---
30-39:								
Total	5.9	6.2	9.9	20.4	24.9	20.4	15.6	15.9
Worker only	5.7	0	5.1	7.3	13.5	11.1	7.3	7.8
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	[1]5.3	[1]0	[1]10.5	[1]13.6	37.5	[1]22.2	6.1	14.9
Worker, spouse, and child	6.2	9.7	11.9	26.3	26.3	24.5	22.7	19.8
40-49:								
Total	1.4	2.3	4.6	5.4	6.1	6.7	4.0	4.6
Worker only	0	3.2	2.6	7.3	4.4	5.5	2.9	3.8
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	2.5	3.4	4.6	8.2	6.7	7.7	6.6	5.8
Worker, spouse, and child	2.3	1.2	5.7	3.3	6.0	7.4	4.2	4.6
50-54:								
Total	2.1	3.1	3.4	5.6	4.6	2.4	1.9	3.4
Worker only	2.3	1.8	1.9	6.2	2.7	1.2	1.8	2.6
Worker and aged spouse	---	---	---	---	---	---	---	---
Worker and child	[1]0	4.4	6.0	2.6	6.1	1.8	4.6	3.9
Worker, spouse, and child	2.3	4.6	5.4	5.6	5.8	4.8	1.4	4.3
55-59:								
Total	2.6	1.7	1.6	2.9	4.0	3.9	2.8	2.9
Worker only	2.2	1.3	1.1	1.7	2.8	2.2	2.5	2.0
Worker and aged spouse	[1]0	[1]0	[1]5.3	[1]5.0	[1]10.5	[1]0	[1]0	3.2
Worker and child	0	0	0	9.5	5.7	5.1	2.0	3.3
Worker, spouse, and child	5.4	4.6	4.0	5.5	6.9	11.3	4.9	6.2
60-64:								
Total	.6	1.4	1.7	3.6	4.4	2.4	2.2	2.5
Worker only	.5	1.1	1.7	3.1	3.0	1.8	1.3	1.9
Worker and aged spouse	0	1.6	1.4	3.6	7.6	3.8	1.1	3.1
Worker and child	[1]0	[1]5.0	2.7	[1]10.5	[1]8.0	2.6	2.0	3.9
Worker, spouse, and child	2.2	1.9	1.4	7.1	11.8	5.8	10.4	6.2

[1] See table 2, footnote 1.

TABLE 10.—Median benefit amount, median average monthly earnings for last nonzero year prior to onset of disability, and median average monthly earnings for the working population by age, sex, and year of entitlement

Year of entitlement, age, and sex	Median benefit amount[1]	Median last nonzero earnings[2]	Median earnings, all persons[3]
1969			
Males:			
Under 30	$128.03	$192.51	$388.75
30-39	192.34	342.72	667.83
40-49	175.57	438.95	700.17
50-54	161.73	430.50	662.67
55-59	155.38	418.51	610.67
60-64	144.69	473.01	533.00
Females:			
Under 40	138.34	203.40	226.42
40-49	119.21	258.88	283.58
50-54	109.08	223.83	297.58
55-59	101.55	240.38	296.75
60-64	110.88	278.70	276.08
1970			
Males:			
Under 30	164.47	230.55	403.17
30-39	235.48	411.03	693.42
40-49	197.74	464.04	725.83
50-54	180.62	482.85	697.50
55-59	170.41	457.96	639.58
60-64	165.43	483.31	560.08
Females:			
Under 40	163.92	226.38	240.25
40-49	131.38	221.34	301.00
50-54	123.85	266.30	315.83
55-59	126.29	274.14	312.25
60-64	116.94	264.38	288.83
1971			
Males:			
Under 30	183.84	229.03	423.33
30-39	257.56	402.10	717.75
40-49	236.44	476.03	765.58
50-54	211.57	503.37	733.17
55-59	202.87	509.00	680.58
60-64	197.76	534.65	589.08
Females:			
Under 40	173.23	192.26	254.08
40-49	142.81	249.39	321.08
50-54	133.77	275.38	334.58
55-59	134.54	287.92	333.42
60-64	135.75	306.31	305.58
1972			
Males:			
Under 30	209.04	250.03	481.75
30-39	334.33	502.53	793.67
40-49	264.01	505.85	823.50
50-54	242.56	526.57	805.83
55-59	235.48	536.60	748.50
60-64	229.20	559.14	632.50
1972 (continued)			
Females:			
Under 40	$193.70	$233.04	$268.17
40-49	174.95	308.69	339.17
50-54	163.90	292.07	358.00
55-59	153.25	293.39	354.75
60-64	163.24	331.63	322.67
1973			
Males:			
Under 30	236.26	259.55	506.83
30-39	331.95	441.75	866.42
40-49	285.85	535.48	918.33
50-54	261.97	615.46	895.17
55-59	252.47	600.03	824.67
60-64	244.11	612.97	692.17
Females:			
Under 40	217.02	218.92	290.08
40-49	171.03	296.10	362.08
50-54	159.07	320.47	382.92
55-59	161.08	299.64	380.50
60-64	163.82	342.33	334.58
1974			
Males:			
Under 30	245.05	272.04	539.58
30-39	369.03	497.45	926.08
40-49	320.78	668.13	991.25
50-54	289.21	663.45	964.58
55-59	273.52	661.89	888.33
60-64	270.21	647.48	747.50
Females:			
Under 40	240.07	262.45	319.17
40-49	191.24	375.76	392.25
50-54	176.23	308.28	409.75
55-59	174.60	315.99	406.25
60-64	174.54	338.09	350.42
1975			
Males:			
Under 30	286.86	355.51	550.42
30-39	376.67	581.83	967.75
40-49	326.13	681.55	1,043.58
50-54	316.27	774.41	1,024.17
55-59	310.61	759.71	939.17
60-64	307.26	756.13	792.67
Females:			
Under 40	270.26	374.16	347.83
40-49	198.23	350.64	419.92
50-54	186.14	372.59	445.42
55-59	187.21	350.05	441.67
60-64	193.47	407.21	377.67

[1]See table P, footnote 1.
[2]See table P, footnote 2.
[3]See table P, footnote 3.

TABLE 11.—Median benefits relative to median average indexed monthly earnings[1] for disabled workers prior to disability and the working population by sex, age, and year of entitlement

(In percent)

Year of entitlement, age, and sex	Last nonzero year for disabled	This year for all workers
1969		
Males:		
Under 30	66.5	32.9
30-39	56.1	28.8
40-49	40.0	25.1
50-54	37.6	24.4
55-59	37.1	25.4
60-64	30.6	27.2
Females:		
Under 40	68.0	61.1
40-49	46.0	42.0
50-54	48.7	36.7
55-59	42.2	34.2
60-64	39.8	40.2
1970		
Males:		
Under 30	71.3	40.8
30-39	57.3	34.0
40-49	42.6	27.2
50-54	37.4	25.9
55-59	37.2	26.6
60-64	34.2	29.5
Females:		
Under 40	72.4	68.2
40-49	59.4	43.6
50-54	46.5	39.2
55-59	46.1	40.4
60-64	44.2	40.5
1971		
Males:		
Under 30	80.3	43.4
30-39	64.0	35.9
40-49	49.7	30.9
50-54	42.0	28.9
55-59	39.9	29.8
60-64	37.0	33.6
Females:		
Under 40	90.1	68.2
40-49	57.3	44.5
50-54	48.6	40.0
55-59	46.7	40.4
60-64	44.3	44.4
1972		
Males:		
Under 30	83.6	43.4
30-39	66.5	42.1
40-49	52.2	32.1
50-54	46.1	30.1
55-59	43.9	31.5
60-64	41.0	36.2
1972 (continued)		
Females:		
Under 40	83.1	72.2
40-49	56.7	51.6
50-54	56.1	45.8
55-59	52.2	43.2
60-64	49.2	50.6
1973		
Males:		
Under 30	91.0	46.6
30-39	75.1	38.3
40-49	53.4	31.1
50-54	42.6	29.3
55-59	42.1	30.6
60-64	39.8	35.3
Females:		
Under 40	99.1	74.8
40-49	57.8	47.2
50-54	49.6	41.5
55-59	53.8	42.3
60-64	47.9	49.0
1974		
Males:		
Under 30	90.1	45.4
30-39	74.2	39.8
40-49	48.0	32.4
50-54	43.6	30.0
55-59	41.3	30.8
60-64	41.7	36.2
Females:		
Under 40	91.5	75.2
40-49	50.9	48.8
50-54	57.2	43.0
55-59	55.2	43.0
60-64	51.6	49.8
1975		
Males:		
Under 30	80.7	52.1
30-39	64.7	38.9
40-49	47.8	30.9
50-54	40.8	30.9
55-59	40.9	33.1
60-64	40.6	38.8
Females:		
Under 40	72.2	77.7
40-49	56.5	47.2
50-54	49.9	41.8
55-59	53.5	42.4
60-64	47.5	51.2

[1] Median average monthly earnings of the disabled population prior to onset of disability have been wage indexed to the year of entitlement.

APPENDIX

Indexing Factors

The following indexing factors were applied to index earnings and benefits in this paper. This index is the ratio of average annual wages in the year to be indexed to the average annual wages in 1974.

Year	*Index number*
1951	2.9134
1952	2.7597
1953	2.5917
1954	2.5477
1955	2.4522
1956	2.3973
1957	2.2251
1958	2.1751
1959	2.0712
1960	2.0053
1961	1.9773
1962	1.8885
1963	1.8355
1964	1.7544
1965	1.7114
1966	1.6192
1967	1.5348
1968	1.4430
1969	1.3518
1970	1.2882
1971	1.2278
1972	1.1441
1973	1.0693
1974	1.0000
1975	.9353

Continuous Work-History Sample

The Social Security Administration's 1-percent Continuous Work-History Sample is derived from the reporting and informational forms and records used in administering the old-age, survivors, and disability insurance program. Data on age, sex, and race are obtained from the employee's application for a social security number; data on geographic area are obtained from the employer's application for an identification number and related employer reports. Data on amount of earnings and length and type of employment are derived from the report forms submitted by employers and self-employed persons. The sample design is a stratified cluster probability sample of the population of possible account numbers.[1]

Individual Benefits in Force File

The source of claims and benefit data in the CWHS is the Social Security Administration's master beneficiary record (MBR). Twice a year, as of December and June, the Bureau of Data Processing prepares a file of 1 percent of CWHS records from the MBR. The Office of Data Development, using these MBR data, creates the IBIF file for the processing year as of December 31 of the reference year. The June writeoff is used to obtain retroactive claims actions that are for the preceding December or earlier.

The resulting file consists of all of the individual beneficiary records whose claims account numbers were in the 1-percent sample and which were in force as of the end of the reference year. It is important to understand that the original concept of the IBIF was to provide a view of the 1-percent CWHS claims and benefit data in force as of December 31 of a given data year. This concept holds true for years 1969-73. If a benefit was terminated during a given data year, the benefit was not in force in December and therefore not in the IBIF for that year.

Starting in 1974, a more inclusive history of benefits was included in the IBIF. For primary beneficiaries, a record is selected every time the beneficiary becomes entitled to a different type of benefit. Also, the latest record is carried even if it is a termination

[1]For a more detailed discussion of the sample design and size, sampling variability, and sources of nonsampling variability, see *Earnings Distributions in the United States 1969*, appendix B, Office of Research and Statistics, HEW Publication No. (SSA) 75-11914, 1975.

record. For dependent and survivor beneficiaries, only the latest benefit to which the beneficiary became entitled is carried on the file.

Standard Errors

Estimates based on samples can be expected to differ from figures that would have been obtained had all the records been used for the compilations. The standard error is a measure of sampling variability. The chances are about 68 out of 100 that the difference due to sampling variability between a sample estimate and the figure that would have been obtained from a compilation of all records is less than the standard error. The chances are 95 out of 100 that the difference is less than twice the standard error. The standard error of an estimate depends on the sample design elements, such as the method of sampling and the sample size, and on the estimation process.

The reliability of an estimated percentage depends on both the size of the percentage and on the size of the total base population. The following tabulation gives the approximate standard errors for percentages of persons with a given characteristic. The standard errors in the body of the table are expressed in percentage points. Standard errors for percentages and bases not shown in the table can be obtained by linear interpolation.

Size of base	Estimated percentages						
	2 or 98	5 or 95	10 or 90	20 or 80	30 or 70	40 or 60	50
2,500	2.9	4.5	6.2	8.3	9.5	10.2	10.4
5,000	2.1	3.2	4.4	5.9	6.8	7.2	7.4
7,500	1.7	2.6	3.6	4.8	5.5	5.9	6.0
10,000	1.5	2.3	3.1	4.2	4.8	5.1	5.2
25,000	.9	1.4	2.0	2.6	3.0	3.2	3.3
50,000	.7	1.0	1.4	1.9	2.1	2.3	2.3
75,000	.5	.8	1.1	1.5	1.8	1.9	1.9
100,000	.5	.7	1.0	1.3	1.5	1.6	1.7
250,000	.3	.5	.6	.8	1.0	1.0	1.1
500,000	.2	.3	.5	.6	.7	.7	.8
750,000	.2	.3	.4	.5	.6	.6	.6
1,000,000	.2	.2	.3	.4	.5	.5	.5

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