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RECEIPT OF MULTIPLE BENEFITS BY DISABLED WORKER BENEFICIARIES

L. Scott Muller

Division of Disability Studies

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ABSTRACT

In 1971, 44 percent of workers who had been currently entitled to social security disability insurance benefits (SSDI) for 1 year or more received benefits from at least one income source in addition to SSDI. These recipients of multiple benefits (RMB's) were found to have average benefits from SSDI which were greater than the average SSDI benefit for those who did not receive income from these additional sources. On the average, total benefits to RMB's were double the benefits paid to those who received only SSDI. The combined benefits for overlappers produced median replacement rates about 50 percent larger than the median replacement rates for the nonoverlappers. The rate of receipt of replacement rates in excess of 80 percent of predisability earnings was 70 percent larger for persons who were RMB's than for those who were not.

Based on the present research, consideration of replacement rates based solely on SSDI benefits substantially understates the extent to which benefits from public and private programs actually replace predisability earnings. Since replacement rates based solely on SSDI benefits are generally higher for persons receiving only SSDI than for persons who receive multiple benefits, employing policies which cap replacement rates based only on SSDI benefits may only serve to increase the differential in the total replacement of predisability earnings which exists between those who receive multiple benefits and those who do not. Increasing this differential could be considered undesirable from both the adequacy and equity viewpoints.

I. INTRODUCTION

In the last decade or so, the social security disability insurance (SSDI) program has exhibited sharp growth, both in number of recipients and in benefit expenditures. Between 1969 and 1978 the number of disabled worker beneficiaries increased over 100 percent from 1.4 million to 2.9 million. This increase occurred despite the fact that the number of workers insured in the event of disability rose only 25 percent over the same period. The rate of recovery of disabled worker beneficiaries also declined over this period, with the rate per 1,000 beneficiaries declining from 29.3 in 1969 to 12.8 in 1976. The resulting increase in the number of beneficiaries combined with increases in benefit levels 1/ to raise payments to workers and their dependents from $2.5 billion in 1969 to $13.0 billion in 1978.

The actual growth in the disability insurance program surpassed anticipated levels and aroused concern among legislators. Attention turned to possible ways of controlling the growth in both numbers of beneficiaries and total costs of the DI program. Testimony before Congress focused attention on excessive replacement rates as a cause of the adverse disability insurance experience. High rates of replacement, it was argued, acted as an incentive to apply for DI benefits and as a disincentive for beneficiaries to return to work. This concern was voiced in hearings before the House of Representatives on the 1979 Disability Insurance Amendments (H.R. 3236). A recent study by the Social Security Administration actuaries 2/ was cited during the hearings:

1/ Benefit levels have risen both absolutely and relative over the period in question. The average family benefit amount rose from $140.50 in 1969 to $322.30 in 1977. The Office of the Actuary estimates that average replacement rates (benefits relative to earnings) for disabled workers with median earnings and qualifying dependents grew from 60 percent in 1967 to over 90 percent in 1976.) (Source: "Experience of Disabled Worker Benefits Under OASDI, 1972-1976", Actuarial Study #75, June 1978).

2/ "Experience of Disabled-Worker Benefits Under OASDI, 1972-76," Actuarial Study No. 75, June 1978.

> High benefits are a formidable incentive to maintain beneficiary status especially when the value of medicare and other benefits are considered. We believe that the incentive to return to permanent self-supporting work provided by the trial work period provision has been largely negated by the prospect of losing high benefits.

John Miller, a private sector actuary, was quoted in the hearings report 3/ stating that:

> The evidence is clear that liberal disability benefits induce both an increase in the number of cases approved and the prolongation of disability.

Estimates of the number of persons who have high replacement rates vary. In testimony before the Social Security Subcommittee, Secretary Califano 4/ estimated that benefits exceed previous net earnings in approximately 6 percent of all cases and benefits exceed 80 percent of previous net earnings in 16 percent of cases. Recent research 5/ shows that 28 percent of entitlements during the period 1969-1975 had social security disability benefits which exceeded eighty percent of average earnings reported to social security over the individual's lifetime, even when earnings were indexed to current dollars.

The concern over these excessive replacement rates has manifested itself in the 1979 Disability Insurance Amendments (HR 3236) which, among other things, sets a cap on the rate of replacement of predisability earnings by disability insurance benefits. 6/ Versions of the bill have been passed by both the House and

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3/ "Report on the Disability Insurance Amendments of 1979 (HR 3236)" House Report No. 96-100, page 5.

4/ ibid, page 4.

5/ Muller, L. Scott and Lando, M. E., "Replacement of Earnings of the Disabled Under Social Security: Levels and Trends 1969-1975," Research Report #53, Office of Research and Statistics, Social Security Administration.

6/ Both the House and Senate bills reduce the number of drop-out years of earnings allowed in the computation of Average Indexed Monthly Earnings for younger workers.

Senate and a compromise bill is expected in the near future. At the present time the House bill sets a cap on family benefits at 80 percent of the workers average indexed monthly earnings (AIME) or 150 percent of the workers primary insurance amount (PIA), whichever is lower, but not less than the workers PIA. The Senate bill sets the limit at 85 percent of AIME or 160 percent of PIA, whichever is lower, also guaranteeing the workers PIA.

Excessive replacement rates under social security disability insurance are only a part of the problem. In 1972, forty-four percent of the SSDI beneficiary population received benefits from other public or private programs in addition to SSDI, presumably due to their disabling condition. Such "multiple benefits" raise replacement rates above those obtained when the computation is limited to SSDI alone, and can be expected to reduce work incentives even further. The 1979 Social Security Advisory Council recognized this problem and a majority of the council recommended that an individual's total benefits from all federal disability programs be capped, with the exception of means-tested programs and service-connected veterans compensation. 7/ Such a proposal is not without precedent. Currently workers compensation benefits and DI benefits are offset, subject to a replacement rate cap. 8/ More important, however, may be the offset

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7/ Social Security Financing and Benefits, Reports of the 1979 Advisory Council on Social Security, pp 144-148.

8/ The present workmen's compensation offset became effective July 1965 (Section 424, PL. 89-97, Title III). The offset provides for a reduction in the monthly benefits for a disabled worker family when the combined Worker's Compensation and SSDI payments exceed 80 percent of "average current earnings" prior to the onset of the disability. "Average current earnings" is defined as the highest of: (1) the average monthly earnings used for computing the PIA, (2) average monthly earnings during the 5 consecutive years of highest covered earnings after 1950, counting any earnings in excess of the maximum taxable earnings level, or (3) average monthly earnings from covered employment in the year of the highest earnings during the period consisting of the year of disablement and the 5 preceding years, counting any earnings in excess of taxable earnings.

provision from the 1956 Social Security Amendments 9/ which reduced benefits dollar for dollar for SSDI recipients who received disability benefits from either another federal agency or a state worker's compensation program. That offset provision was, however, removed as part of the 1958 Social Security Amendments.

This paper examines the extent of the receipt of multiple benefits, the types of programs involved, and the resulting impact on benefits and replacement rates. Past research 10/ on the replacement of earnings of disability beneficiaries by SSDI did not consider the possible receipt of multiple benefits by the disabled workers. Such data are not available from the social security administration's administrative records. 11/ Using the 1972 Social Security Survey of Health and Work Characteristics, it is possible, however, to consider other sources of benefit income. 12/ Among the income sources which are available from the survey are aid to the permanently and totally disabled/aid to the blind (APTD/AB) 13/, veteran's compensation, worker's compensation, government

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9/ This offset provision was enacted in Section 224, Public Law 880. The only federal agency affected by this cap appears to be the veterans administration. Sections 206 of the 1958 amendments (P.L. 85-840) repealed this offset effective August 1958.

10/ See, for example: L. S. Muller and M. E. Lando, Replacement of Earnings of the Disabled Under Social Security: Levels and Trends, 1969-75, Research Report No. 53: Office of Research and Statistics, Social Security Administration, 1980. F. R. Bayo and J. F. Faber, "Actual Replacement Rates for Disabled Worker Beneficiaries," Actuarial Note #94, January, 1978.

11/ Past research has focused on predisability earnings which were truncated by the taxable maximum under the social security legislation. Administration earnings data which were merged to the 1972 survey of the disabled were also truncated at this level, hence the present research will also be based on social security taxable earnings.

12/ A copy of the relevant position of the questionnaire and a description of the method used to assign benefits is presented in the technical note at the end of the paper.

13/ These and some other formerly federal and/or state programs were incorporated into the federal supplemental security income program in 1974.

pensions, railroad retirement, aid to families with dependent children (AFDC) and other types of public assistance, private employer pensions, private insurance payments, state cash sickness (temporary disability) and unemployment compensation programs.

The Data

The data employed in this paper come from the 1972 Social Security Survey of Health and Work Characteristics. 14/ The survey has been matched to social security administrative data contained in the Master Beneficiary Record. The resulting data set provided all the survey information plus social security earnings information, entitlement dates, benefit status information, and benefit amounts.

The data set consists of 1,284 unweighted observations of persons in DIB status as of December 1971. These cases are equivalent, when weighted, to a population of 1.3 million. The actual population of DIB's at the end of 1971 amounted to 1.6 million, indicating a 21 percent underestimate of DIBs by the survey. 15/

Certain benefits may be received only during the transition from the onset of a disabling condition to the receipt of DI benefits (e.g. unemployment compensation, temporary disability, public assistance, etc.). In order to assure that the DIBs under analysis were, in fact, recipients of multiple benefits (RMB's) the sample was limited to persons whose current entitlement date was prior to January 1, 1971. This guaranteed that the individual was entitled during the

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14/ The 1972 Survey of Health and Work Characteristics is a sample of 18,000 persons selected from the 1970 5 percent census sample. The data were collected and processed by the Bureau of the Census. Additional information about the survey may be found in the technical note at the end of this paper.

15/ A further comparison of administrative data and survey data are presented in appendix B. Comparisons are also made for SSDI benefit levels and SSDI replacement rates between survey data and administrative records.

entire year and that the benefits received were in addition to SSDI benefits. This additional criteria reduced the sample to 898 unweighted or 866 thousand weighted cases. 16/ In addition it was necessary to omit a small percentage (less than 5 percent) of these cases from the benefit amount and replacement rates analysis due to missing or allocated values.

II. RECEIPT OF MULTIPLE BENEFITS: CHARACTERISTICS OF RECIPIENTS

It becomes apparent from table 1 that 43.9 percent of the SSDI beneficiary population had multiple benefits in 1971. Of these the largest porportion (87 percent) collected benefits from one additional source, while 12 percent collected from two sources in addition to social security, and just over 1 percent collected from three sources. No individual in the sample received support from more than 3 of the 11 additional programs considered in this study.

Although table 1 also divides RMB's by certain demographic characteristics, 17/ the table is limited to a univariate breakdown of the population due to the small number of observations. In order to control for more than a single variable a multivariate logit technique 18/ was used to estimate the probability

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16/ The elimination of cases due to current entitlement of less than one year did not change the proportion of recipients of multiple benefits very much. For all DIBs in 1972 the proportion of overlappers was 47 percent, for those whose current entitlement was prior to 1971 the proportion was 44 percent, a small but expected decrease.

17/ Three categories of predisability earnings were generated from the averaged monthly earnings (indexed) over the working lifetime from age 22 (or 1951, whichever was later) to the year prior to the entitlement to DI benefits. The low earnings category includes average earnings up to $345 per month, a figure representing the 1971 poverty level cut off for a non-farm family of 4. The moderate earnings category includes monthly earnings of $345 to $500 per month, with high earnings exceeding the $500 figure. The earnings upon which the calculation was based are subject to the taxable maximum imposed by the social security legislation.

18/ For a discussion of the logit technique, see: P. Schmidt and R. Strauss, "The Prediction of Occupation Using Multiple Logit Models," International Economic Review, June 1975, pp. 484-485.

of being a recipient of multiple benefits. This technique allows one to control for all other variables while determining which factors are significant in differentiating multiple benefit recipients from other DIB's. Estimates were made both including predisability earnings level and excluding that particular

TABLE 1.--Number and percent of overlappers in 1971 by number of program and selected characteristics (DIBs with current entitlement prior to 1/71)

Characteristics	Number (in thousands)	Total percent	SSDI only	SSDI and 1 other program	SSDI and 2 or more other programs
Total.....	866	100.0	56.1	38.0	5.9
Sex					
Male.....	603	100.0	47.8	44.3	7.8
Female.....	263	100.0	75.0	23.7	1.3
Race					
White.....	739	100.0	55.4	38.3	6.3
Black.....	119	100.0	60.1	36.5	3.4
Marital Status					
Married.....	632	100.0	54.4	38.9	6.7
Nonmarried.....	233	100.0	60.3	36.0	3.7
Children					
No children.....	551	100.0	59.6	35.6	4.8
1 or more.....	315	100.0	49.9	42.4	7.8
Age					
Under 35.....	50	100.0	73.2	24.6	2.2
35-44.....	96	100.0	45.2	46.1	8.7
45-54.....	276	100.0	49.5	43.0	7.4
55-64.....	455	100.0	60.6	34.7	4.7
Education					
0-8 years.....	381	100.0	55.7	38.9	5.4
9-12 years.....	390	100.0	59.2	34.3	6.6
13 + years.....	90	100.0	43.3	51.4	5.3
Earnings					
Low.....	470	100.0	63.5	32.6	3.9
Moderate.....	186	100.0	56.8	39.0	4.3
High.....	210	100.0	38.9	49.3	11.8

TABLE 2.--Logit on probability of receipt of overlapping benefits

(t values in parenthesis)

	Predisability earnings included	Predisability earnings included
Constant.....	-1.5424 (3/) (5.61)	-1.3771 (3/) (6.15)
Sex (1 if male).....	1.1862 (3/) (6.50)	1.3391 (3/) (7.69)
Race (1 if nonwhite)...	-.0956 (.45)	-.2093 (.99)
Marial status (1 if married).....	-0.2102 (1.17)	-.1518 (.85)
Children (1 if yes)....	.2508 (1.53)	.2333 (1.44)
Age (under 35).....	-.6757 (1/) (1.85)	-.8467 (2/) (2.37)
Age (35-44).....	.6194 (2/) (2.48)	.4720 (1/) (1.93)
Age (45-54) (reference, 55-64)...	.5359 (3/) (3.21)	.4296 (3/) (2.64)
Education (9-12 years).	.1238 (.78)	.1374 (.89)
Education (13 + years) (reference, 0-8 years)	.4774 (1.78) (1/)	.4852 (1.85) (1/)
Earnings (low)	.0545 (.29)	---
Earnings (high) (reference, moderate)	.9044 (4.25) (3/)	---
Number of cases.....	893	893

1/ Significant to .10 level, two-sided test, 1.645.
2/ Significant to .05 level, two-sided test, 1.960.
3/ Significant to .01 level, two-sided test, 2.576.

In the logit analysis, race, marital status and the presence of a child proved to be statistically insignificant in explaining differences in the probability of receiving multiple benefits. Sex was a highly significant determiner of overlap status with men having a greater probability of being a RMB. From table 1 male beneficiaries were found to have a rate of receipt of multiple benefits twice that of females, at 52 percent compared to 25 percent.

When age was considered in the logit analysis the reference group was persons in the 55-64 age group. Persons in the 35-44 and 45-54 age groups were found to have probabilities of being a RMB significantly greater than that of the reference group, with the estimated probability being slightly greater for the 35-44 age group. Those under 35 were found to be less likely than the reference group to be overlappers, hence having the smallest probability amongst all the age groups. Education had little effect in determining multiple benefit status.

The level of predisability earnings was found to have a significant influence on the probability of being a RMB. Although the low predisability earnings group were not statistically discernable from the moderate earnings group in the logit analysis, those with high predisability earnings were found to have a considerably greater probability of being a recipient of multilple benefits. In table 1, one finds that 61 percent of the high earners received multiple benefits compared to 43 percent of the moderate earnings group and 36 percent of the low earnings group.

III. RECIPIENTS OF MULTIPLE BENEFITS BY TYPE OF PROGRAM

The number of DIBs who receive benefits from each combination of programs is shown in Table 2a. Small numbers of cases within each combination make analysis unreliable, so the combinations are aggregated in Table 3. The largest source of multiple benefits is veteran's benefits which includes 48 percent of the RMBs and is more than double the size of the next largest income source, private employer pensions. There were no DIBs who received unemployment compensation, which is not unexpected. There is a 5 month waiting period to receive social security benefits and normally unemployment compensation expires after 6 months.

Due to the small number of cases for most income sources, it was necessary to combine the 10 benefit sources into larger categories in order to analyze the impact of various characteristics on multiple benefit status. Four major categories were generated: Veterans programs, private programs, means-tested programs and other government programs. The veteran programs include anyone who received payments from that source. Private programs combine private employer pension and private insurance benefit recipients. The means tested programs include AFDC, APTD/AB and other public assistance programs. The other government benefit category is a catch all for remaining programs which include government pensions, workmens compensation, railroad retirement and temporary disability (state cash sickness) payments. Although the grouping is rather meaningless, constructed basically to increase sample size, each of the benefits represents a government program whose benefits are work related.

TABLE 2a: Combinations of multiple benefits among social security disability insurance beneficiaries, 1971

	Total	Weighted percent	Unweighted count
TOTAL	865,759	100.0	898
Social security only	485,552	56.1	496
SSDI and other total	380,207	43.9	402
SSDI and:			
(VP) Veterans payments only	145,354	16.8	160
(PEP) Private employer pension only	54,665	6.3	54
(APTD) APTD/AB only	45,239	5.2	48
(GP) Government pension only	25,866	3.0	29
(OPA) Other public assistance only	18,779	2.2	11
(WC) Workmen's compensation only	17,022	2.0	21
(PI) Private insurance only	9,015	1.0	11
(AFDC) AFDC only	8,924	1.0	9
(RR) Railroad retirement only	2,431	.3	3
(TD) Temporary disability	2,037	.2	2
Two Programs			
PEP, VP	10,987	1.3	12
APTD, VP	7,242	.7	6
WC, VP	5,835	.7	6
GP, VP	4,440	.5	5
WC, PEP	3,727	.4	4
PI, PEP	3,324	.4	4
PI, VP	2,195	.3	3
OPA, APTD	1,815	.2	2
AFDC, VP	1,105	.1	1
WC, OPA	1,080	.1	1
TD, OPA	1,004	.1	1
PI, WC	956	.1	1
RR, VP	940	.1	1
OPA, VP	874	.1	1
PEP, GP	844	.1	1
Three Programs			
PEP, GP, VP	972	.1	1
WC, PEP, VP	955	.1	1
GP, APTD, VP	904	.1	1
PI, WC, PEP	848	.1	1
PI, PEP, VP	828	.1	1

TABLE 3.--Estimated number and percent of beneficiaries receiving multiple benefits by type of other benefit

	Number (in thousands)	Percent of multiple benefit recipients receiving these benefits	Percent of persons receiving benefits from this program and an additional other program 1/
Total	380	100.0	13.4
Veterans payments	183	48.0	20.4
Private employer pension	77	20.3	29.1
Aid to the blind or aid to the permanently and totally disabled	55	14.5	18.0
Government pension	33	8.7	21.7
Workmen's compensation	30	8.0	44.0
Other public assistance	24	6.2	20.3
Private insurance	17	4.5	47.4
Aid to families with dependent children	10	2.6	11.0
Railroad retirement	3	0.9	27.9
Temporary disability	3	0.8	33.0

1/ For example, DIBs who receive benefits from two or more programs, one of which is the listed program. The figure corresponding to the total being the rate of receipt of two or more programs in addition to SSDI among all multiple beneficiary recipients.

The number of recipients receiving income from sources within each of the categories is shown in table 4. The logit technique was applied again to determine which characteristics were significant in identifying whether an individual receives a type of income. Again, estimates were made both including and excluding the predisability earnings level. The logit results are presented in table 5 and are discussed below following a brief discussion of the income sources in the category.

Veterans Payments

Veterans payments are the largest source of multiple benefits for SSDI recipients with 21 percent of all DIB's and 48 percent of RMB's receiving benefits under this program. These programs provide compensation for service related disabilities, a needs tested pension for non-service related disabilities, and survivors benefits for dependents to any one who has served in the armed forces during wartime. 19/ As one might expect, men were found to be more likely to receive veterans payments than women. Table 4 shows that 29 percent of men, but less than 4 percent of women, receive veterans payments. The logit analysis showed persons in the 35-44 and 45-54 year age groups had the highest probabilities of receiving veterans payments. This result probably reflects the presence of the majority of World War II and Korean War veterans in these intervals. The 35-44 and 44-54 age groups each had rates of receipt in excess of 30 percent (table 4) compared to rates of 20 percent and 13 percent for persons 55-64 and those under 35, respectively. Having children was found to also raise the probability of receiving these benefits but this may

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19/ Certain benefits are available to peace time veterans also. A description of the veterans benefits may be found in Social Security Programs in the United States, DHEW Publication No. (SSA) 73-11915, U.S. Government Printing Office, Washington, D. C., 1973.

TABLE 4.--Number and percent of disability insurance beneficiaries in 1971 by type of program and selected personal characteristics

	Number (in thousands)	Total percent	SSDI only	SSDI combined with veterans benefits	SSDI combined with private programs	SSDI combined with means tested programs	SSDI combined with other government programs
Total.....	866	100.0	56.1	21.1	10.3	10.0	8.1
Sex							
Male.....	603	100.0	47.8	28.8	12.5	9.1	9.5
Female.....	263	100.0	75.0	3.5	5.3	12.1	4.7
Race							
White.....	739	100.0	55.4	21.6	11.7	9.1	8.3
Nonwhite.....	127	100.0	60.0	18.0	2.5	15.7	6.9
Marital status							
Not married.....	234	100.0	60.6	16.4	6.7	15.8	3.1
Married.....	632	100.0	54.5	22.8	11.7	7.9	9.9
Children							
None.....	551	100.0	59.6	16.4	10.6	10.4	7.0
1 or more.....	315	100.0	49.9	29.3	9.8	9.5	9.9
Age							
Under 35.....	50	100.0	73.2	20.0	1.3	6.5	1.2
35-44.....	96	100.0	45.2	32.3	2.5	13.1	14.0
45-54.....	276	100.0	49.5	30.6	6.6	9.8	10.9
55-64.....	445	100.0	60.6	12.9	15.1	9.9	5.8
Education							
0-8 years.....	381	100.0	55.7	20.3	9.3	10.5	9.5
9-12 years.....	390	100.0	59.2	21.2	8.6	10.3	6.8
13 or more years.....	90	100.0	43.3	24.2	22.6	7.5	7.7
Earnings							
Low.....	470	100.0	63.5	18.7	1.8	14.6	5.1
Moderate.....	186	100.0	56.8	24.3	7.9	4.2	11.1
High.....	210	100.0	38.9	23.6	31.5	5.0	12.0

Note: Percents may total to over 100 for columns 3-7 due to multiple recipiency.

TABLE 5.--Logit results for receipt of various types of multiple benefits by selected characteristics (including and excluding pre-disability earnings)

	Receipt of Veterans Benefits		Receipt from Private Programs		Receipt from Means-Tested Programs		Receipt from Other Government Programs	
	Including pre-disability earnings	Excluding pre-disability earnings	Including pre-disability earnings	Excluding pre-disability earnings	Including pre-disability earnings	Excluding pre-disability earnings	Including pre-disability earnings	Excluding pre-disability earnings
Constant	-4.2969 (3/) (9.49)	-4.0087 (3/) (10.01)	-1.8789 (3/) (4.24)	-2.3392 (3/) (6.38)	-3.0387 (3/) (6.26)	-2.0219 (3/) (6.25)	-3.3287 (3/) (6.22)	-3.8088 (3/) (7.87)
Sex (1 if male)	2.5189 (3/) (7.21)	2.4334 (3/) (7.74)	-.0186 (.05)	.8541 (3/) (2.87)	.3773 (1.36)	.0347 (.13)	.2440 (.72)	.5601 (1/) (1.76)
Race (1 if nonwhite.	-.4714 (1/) (1.71)	-.4279 (1.57)	-.8243 (1.47)	-1.2624 (2/) (2.38)	.4986 (1/) (1.72)	.6795 (2/) (2.38)	-.0023 (.00)	-.1966 (.52)
Marital Status (1 if married)	-.0320 (.14)	-.0423 (.18)	-.1965 (.61)	-.0105 (.04)	-.7445 (3/) (2.76)	-.7626 (3/) (2.87)	.9885 (2/) (2.48)	1.0397 (3/) (2.62)
Children (1 if yes).	.4568 (2/) (2.38)	.4591 (2/) (2.40)	-.3012 (1.04)	-.2820 (1.04)	.2585 (.95)	.2551 (.95)	.0068 (.03)	-.0303 (.11)
Age (under 35)	.0012 (.00)	.0988 (.23)	-1.4282 (1.35)	-2.2524 (2/) (2.20)	-.8969 (1.38)	-.5081 (.80)	-.7861 (.98)	-1.0481 (1.00)
Age (35-44)	.8911 (3/) (3.19)	.9088 (3/) (3.28)	-1.0432 (1/) (1.85)	-1.5064 (3/) (2.77)	.0887 (.23)	.2847 (.76)	.9692 (3/) (2.58)	.8392 (2/) (2.27)
Age (45-54) (reference, 55-64)	.8942 (3/) (4.39)	.9040 (3/) (4.48)	-.5551 (1/) (1.91)	-.8201 (3/) (3.00)	-.0251 (.09)	.1105 (.41)	.6545 (2/) (2.36)	.5710 (2.09) (2/)
Education (9-12 years)	.3154 (1/) (1.66)	.2845 (1.51)	.1689 (.64)	.2725 (1.11)	.0058 (.02)	-.1117 (.43)	-.2573 (.98)	-.1772 (.68)
Education (13 + years) (reference 0-8 years)	.5395 (1/) (.175)	.4793 (1.57)	.4014 (.98)	.5792 (1.51)	.1386 (.30)	-.0851 (.19)	-.1570 (.37)	-.0223 (.05)
Earnings (low)	.3249 (1.44)	---	-1.3728 (3/) (3.30)	---	1.2355 (3/) (3.28)	---	-.6618 (2/) (2.10)	---
Earnings (high) (reference, moderate)	.1600 (.64)	---	1.5472 (3/) (5.20)	---	.0676 (.14)	---	.1832 (.59)	---
N.	893	893	893	893	893	893	893	893

1/ Significant to .10 level, two-sided test, 1.645.
2/ Significant to .05 level, two-sided test, 1.960.
3/ Significant to .01 level, two-sided test, 2.576.

only reflect the age effect. Persons in the 35-44 and 45-54 year age groups had the highest probabilities of receiving veterans benefits, and these are the groups most likely to have dependent children.

Private Programs

The private programs category includes both private employer pensions and private insurance payments. Private employer pensions provided the second largest individual source of multiple benefits reaching about 10 percent of SSDI recipients (Table 3). Nearly 30 percent of the DIB's who received these pensions also received income from a third source. Payments from private insurance plans provide an additional income source for only 2 percent of SSDI recipients.

The logit analysis (table 5) shows that the probability of receiving private program benefits is positively related to predisability earnings level. Those with low predisability earnings proved to be significantly less likely to obtain these benefits than the reference group (moderate earnings), while the high earnings group was significantly more likely to receive these benefits. In table 4 one notes that nearly 32 percent of the high earners obtained income from private programs compared to only 8 percent of the moderate earners and 2 percent of the low earners. Persons in the 55-64 age group were found to be more likely to receive benefits from private programs than other groups, although the result was significant only to the .10 level. The concentration of recipients of private program benefits in the older age groups may be a function of private employer pensions which require a certain number of years of service to receive benefits. This condition may serve to screen out younger employees. Table 4

shows a rate of receipt of private payments of 15 percent for persons aged 55-64 compared to 7 percent for those 45-54 and 2 percent or less for those under age 45.

When one does not control for earnings in the multivariate model, one finds age, sex, and race to be significant determiners of multiple benefit status. Whites and males were more likely to receive private program benefits than nonwhites and females when one disregards predisability earnings level. Each of the three age groups under 55 showed significantly lower probabilities of receiving these benefits than the reference group of those aged 55-64. The significance of age, sex and race in the regressions which do not control for earnings might be expected due to the importance of these variables in determining earnings level where earnings is the key determinant of receipt of benefits from private programs.

Means-tested programs

The means-tests programs category includes APTD/AB, AFDC, and other public assistance. Each of these programs requires a test of need based on income and assets.

Aid to the Permanently and Totally Disabled and Aid to the Blind provided assistance to the disabled until 1973. After that time these programs along with the Old Age Assistance were combined into the federally administered program called Supplemental Security Income (SSI). Slightly over 6 percent of the DIB's and nearly 15 percent of the RMB's received income from APTD or AB (Table 3).

AFDC and other public assistance programs (General Assistance, other state and local plans, etc) are, unlike APTD/AB and SSI, not intended solely for the disabled (or aged) population. These programs, which are administered on the state level, are intended to provide adequate income to avoid poverty. Disabled workers whose total household income fell short of the established income limits could apply for these benefits. Approximately 4 percent (Table 3) of SSDI recipients received either AFDC or other public assistance.

The logit analysis (Table 5) of means-tested programs indicates that, as expected, the probability of receiving income from these sources is greatest for those with low predisability earnings. Table 4 shows nearly 15 percent of persons with low predisability earnings obtaining benefits from means-tested programs compared to 4 and 5 percent, respectively, of the moderate and high earners. This, of course, is to be expected due to the relationship between earnings and benefits and the income limits for the means tested programs. The logit analysis also identified non-married individuals as being more likely to receive these benefits than married individuals, perhaps due to the absence of a spouse who could provide an additional source of earned income.

Table 4 shows 16 percent of non-married individuals to be receiving means tested benefits, a rate twice that of married persons. Non-whites were found to have greater probability of receiving benefits from a means tested program, although when controlling for earnings level the result is significant only to the .10 level. Sixteen percent of the nonwhites received means tested benefits in addition to SSDI, compared to only 9 percent of whites (Table 4).

Other Government Programs

This category includes government pensions, railroad retirement, workers compensation and temporary disability insurance. These programs remained after analyzing veteran's benefits, private programs, and means tested programs. Small sample size precluded the analysis of each separately. The programs do have two similarities: each is a government program and each has work related benefits. Table 3 shows that approximately 4 percent of SSDI recipients received income from one of the various state and federal civil service pensions. The government pension plans differ from state to state and from local to state to federal levels, although the plans generally pay retirement and/or disability benefits after a tenure period in employment.

The Railroad Retirement Act provides retirement, survivors, and disability benefits for railroad workers who have at least 10 years of service. 20/ Workers are entitled to collect both social security and railroad retirement, if so insured, but surviving dependents are eligible for only one of the two with benefits based on the combined earnings record. Less than one percent of DIBs received benefits from railroad retirement.

Workers's compensation laws vary from state to state, however, all states and Puerto Rico have Workers Compensation programs and all of the programs require the disability to be work-related. Most states provide for replacement of lost earnings at 66 2/3 percent, subject to minimum and maximum benefit levels

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20/ Partial coverage is available for death or retirement if 1 1/2 years of coverage are obtained in the 3 years preceeding.

and to maximum periods of coverage or maximum total benefit ceilings, depending on the state. 21/ Table 3 indicates that 8 percent of the DIBs received benefits under this program. Worker's compensation is the only program under which SSDI payments can be reduced or eliminated. Legislative offset provisions provide for a reduction in the monthly benefits for a disabled worker family when the combined Worker's Compensation and SSDI monthly payments exceed 80 percent of "average current earnings" prior to the onset of the disability. 22/ This provision may be inadequate in preventing excessive replacement of earnings since 47 percent of those who received combined SSDI-WC benefits also received payments from one or more other programs.

As of 1972, temporary disability programs were available in five states, Puerto Rico, and the railroad industry. These plans provide benefits of up to 6 months for temporary non-occupational disabilities or illnesses. 23/ Since the maximum duration of these benefits is 6 months and social security has a 5 month waiting period for benefits the overlap of these programs is limited. Less than 1/2 of one percent of the SSDI recipients obtained these benefits.

21/ For most states a Lump-sum settlement may be made if in the best interest of the claimant. For additional information on workmen's compensation see: Social Security Programs in the United States, DHEW Publication No. (SSA) 73-11915, pp 72-87.

22/ "Average current earnings" is the highest of: (1) the average monthly earnings used for computing the PIA, (2) average monthly earnings during the 5 consecutive years of highest covered earnings after 1950, counting any earnings in excess of the maximum taxable earnings level, or (3) average monthly earnings from covered employment in the year of the highest earnings during the period consisting of the year of disablement and the 5 preceding years, counting any earnings in excess of taxable earnings.

23/ For a discussion of temporary disability insurance (State Cash Sickness) payments see: Social Security Programs in the United States, DHEW Publication No. (SSA) 73-11915), p. 87.

The logit analysis of other government programs identified three personal characteristics which are significant in determining overlap status in these programs. Married individuals were more likely to receive these benefits than nonmarried individuals. Persons in the 35-44 and 45-54 age group were more likely than those in the reference (55-64) age group to obtain income from these sources. Finally low predisability earnings reduce the probability of receiving these benefits.

IV. BENEFIT AMOUNTS

Receipt of multiple benefits does not necessarily indicate that the total benefits received are excessive or act as a disincentive to remaining in the labor force or returning to work. Benefits from some programs, such as AFDC or APTD/AB (currently SSI), are intended purposely to supplement social security benefits so that the disincenitve effects may be minimal. On the other hand, if the benefits from other income maintenance programs are not coordinated with those from social security, attempts to avoid disincentives within the social security system may be seriously retarded. This portion of the paper will examine the average levels of benefits, and the distribution of absolute benefits. In the next section replacement rates will be analyzed by comparing benefit amounts to prior earnings of the disabled beneficiary.

The average benefit amount paid under the various programs examined in this paper are presented in table 6. The average social security disability payment was $203 per month. 24/ Table 6 also shows that the average payment under the

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24/ The $203 average family benefit amount under SSDI is slightly larger than the published social security average benefit amount of $180 for 1971 (1971 Annual Statistical Supplement to the Social Security Bulletin), an overstatement of 12 percent. This difference is not likely to be explained by the deletion of newly entitled individuals (12 months or less) since the average benefit for new entitlements is generally slightly larger than the average benefit for persons in current pay status.

SSDI program was considerably larger for persons who received income from other programs than for persons who received only DI. Social Security benefits for persons who received SSDI only averaged $189 per month while the average monthly SSDI payment to recipients of multiple benefits was $224 (19 percent higher).

Total benefits for overlappers averaged $429 per month, more than double the amount received by persons who receive SSDI only (Table 6). Sources of benefits other than social security provided, on the average, 48 percent of the total benefits paid to overlappers. The average benefit amount paid varied greatly according to the source. The largest average benefit, $251 per month, was paid under government pension plans. The smallest average benefit was $41 per month under temporary disability insurance. 25/ Average benefit payments from all other programs ranged from $160 (private insurance) to $205 (veteran's benefits) per month, with the exception of APTD and other public assistance which averaged $83 and $86, respectively.

Table 7 demonstrates the fact that the probability of receiving multiple benefits increases with the level of the SSDI benefit. The rate of receipt of multiple benefits rises along with the amount of SSDI up to a benefit of $200 per month and then levels off at about a 50 percent rate above $200 per month. One notable exception is the $350-399 interval of SSDI payments where the rate of receipt reaches 71 percent and then falls to 47 percent for SSDI benefits above this

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25/ Since overlapping of more than one month is unlikely due to the 5 month waiting period for SSDI and the 6 month maximum duration for temporary disability payments, it is likely that this understates the actual monthly benefit amount.

TABLE 6.--Average benefits for recipients by program

Program	Number of recipients (in thousands)	Average monthly benefit for those receiving
All recipients total benefits.....	866	$290
All recipients total SSDI benefits.....	866	203
Recipients of SSDI only		
SSDI benefits.....	486	189
Recipients of multiple benefits -		
total benefits.....	380	429
SSDI portion.....	380	224
Other benefits - total.....	380	205
Veterans payments.....	183	205
Private employer pension.....	77	178
APTD/AB.....	55	83
Government pension.....	33	251
Workmen's compensation.....	30	195
Other public assistance.....	24	86
Private insurance.....	17	161
AFDC.....	10	167
Railroad retirement.....	3	200
State cash sickness.....	3	41

TABLE 7.--Percent of DIBs receiving multiple benefits by SSDI benefit amount

Amount of Monthly SSDI Benefit	Number of Benefits (in thousands)	Percent Receiving Other Benefits
Total	866	43.9
Less than $100....	67	25.2
$100-149.....	219	36.1
150-199.....	267	42.1
200-249.....	87	52.1
250-299.....	65	51.3
300-349.....	59	51.5
350-399.....	58	70.8
400+.....	39	46.7

TABLE 8.--Joint distribution of SSDI and other benefit amounts for recipients of multiple benefits

Monthly Other Benefit Amount	Monthly SSDI Amount						
	Total	Less than $100	100-149	150-199	200-299	300-399	400-499
Number (in thousands)..	350	13	73	105	72	69	18
Total percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than $100.....	29.9	45.6	27.8	31.7	19.4	39.2	21.2
$100-199.....	37.8	42.5	45.3	41.1	36.7	32.1	12.3
200-299.....	14.3	12.0	9.0	13.5	18.8	12.3	30.8
300-399.....	2.9	0.0	0.0	2.5	3.6	5.4	5.5
400-599.....	10.3	0.0	16.6	5.3	15.2	8.2	9.0
600-799.....	3.5	0.0	1.3	4.0	2.8	1.4	21.2
800+.....	1.3	0.0	0.0	1.9	2.5	1.3	0.0

TABLE 9.--Distribution of total monthly benefits by receipt of multiple benefits

Monthly Benefit Amount	Total (All DIBs	Receives No Benefits Other Than SSDI	Receives Multiple Benefits
Total number (in thousands)..	866	486	380
Total percent.....	100.0	100.0	100.0
Less than $100.....	6.1	10.4	.2
$100-199.....	38.6	60.7	8.2
200-299.....	20.5	15.1	27.9
300-399.....	13.4	9.4	19.0
400-599.....	14.0	4.3	27.3
600-799.....	4.5	---	10.8
800-999.....	1.6	---	3.8
1000 and over.....	1.1	---	2.7

level. One possible explanation of this may be the predominance of young persons at the highest levels of SSDI benefits prior to the indexing of earnings, and younger workers are less likely to receive multiple benefits than older workers.

The joint distribution of SSDI and other benefit amounts for multiple benefit recipients is shown in table 8. This table indicates that persons with high social security benefits receive large benefits from other programs at a greater rate. In summary, not only are persons with high SSDI benefits more likely to receive other benefits, but also their monthly benefit amount from other programs are likely to be larger. These phenomenan combine to produce the distribution of monthly benefits shown in table 9 and illustrated in figure 1. This shows that the distribution of social security benefits is skewed toward the higher benefit amounts for those who receive multiple benefits relative to those whose sole benefit is SSDI. It also clearly shows the magnitude of the total benefit for RMBS relative to the SSDI benefit for those who receive no other benefits.

Table 10 shows the programmatic source of multiple benefits for beneficiaries with various levels of payment under SSDI. With the exception of the lowest DI benefit group which contains predominantly recipients of means-tested benefits and (presumably) workmen's compensation offsets, one finds the incidence of overlapping status increasing along with SSDI benefits. While one might expect the rate of receipt of private pensions and private insurance to increase with SSDI benefit level, the result is true only for private pensions. Private insurance recipients have the highest rate of receipt of benefits at the middle SSDI benefit levels. It is also interesting to note that the rate

TABLE 10.--Percent of SSDI beneficiaries receiving multiple benefits by monthly SSDI benefit and type of program

		Monthly SSDI Benefit Amount					
	Total	Less than $100	100-149	150-199	200-299	300-399	400+
Total number (in thousands)..	866	67	219	267	152	117	39
Total percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percent receiving only SSDI.....	56.1	74.8	63.9	58.1	48.5	39.0	53.3
Percent receiving SSDI and							
Veterans payments.....	21.1	1.1	16.6	21.2	27.8	28.6	32.8
Private employer pension.....	8.9	0.0	1.2	11.3	9.5	21.3	11.9
APTD/AB.....	6.4	10.8	9.7	3.6	7.0	2.3	6.9
Government pension.....	3.8	3.9	2.5	4.3	4.4	5.6	0.0
Worker's compensation.....	3.5	3.0	0.0	4.0	3.9	7.4	7.7
Other public assistance.....	2.7	6.1	7.1	0.4	0.0	2.5	0.0
Private insurance.....	2.0	0.0	0.7	2.7	4.2	0.5	4.0
AFDC.....	1.2	0.0	1.0	0.1	2.7	0.0	0.0
Railroad retirement.....	0.4	1.2	0.7	0.2	0.0	0.0	0.0
Temporary disability.....	0.4	1.5	0.5	0.0	0.7	0.0	0.0
Any of the above.....	43.9	25.2	36.1	41.9	51.5	61.0	46.7

FIGURE # 1
DISTRIBUTION OF MONTHLY BENEFIT AMOUNTS

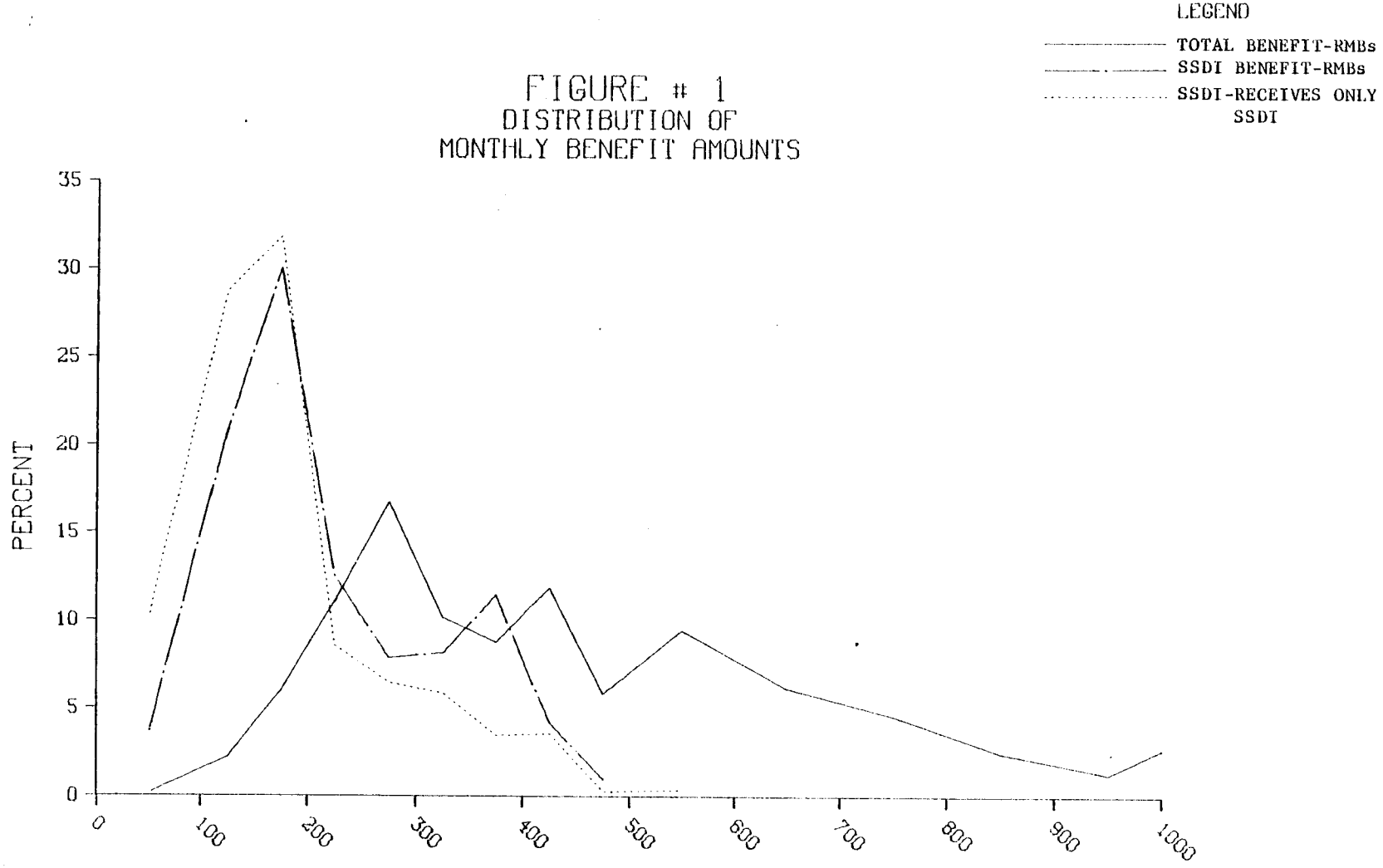
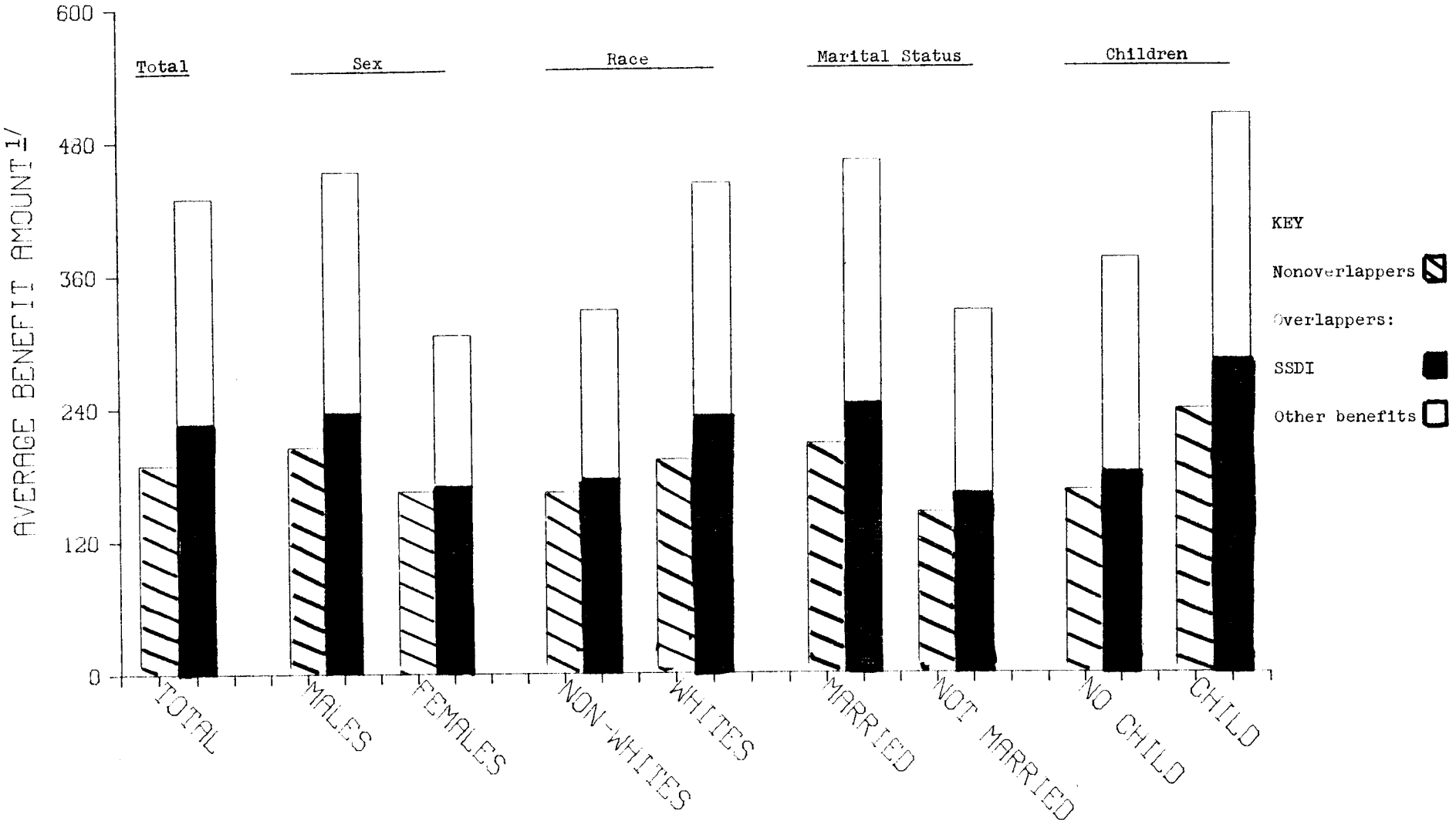


TABLE 11.--Average monthly benefits by selected characteristics

(in dollars)

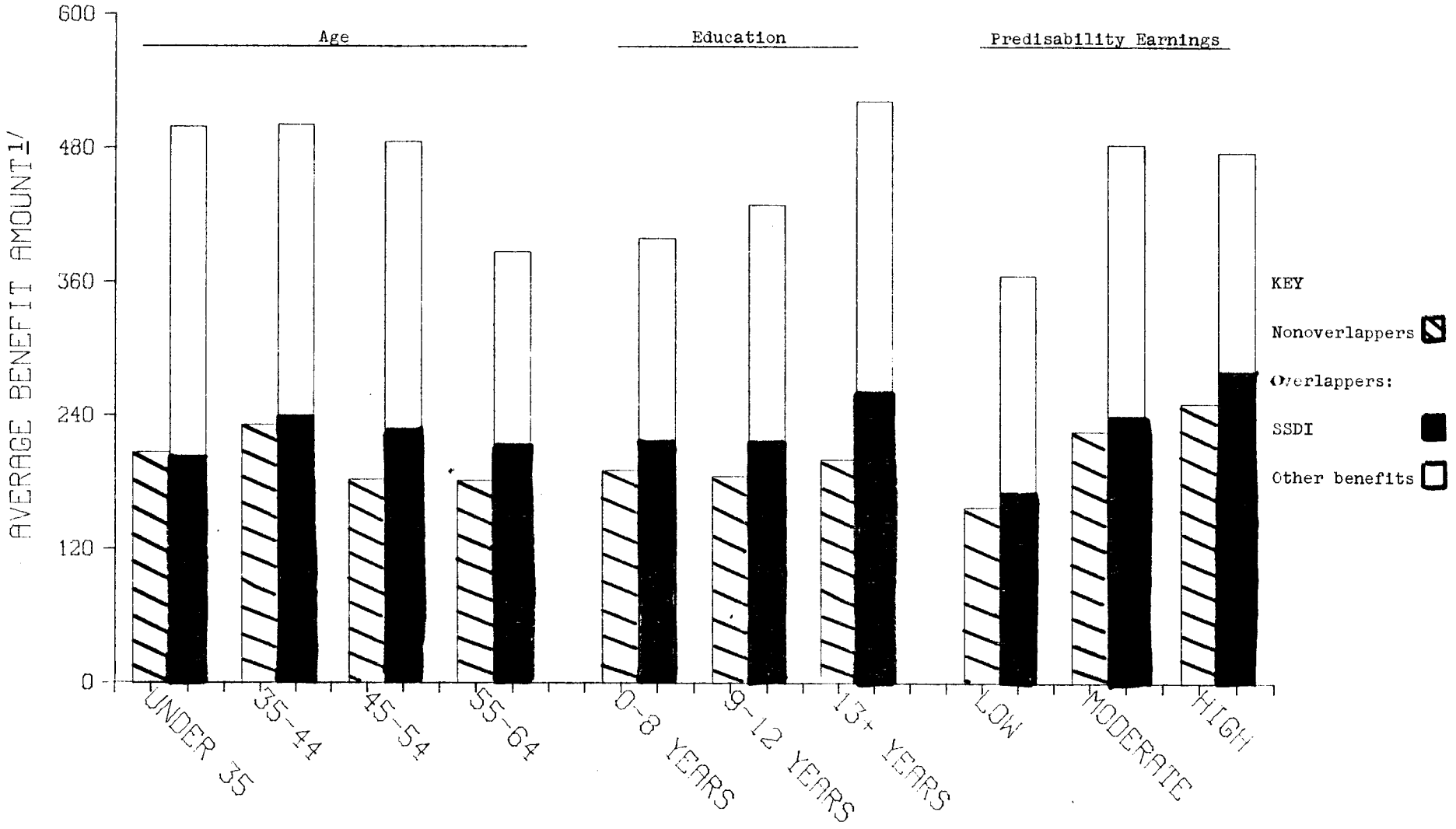
	Total		DIBs only	Overlappers		
	All benefits	SSDI	SSDI	Total	SSDI	Other benefits
Total	290	203	189	429	224	205
Sex						
Male	330	220	205	453	235	218
Female	197	166	165	306	168	139
Race						
White	300	209	193	442	229	213
Black	226	169	164	328	176	152
Marital status						
Married	318	223	207	462	244	218
Not married	212	152	145	327	162	165
Children						
No children	245	170	165	374	180	195
1 or more	367	260	238	503	284	219
Age						
Under 35	285	206	207	499	202	297
35-44	371	235	232	501	238	263
45-54	311	206	183	486	232	217
55-64	260	195	182	388	216	172
Education						
0-8 years	279	200	191	399	213	186
9-12 years	281	200	186	429	221	208
13 + years	379	236	201	522	263	258
Earnings						
Low	229	163	158	366	171	195
Moderate	332	233	226	483	243	240
High	386	268	252	476	279	197

FIGURE # 2
AVERAGE BENEFIT AMOUNTS 1/ BY SELECTED CHARACTERISTICS



1/ Monthly benefit amount

FIGURE # 2 (CON'T)
AVERAGE BENEFIT AMOUNTS 1/ BY SELECTED CHARACTERISTICS



1/ Monthly benefit amount

or receipt of veterans payments and workmen's compensation tend to rise with SSDI benefits. One possible explanation is the predominance of males among the beneficiaries of this program combined with the level of earnings being traditionally higher for males.

Average Benefits by Selected Characteristics

Average monthly benefit amounts are presented in table 11 according to the characteristics under study. Figure 2 compares the average total benefit amount for RMB's (divided into SSDI and other benefits) and the average SSDI benefit for those who receive no additional benefits. As one would expect, the average total benefit for RMB's far exceeded the average SSDI benefit for persons who only received SSDI payments. The differences in average SSDI payments according to demographic characteristics resemble those found repeatedly in previous research. Males received higher average SSDI benefits than females, as did whites compared to blacks. Married persons and those with children had higher average benefits than their respective counterparts, presumably due to the dependents' benefits paid under the social security legislation. Higher average benefits were associated with higher education levels and higher earnings levels. Average benefits peaked for the group containing persons aged 35-44. Each of these findings held for both RMB's and those receiving only SSDI.

When comparing SSDI benefits within a particular category, RMB's tended to have larger average SSDI benefits than persons who received no additional benefits. The only exception to this rule occurs for persons under age 35 where RMB's received $202 for SSDI, compared to $207 for persons who did not receive additional benefits. This difference was not statistically significant. Differences in average SSDI benefits between persons who received multiple

TABLE 12.--Absolute and percentage difference in average benefits between RMB's and persons receiving only SSDI payments - by selected characteristics

	Absolute difference 1/	Percent difference 1/
Total	$240	127
Sex		
Male	248	121
Female	141	85
Race		
White	249	129
Black	164	100
Marital Status		
Married	255	123
Not married	182	125
Children		
No children	209	127
1 or more	265	111
Age		
Under 35	292	141
35-44	269	116
45-54	303	166
55-64	206	113
Education		
0-8 years	208	109
9-12 years	243	130
13+ years	321	159
Earnings		
Low	208	131
Moderate	257	114
High	224	88

1/ Differences in RMB's as compared to those receiving only SSDI.

benefits and persons who did not, which were significant at the .05 level, occurred for the following groups: males, whites, married persons, those with children, persons age 45-54 or 55-64, and those with 9-12 years of schooling.

The difference in total benefits between persons who received multiple benefits and those who did not was consistently large and varied greatly according to the characteristic under study. The differences are clearly illustrated in figure 2. Within each characteristic, the average total benefit was at least 85 percent greater for RMB's than for persons receiving only SSDI. The largest difference in average benefits, both absolutely and relatively, occurred among the college educated, where the benefit to RMB's was $321 greater or more than 2½ times as large as that for those receiving no other benefits. The absolute and percentage difference in average benefits between those who received multiple benefits and those who did not are shown in table 12.

Proportion of Benefits from Sources Other Than SSDI

In order to assess the "mixture" of SSDI and other benefit amounts overlappers were divided according to the proportion of total benefits which came from sources other than SSDI. Table 13 presents the proportion of overlappers falling in each quintile of the distribution.

Overall, the largest proportion of persons (36 percent) had evenly divided benefits, with SSDI making up between 40 and 60 percent of the benefit package. The distribution appears to be skewed somewhat towards SSDI making up the larger proportion of the total package. Whereas SSDI made up less than 40 percent of the benefit package in under 13 percent of the cases, SSDI benefits

TABLE 13.--Percent of overlappers by proportion of total benefits obtained through programs other than SSDI

	1-19 Percent	20-39 Percent	40-59 Percent	60-79 Percent	80-99 Percent	Mean proportion 1/ of other benefits
Total.....	14.5	31.9	36.1	14.1	3.4	48
Sex						
Male.....	14.9	32.6	33.8	15.3	3.5	48
Female.....	12.3	28.6	48.1	7.7	3.2	45
Race						
White.....	14.1	32.5	36.7	12.8	3.9	48
Black.....	14.1	29.2	33.2	23.4	0.0	46
Marital Status						
Married.....	15.5	31.4	34.2	14.8	4.1	47
Not married.....	10.9	33.7	42.8	11.4	1.2	50
Children						
No children.....	10.5	29.3	23.8	14.1	3.7	52
1 or more.....	19.5	35.3	28.2	13.9	3.0	44
Age						
Under 35.....	41.1	15.4	8.8	34.7	0.0	60
35-44.....	7.7	26.4	39.5	20.5	5.9	52
45-54.....	8.0	41.2	34.7	13.1	3.1	45
55-64.....	19.9	27.4	37.5	12.1	3.1	44
School						
0-8 years.....	13.3	31.5	41.1	12.3	1.8	47
9-12 years.....	9.3	35.5	34.6	17.6	3.1	48
13+ years.....	32.7	22.9	25.2	9.2	10.0	49
Income						
Low.....	11.7	21.1	43.8	20.5	3.0	53
Medium.....	12.1	44.7	30.6	7.2	5.4	50
High.....	19.1	36.9	30.6	10.6	2.8	41

1/ Computed from table 10 as proportion of mean total benefits represented by mean benefits from programs other than SSDI.

composed more than 60 percent of the package for over 46 percent of the individuals.

When the personal characteristics considered in this study were examined, only slight differences were found in the distribution of the "mixture" of benefits for overlappers. No statistically significant differences (i.e., to at least the .10 level) were found to exist in these distributions across the various breakdowns. The mean proportion of benefit obtained from sources other than social security varies (table 13) from a low of 41 percent for persons with high predisability income to a high of 60 percent for persons under age 35.

V. REPLACEMENT RATES

An analysis of the size of benefits answers only part of the questions of how large disability benefits are, how adequate the benefits are, and what the disincentives for remaining in or returning to the labor force are. To fully evaluate these problems one must consider how large benefits are relative to one's earnings. This can be done by computing the ratio of benefits to earnings, or the replacement rate. The higher one's replacement rate, the greater the adequacy of the benefits, but the less the incentive to work.

Past research has discussed the problems associated with the computation of the replacement rate. 26/ Among these problems are the choice of an

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26/ For a more thorough discussion of these problems, see Muller, L. Scott and Lando, M. E., Replacement of Earnings of the Disabled Under Social Security: Levels and Trends, 1969-75, op. cit.

earnings measure, the problems of taxes on earnings but not on benefits, multiple benefit sources, unearned income, the possible change in labor force status of the spouse, and so forth.

This analysis will examine replacement rates including benefits from sources other than SSDI based on 1971 data. Unfortunately the earnings denominators must be based on earnings reportable to social security, and thus earnings are truncated at the taxable maximum. This formulation may induce an upward bias to the measures used in the analysis. Two measures of monthly earnings will be employed in this section: the average indexed monthly earnings over the working lifetime 27/ and the average earnings from the highest 5 years of indexed earnings of the ten years prior to entitlement. These measures will present different views of the rate of replacement, the rate relative to lifetime earnings and recent peak earnings, respectively.

Replacement rates will be compares several ways to help provide insight into this topic. First median replacement rates will be computed to picture the replacement rate of the "average" person. The use of the median instead of the mean will give a more realistic picture of an individual's actual replacement rate; the mean is too volatile given the skewed

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27/ The working lifetime includes earnings after age 22 or 1951 whichever is later, up until the year prior to the year of entitlement. This measure differs from the social security AIME measure in that the 5 years of lowest year of earnings were not dropped, and earnings are measured to the year prior to the year of entitlement, not to the year prior to onset.

distribution and large variance. 28/ Secondly, the distribution of replacement rates will be examined with special interest in the number or proportion with replacement rates exceeding 80 percent of predisability earnings. 29/

Table 14 shows the median rate of replacement and the percent of persons receiving rates of replacement in excess of 80 percent for each of the two rate formulations. Table 15 presents the distribution of these rates. Although average SSDI payments were greater for RMB's than for persons who receive only SSDI, these tables show that SSDI replacement rates tend to be smaller for RMBs. Median replacement rates under SSDI are about 15 percent greater for those who received no additional benefits when based on average lifetime earnings and roughly the same when based on the recent peak earnings. The rate of receipt of "high" rates of replacement under SSDI is greater for persons receiving only SSDI benefits under both formulations; about one third greater based on lifetime earnings, over one half based on recent peak earnings. Table 15 indicates the distribution is consistently skewed towards higher SSDI replacement rates for persons who receive no benefits other than SSDI. This is demonstrated in figure 3 for the lifetime earnings formulation.

28/ The distribution of replacement rates tends to be skewed towards the higher rates since very small earnings will provide a relatively large minimum benefits. On the other side, earnings are truncated at the taxable maximum which will assure a relatively large minimum rate of replacement. The median will not change very much with the high valued outlyers.

29/ Replacement rates which exceed 80 percent of predisability earnings are, for the purpose of this study, considered "high". This rate is believed to be a "good guess" of the level at which benefits will equal earnings after taxes and work related expenses for a large proportion of DIBs.

TABLE 14.--Median rate of replacement and percent receiving high rates of replacement 1/ by multiple benefit status

Formulation	Average monthly indexed earnings over the lifetime		High 5 of the previous 10 years	
	Median rate of replacement	Percent receiving high rate of replacement	Median rate of replacement	Percent receiving high rate of replacement
Full sample - all benefits	79.5	50.6	58.0	28.8
Full sample - SSDI benefits only.....	63.2	35.0	45.8	13.3
Recipients of SSDI benefits only.....	67.5	39.3	45.8	15.7
Recipients of multiple benefits - total.....	100.0	66.5	75.9	47.5
Recipients of multiple benefits - SSDI portion.	58.9	29.0	47.2	10.1
Recipients of multiple benefits - other portion	40.8	24.0	28.4	16.6

1/ Eighty percent of predisability earnings and above.

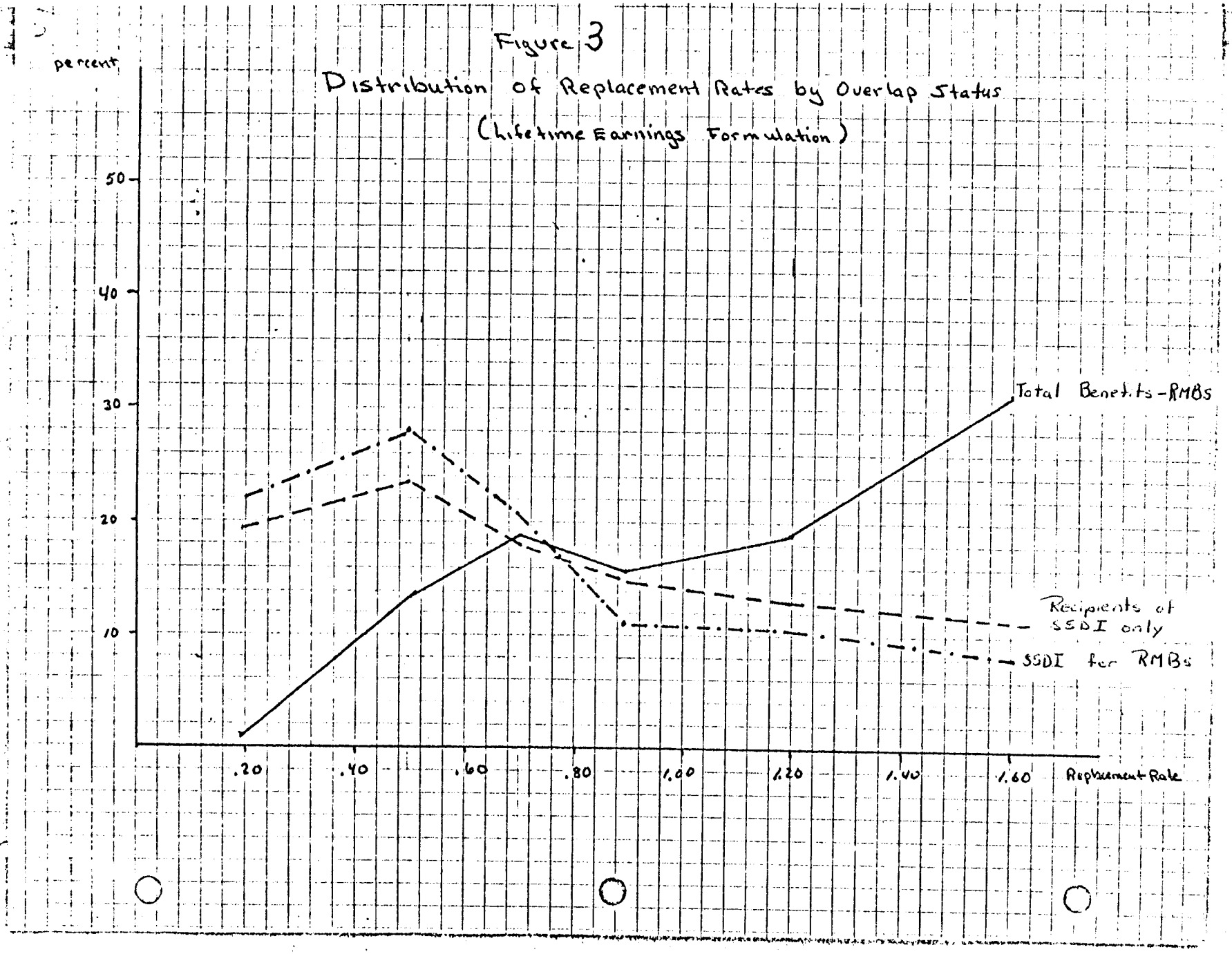
TABLE 15.--Percent distribution of replacement rates

	Percent of earnings replaced					
	.01-.39	.40-.59	.60-.79	.80-.99	1.00-1.39	1.40+
	Averaged indexed monthly earnings					
Full sample - all benefits	11.8	19.4	18.2	15.4	15.4	19.8
Full sample - SSDI benefits only	20.5	25.4	19.1	13.2	11.8	9.9
Recipients of SSDI benefits only	19.3	23.5	18.0	15.1	12.8	11.3
Recipients of multiple benefits - total	1.3	13.6	18.6	15.9	19.0	31.6
Recipients of multiple benefits - SSDI portion	22.2	28.1	20.7	10.6	10.4	8.0
Recipients of multiple benefits - other portion	47.5	19.5	8.9	4.1	7.6	12.4
	High 5 of past 10, indexed					
Full sample - all benefits	22.7	27.8	20.4	8.5	9.1	11.5
Full sample - SSDI benefits only	37.7	30.2	18.7	4.0	4.1	5.3
Recipients of SSDI benefits only	36.0	29.8	18.6	4.3	5.2	6.3
Recipients of multiple benefits - total	4.3	24.8	23.1	14.4	14.7	18.7
Recipients of multiple benefits - SSDI portion	40.1	30.7	19.0	3.8	2.7	3.6
Recipients of multiple benefits - other portion	63.0	12.0	8.2	2.7	6.5	7.5

Figure 3

Distribution of Replacement Rates by Overlap Status

(Lifetime Earnings Formulation)



It is no surprise, however, to find that other benefit sources combine with SSDI benefits to produce total replacement rates for RMB's which are considerably greater than replacement rates for persons who receive only SSDI. The median replacement rate was over 50 percent greater for RMB's in both formulations and the rate of receipt of high replacement rates was 60 percent greater based on lifetime earnings. The predominance of RMB's at the higher rates of replacement is made very evident in table 15 and figure 3. When one accounts for the addition of other benefits the median rate of replacement for the entire sample of DIB's rises from 63 to 80 percent. The proportion of DIB's receiving high replacement rates also rises from 35 percent to over 50 percent.

Replacement Rates by Selected Characteristics

Median replacement rates and the proportion of persons receiving high replacement rates were examined according to various personal characteristics. The results based on the average indexed monthly earnings over the lifetime are shown in tables 16 and 17. 30/ A logit analysis was also performed to determine which of the characteristics under study are associated with the receipt of high replacement rates, all other factors held constant. The results of the logit estimation appear in table 18. In general, the patterns which were found for the total population hold within each group. The rate of replacement by SSDI benefits is greater for those receiving only SSDI than for those who receive multiple benefits. The replacement rate for total benefits for RMB's, however, it considerably larger within each group than the rate received by those receiving only SSDI.

30/ The equivalent tables based on the high 5 of the previous 10 years appear in the Appendix.

TABLE 16.--Median replacement rates by selected characteristics based on average indexed monthly earnings

	Total		Recipients of SSDI only	Recipients of multiple benefits		Other benefits
	All benefits	SSDI		Total	SSDI	
Total	79.5	63.2	67.5	100.0	58.9	40.8
Sex						
Male	78.7	60.5	64.2	99.1	58.9	38.6
Female	82.4	69.8	72.4	102.7	53.0	44.0
Race						
White	77.8	60.3	66.4	96.9	57.1	39.1
Black	94.9	77.4	78.7	147.9	75.5	58.0
Marital status						
Married	81.7	66.3	69.4	104.4	60.3	39.5
Not married	72.1	55.6	57.8	96.9	53.0	43.9
Children						
No children	65.0	50.4	53.5	87.0	44.8	38.6
1 or more	98.2	80.7	88.4	121.7	76.3	42.1
Age						
Under 35	117.6	108.2	114.1	156.6 (1/)	108.1 (1/)	40.8 (1/)
35-44	124.2	89.2	93.1	153.7	82.7	71.0
45-54	90.6	70.9	78.7	110.8	67.1	43.5
55-64	68.0	53.0	55.3	81.6	52.2	33.9
Education						
0-8 years	80.3	66.3	69.4	105.1	61.1	41.6
9-12 years	80.7	60.8	64.2	96.9	56.6	40.8
13+ years	73.0	58.2	65.0	79.6	57.1	35.6
Predisability Earnings						
Low	103.3	88.2	88.6	159.5	86.9	65.1
Medium	61.1	44.2	43.1	85.7	48.1	30.3
High	61.3	35.2	34.2	71.7	42.8	24.1

1/ Small numbers of unweighted cases make this cell unreliable.

Table 15 shows very little difference in median replacement rates according to sex. Females tend to have higher rates of replacement than the males, with the exception of SSDI payment to RMB's. The relative difference in replacement rates between RMBs and those who receive only SSDI is slightly larger for the females (42 percent) compared to the males (35 percent).

Median rates of replacement are consistently greater for blacks than for whites. The relative difference in median rates of replacement between persons receiving multiple benefits and those who do not was greater for blacks at 88 percent than for whites at 44 percent.

Married persons and those with children have higher median replacement rates than those who are unmarried or have no children. One exception is the receipt of other benefits between married and unmarried persons; unmarried persons appear to have more earnings replaced by other benefits than married persons although the difference is not statistically significant. The difference between median replacement rates for RMB's and those receiving only SSDI is considerably greater for those who are not married (68 percent) and those with no children (63 percent) than among those who were married (50 percent) or had children (37 percent).

Median replacement rates were found to be inversely related to age regardless of the source of the benefits or whether one receives multiple benefits or not. The largest difference in median replacement rates between persons receiving multiple benefits and those who did not occurred for persons aged 35-44.

Education produced little difference in median replacement rates under SSDI. Total replacement rates for RMB's tended to be lower for persons with some college than for persons with high school or less education. The relative differential between RMB's and those who receive only SSDI was also smaller for persons with some college. The differential in median replacement rates was only 23 percent for these persons compared to differentials upwards of 50 percent for the lesser educated groups.

Predisability earnings level is inversely related to replacement rates and produced the greatest difference in median replacement rates. The median rate of replacement within each benefit category was nearly twice as large for persons in the low earnings group as compared to those with moderate or high earnings. The relative difference in median replacement rates between persons receiving only SSDI and those receiving multiple benefits did not change according to earnings level; RMB's had replacement rates which doubled the replacement rates of those receiving only SSDI.

The receipt of high replacement rates was examined with respect to personal characteristics in both tabular (table 17) and multivariate (table 18) form. This multivariate analysis was applied not only to entire sample, but also to SSDI benefits only, and total benefits for RMB's.

The analysis of total benefits of the entire sample (i.e., SSDI for non-overlappers, total benefits for overlappers) found race and education, holding other factors constant, to be insignificant in determining whether an individual would obtain high total replacement rates. Males were found to be more likely to have high total replacement rates when controlling for predisability

TABLE 17.--Percent with high replacement rates by selected characteristics (indexed average monthly earnings

(80 percent and over

	Total		Recipients of SSDI only	Recipients of multiple benefits		
	All benefits	SSDI		Total	SSDI	Other benefits
Total	50.6	35.0	39.3	66.5	29.0	24.0
Sex						
Male	49.5	31.3	34.7	64.3	27.9	23.9
Female	52.9	43.4	45.9	77.8	34.7	24.4
Race						
White	48.5	32.8	37.4	63.6	26.5	22.9
Black	63.3	47.6	49.9	85.9	43.7	32.6
Marital status						
Married	52.5	36.7	41.9	66.4	29.9	24.0
Not married	45.0	30.2	32.7	66.8	25.8	23.9
Children						
No children	38.9	24.5	29.4	55.1	16.1	20.1
1 or more	70.8	53.2	60.6	81.1	45.6	29.0
Age						
Under 35	69.6	65.9	62.2	100.0 (1/)	81.0 (1/)	43.5 (1/)
35-44	77.3	63.1	69.3	84.9	57.2	46.3
45-54	60.6	42.9	47.9	74.6	37.3	26.4
55-64	37.6	22.0	27.6	53.9	12.7	15.2
Education						
0-8 years	51.5	36.5	40.1	67.3	31.5	22.8
9-12 years	51.2	34.4	39.6	69.7	26.2	23.7
13+ years	41.7	28.4	29.0	52.7	27.9	29.6
Earnings						
Low	70.1	57.8	58.7	93.3	55.9	41.5
Medium	32.4	16.3	15.0	57.5	18.1	14.9
High	25.3	3.5	2.0	40.8	4.4	9.1

1/ Small numbers of unweighted cases make this cell unreliable.

TABLE 18.--Logit on high replacement rates (including and excluding predisability earnings)

(80 percent of indexed average monthly earnings and above)

	Total benefits		SSDI (all)		Recipients of multiple benefits	
	Including predisability earnings	Excluding predisability earnings	Including predisability earnings	Excluding predisability earnings	Including predisability earnings	Including predisability earnings
Sex (1 if male)	.37014 (1/) (1.82)	-.37733 (2/) (2.19)	-.25230 (1.20)	-1.0561 (3/) (5.77)	-.47376 (.97)	-1.0082 (2/) (2.56)
Race (1 if nonwhite)	-.12140 (.48)	.35470 (1.54)	-.33698 (1.29)	.32161 (1.40)	.41866 (.68)	1.3231 (3/) (2.66)
Marital status (1 if married)	.45299 (2/) (2.23)	.32654 (1/) (1.77)	.44253 (2/) (2.00)	.28349 (1.43)	1.1086 (3/) (2.66)	.51386 (1.54)
Children (1 if yes)	1.3405 (3/) (6.92)	1.1360 (3/) (7.90)	1.3321 (3/) (6.08)	.98731 (3/) (5.61)	1.7771 (3/) (5.22)	1.6145 (3/) (5.34)
Age (under 35)	.52844 (1.22)	.96270 (2/) (2.41)	1.4725 (3/) (3.14)	1.7079 (3/) (4.26)	5.2670 (.61)	6.6536 (.81)
Age (35-44)	1.1325 (3/) (3.60)	1.3479 (3/) (4.66)	1.4163 (3/) (4.24)	1.4892 (3/) (5.52)	.56242 (1.00)	1.0563 (2/) (2.17)
Age (45-54)	.47355 (3/) (2.59)	.61469 (3/) (3.69)	.47834 (2/) (2.33)	.60858 (3/) (3.46)	.18628 (.56)	.48169 (1/) (1.68)
Education (9-12 years)	.02564 (.14)	-.14209 (.87)	-.22883 (1.13)	-.39893 (2/) (2.32)	-.04673 (.15)	-.21032 (.76)
Education (13+ years) (reference, 0-8 years)	-.07955 (.26)	-.38372 (1.39)	-.42688 (1.18)	-.61617 (2/) (2.05)	.02152 (.04)	-.18852 (.43)
Earnings (low)	1.9221 (3/) (8.79)	--- ---	2.2555 (3/) (9.00)	--- ---	2.6807 (3/) (5.52)	--- ---
Earnings (high) (reference, moderate)	-.31874 (1.32)	--- ---	-1.9834 (3/) (4.17)	--- ---	-.72929 (2/) (2.16)	--- ---
Constant	-2.1627 (3/) (6.87)	-.60799 (3/) (2.75)	-2.6396 (3/) (7.29)	-.73699 (3/) (3.21)	-.87748 (1.57)	.33302 (.84)
Number of cases	832.	832.	832.	832.	355.	355.

1/ Significant to .10 level, two-sided test.
2/ Significant to .05 level, two-sided test.
3/ Significant to .01 level, two-sided test.

TABLE 19.--Absolute and percent increase in median replacement rates and rate of receipt of high replacement rate when basing replacement rates on multiple benefits rather than SSDI alone

	Absolute difference in median replacement rates	Percent difference in median replacement rates	Absolute difference in percent receiving high replacement rates	Percent difference in percent receiving high replacement rates
Total	16.3	25.8	15.6	44.6
Sex				
Male	18.2	30.1	18.2	58.1
Female	12.6	18.1	9.5	21.9
Race				
Whites	17.5	29.0	15.7	47.9
Blacks	17.5	22.6	15.7	33.0
Marital Status				
Married	15.4	23.2	15.8	43.0
Not married	16.5	29.7	14.8	49.0
Children				
No children	14.6	29.0	14.4	59.2
1 or more	17.5	21.7	17.6	33.0
Age				
Under 35	9.4	8.7	3.7	5.6
35-44	35.0	39.2	14.2	22.5
45-54	19.7	27.8	17.7	41.3
55-64	15.0	28.3	15.6	70.9
Education				
0-8 years	14.0	21.1	15.0	41.1
9-12 years	19.9	32.7	16.8	48.8
13+ years	14.8	25.4	13.3	46.8
Predisability Earnings				
Low	15.1	17.1	12.3	21.3
Medium	16.9	38.2	16.1	98.8
High	26.1	74.1	21.8	622.9

earnings, although women were more likely to receive high rates of replacement when not controlling for earnings. That particular result is probably a function of the lower earnings levels for women and hence higher rates of replacement under SSDI due to the benefit formulation which replaces lower earnings at a higher rate. Persons who were married or had children were found to be more likely to receive high rates of replacement, possibly due to the presence of dependents benefits under SSDI and certain other programs.

Individuals in the 35-44 and 45-54 age groups were found to be more likely to have high replacement rates than those in the 55-64 age (reference) group. Persons under age 35 were not statistically different from those aged 55-64 when controlling for earnings level, but had a greater probability of receiving high replacement rates when earnings level was neglected.

A decline is noted in the probability of receiving high replacement rates as earnings levels increase. Individuals with low earnings were found to be more likely to receive high benefits than those in the moderate (reference) group. The decline for the high earnings group relative to the reference group was not statistically significant.

The multivariate analysis of high replacement rates under SSDI showed sex, race and education to be insignificant in determining those likely to receive high rates of replacement when controlling for predisability earnings level. Not considering earnings level, both males and persons with higher levels of education had smaller probabilities of receiving high rates of replacement; again due to the correlation between these variables and earnings and the negative relationship between earnings and replacement rates under SSDI.

Persons who are married and/or have children had a greater probability of receiving high replacement rates under SSDI, due to the presence of dependents benefits under SSDI. The three youngest age groups have probabilities of receiving high replacement rates which were significantly greater than the oldest (reference) age group. The coefficients measuring the magnitude of the effect decline monotonically, indicating an inverse relationship by age. As predisability earnings increased, the probability of obtaining high replacement rates declined, holding other factors constant. Low earnings individuals were more likely to receive high replacement rates than individuals in the moderate earnings group. Those in the high earnings group proved less likely to obtain high replacement rates than the reference (moderate earnings) group.

The analysis of high replacement rates among RMB's showed sex, race, age and education to be insignificant in determining the receipt of high replacement rates when earnings are held constant. Not controlling for earnings, males and whites who were RMB's had lower probabilities of receiving high rates of replacement. For RMB's, being married and/or having children increased the probability of obtaining high replacement rates. Predisability earnings were inversely related to the probability of receiving total benefits which replace 80 percent or more of predisability earnings.

Comparisons of Replacement Rates from SSDI and Combined Benefits

The foregoing analysis has shown that replacement rates based on total benefits for RMB's are considerably higher than the replacement rate based solely on SSDI benefits. The neglect of consideration of multiple benefits in previous research has resulted in a considerable understatement of the level of replacement

rates and in the estimates of persons receiving excessive replacement rates. In previous studies which calculated replacement rates based solely on SSDI benefits, using the averaged monthly indexed earnings as a denominator, a median replacement rate of 63 percent would have been identified for all DIB's. When multiple benefits are included, one finds a median rate of 80 percent, which is over 25 percent larger. Where past research which studied only SSDI replacement rates would have identified 35 percent as having "high" replacement rates, and hence low incentives to return to work; when multiple benefits are considered, the rate rises to over 50 percent. The result is an understatement of about 45 percent. The impact of these differences when considering both adequacy of benefits and labor market incentives could be great.

The magnitude of the difference in replacement rates varies according to one's individual characteristics. The absolute and relative increases in both median replacement rates and the rate of receipt of high replacement rates which occurs when one considers the receipt of multiple benefits rather than simply SSDI benefits are shown in table 19. This table makes it quite evident that the relative increase in median rates and the rate of receipt of high replacement rates associated with the receipt of multiple benefits are quite often greater among groups with lower SSDI replacement rates such as males, whites, persons with no children, those in the 55-64 age group, and particularly persons with moderate or high predisability earnings. Thus, since replacement rates based only on SSDI are generally lower for persons who receive additional benefits, employing policies which hold down replacement rates only for SSDI benefits, such as those proposed in the 1979 amendments, may only increase the already large differential between those receiving multiple benefits and those who do

not. This could be considered undesirable from both adequacy and equity viewpoints. A cap, such as that suggested by the Advisory Council, which limits the total benefit received rather than only SSDI benefits may be preferable. The cap proposed by the Advisory Council may not be far reaching enough, however, based on the number of persons receiving benefits from programs not covered under the Advisory Council proposal. Perhaps a more inclusive cap on benefits may be necessary to assure replacement rates which do not exceed levels which offer incentives for beneficiaries to return to work.

APPENDIX A

Index Values

1973.....	.857		
1972.....	.911		
1971.....	1.000	1960	1.622
1970.....	1.050	1959	1.685
1969.....	1.102	1958	1.769
1968.....	1.166	1957	1.784
1967.....	1.247	1956	1.840
1966.....	1.316	1955	1.968
1965.....	1.395	1954	2.059
1964.....	1.420	1953	2.070
1963.....	1.478	1952	2.185
1962.....	1.514	1951	2.322
1961.....	1.590		

Adjusted to base year 1971 from actual 1977 Social Security wage index values.

APPENDIX B

COMPARISONS OF SURVEY RESULTS TO PUBLISHED ADMINISTRATIVE DATA (SOURCE: CWHS)

Comparison of Weighted Counts of Actual Population

As mentioned previously there is an undercounting of worker DIBs on the 1972 survey. The counts are shown in the table below:

	Survey	Administrative	Percent difference
DIBs as of 12/71	1,298,421	1,647,684	-21.1 percent
1971 Entitlements	432,662	415,897	+4.0 percent
DIBs 12/71 with 1 year prior current entitlement	865,759	1,231,787	29.7 percent

Comparison of average benefits under SSDI

Average benefits are presented in the table below. The average family benefit is somewhat larger in the survey than in the administrative data.

SSDI from 72 Survey (excluding 1971 entitlements)	$203.42
SSDI from administrative data	$179.70
Percent difference	+13.2 percent

While different samples are drawn with new entitlements deleted from the survey, this could only be expected to increase the differential since new entitlements are generally greater than benefits to those in current pay status. Both average benefit amounts are at the end of 1971.

Comparison of Replacement Rates from Administrative and Survey Data

The tables below present a comparison between the replacement rates for SSDI calculated from the 1972 survey and from the CWHS administrative data set. Since the survey data measures benefits on 12/71 and the administrative data is an average of benefits over the entire year the survey data should have a somewhat higher 1971 replacement rate. One might expect the 12/71

rate, however to fall between the 1971 and 1972 rates for the administrative data. In addition the 1971 and 1972 CWHS rates are for new entitlements only and are based on earnings prior to onset while the 12/71 survey rates include all beneficiaries and are based on earnings prior to onset while the 12/71 survey rates include all beneficiaries and are based on earnings prior to onset.

Replacement Rates for SSDI

Denominator	1971 CWHS	1972 CWHS	12/71 Survey
	Median Replacement Rates		
Lifetime	.557	.600	.632
Last non-zero year	.547	.619	.676
High 5 of 10	.386	.419	.458
	Percent with High Replacement Rates		
Lifetime	24.1	29.0	41.3
Last non-zero year	26.8	33.9	35.0
High 5 of 10	4.6	6.3	13.3

Technical Note

In carrying out its responsibility for collecting and analyzing data on the disabled, the Social Security Administration conducted a survey in mid-1972, using the 5-percent sample from the 1970 Decennial Census to identify both disabled and nondisabled adults. The 1972 survey was designed primarily to update earlier estimates of the extent and severity of disability in the population derived from the earlier general survey of the disabled conducted by the Social Security Administration in 1966.

In addition, the survey examined factors associated with the development and duration of disability by comparing persons who were currently disabled, previously disabled, and nondisabled. The study focused on adjustments to disability and examined economic, medical, and social consequences of disability for the disabled person and his family. The survey provides information on:

—the severity and prevalence of disability by demographic, social, economic, and occupational characteristics;

—factors affecting coping mechanisms and the nature of adaptation to impairment and disability—such as work adjustments, rehabilitation, and dependency;

—factors affecting application for and receipt of wage-replacement and income-maintenance benefits from social security and other public and private programs;

—evaluation of disability program provisions and of proposals for legislative and policy changes on disability and work experience requirements.

Study Design

The data were collected and processed by the Bureau of the Census. Survey estimates are based on a sample of 18,000 interviewed persons selected from the 1970 5-percent Census sample. Of these 18,000 persons, 11,700 were selected as the disabled sample from all those persons who indicated they were disabled before October 1969 on the 1970 Census questionnaire. A mail screening in 1971 of the remaining persons resulted in two other sample groups—5,100 nondisabled persons and 1,200 recent onset cases.

In addition, there were 2,850 noninterviews. Thus the rate of "good responses" for the survey—based on 18,000 interviewed persons out of 20,850 eligible for interview—is 86 percent. The number and reason for noninterviews were as follows:

Noninterview reason	*Number of persons*
Total	2,850
Unable to contact	1,240
Temporarily absent	100
Refused	620
Moved outside 357 primary sampling units	650
Miscellaneous	240

In general, the sample was a stratified multistage cluster design comprised of 357 sampling areas that included every county and some independent cities in the United States. The disabled persons were selected from all 357 strata; the nondisabled and recently disabled groups were chosen from a special subset of 105 strata. The sample was designed to represent the noninstitutionalized civilian population of the United States aged 18–64 as of April 1970.

Match With Social Security Records

To enhance the usefulness of survey data in analyses focused on program issues, the information obtained by interviews was combined with selected data available from the master beneficiary record maintained by the Social Security Administration. Data from both the interview and benefit records were used to establish beneficiary status for tabulation purposes.

Allocations

To maximize the amount of useful information, allocations were made for missing-income and medical-cost items based on values obtained from respondents with similar economic, medical, and demographic characteristics. Examples of medical characteristics that were used are "days hospitalized" and "number of doctor visits." Economic characteristics included "income" and other types of assets. An amount was assigned from the information for another person, systematically chosen according to the order in which the records were processed, who gave a good response to the item in question.

Income Sources

During the survey, each household was requested to supply information as to the receipt of various sources of income. The information on receipt of benefits from programs other than social security comes from questions 96 and 97 (shown below) from Section IX of the survey. Information on beneficiary status and monthly benefit amount under social security came from the Master Beneficiary Record previously mentioned. Benefit amounts and beneficiary status were determined as of December 1971, and only persons who were currently entitled prior to January 1, 1971 were included in the sample. Receipt of multiple benefits was based on the indication in either question 96b or 97b that the respondent received that particular income. If the respondent was shown to receive the income, the total amount received (96c and 97c) was attributed to the respondent. If the respondent did not receive the income, but a spouse or child did, the respondent was not considered a recipient of multiple benefits and the income in 96c or 97c was not considered in the analysis. To arrive at average monthly benefit amounts for sources of income other than social security, the total 1971 benefit was divided by 12. Note again that individuals' response as to receipt of social security (income source #1 of question 96) was not used in the analysis. In order to assure accuracy, this information was obtained from the matched Master Beneficiary Record. Specified sources of "other" income (income source #7 in question 97) were not considered in the analysis. Fewer than 2 percent of the respondents indicated receiving income from a source other than those specified. Slightly over 3 percent of the cases in the sample were omitted from the benefit amount and replacement rate analysis due to allocated values for the benefit amount. This was done to avoid any possible biases caused by the allocation procedure used by Census.

96a. Did you, your spouse, or CHILDREN UNDER 18 receive any income during 1971 from the following sources — (Read list) (If "Yes" to any items in list, ask b, c, and d.)	(Mark one) Yes	No	Total 1971 income b. Which family member(s) received this income? Respondent	Spouse	OWN children under 18	c. What was the total amount received in 1971?	d. Are you (spouse or children) NOW receiving income from this source? Yes	No
(1) Social Security?	(418) 1	2	(419) 1	2	3	(420) $ .00	(421) 1	2
(2) Railroad Retirement?	(422) 1	2	(423) 1	2	3	(424) $ .00	(425) 1	2
(3) Veteran's payments?	(426) 1	2	(427) 1	2	3	(428) $ .00	(429) 1	2
(4) Public welfare or public assistance?	(430) 1	2						
If "YES" is that —								
Aid to the blind or aid to the permanently and totally disabled?	(431) 1	2	(432) 1	2	3	(433) $ .00	(434) 1	2
Aid to families with dependent children?	(435) 1	2	(436) 1	2	3	(437) $ .00	(438) 1	2
Any other type of public welfare or public assistance? Specify type →	(439) 1	2	(440) 1	2	3	(441) $ .00	(442) 1	2

97a. Did you, your spouse, or CHILDREN UNDER 18 receive any other income during 1971, such as: (Read list) (If "Yes" to any items in list, ask b, c, and d.)	(Mark one) Yes	No	Total 1971 income b. Which family member(s) received this income? Respondent	Spouse	OWN children under 18	c. What was the total amount received in 1971?	d. Are you (spouse or children) NOW receiving income from this source? Yes	No
(1) Government employee pensions or disability benefits?	(443) 1	2	(444) 1	2	3	(445) $ .00	(446) 1	2
(2) Private employer or union pensions or disability benefits?	(447) 1	2	(448) 1	2	3	(449) $ .00	(450) 1	2
(3) State cash sickness (temporary disability) benefits?	(451) 1	2	(452) 1	2	3	(453) $ .00	(454) 1	2
(4) Workmen's compensation?	(455) 1	2	(456) 1	2	3	(457) $ .00	(458) 1	2
(5) Unemployment compensation?	(459) 1	2	(460) 1	2	3	(461) $ .00	(462) 1	2
(6) Private insurance or annuities?	(463) 1	2	(464) 1	2	3	(465) $ .00	(466) 1	2
(7) Any other kinds of income? Specify type →	(467) 1	2	(468) 1	2	3	(469) $ .00	(470) 1	2

Definition of Disability

Disability is defined in this study as a limitation in the kind or amount of work (or housework) resulting from a chronic health condition or impairment lasting 3 months or longer. The disability classification was based on the extent of the individual's capacity for work, as reported by the respondent in a set of work-qualification questions. Data on employment and on functional capacities—such as mobility, activities of daily living, personal care needs, and functional activity limitations—were also collected to evaluate further the nature and severity of disability.

The severity of disability was classified by the extent of work limitations as:

Severely disabled—unable to work altogether or unable to work regularly.

Occupationally disabled—able to work regularly but unable to do the same work as before the onset of disability, or unable to work full time.

Secondary work limitations—able to work full time, regularly, and at the same work but with limitations in the kind or amount of work they can perform; women with limitations in keeping house but not in paid work are included as having secondary work limitations.

Reliability of Estimates

Since the estimates in this report are based on a sample, they may differ somewhat from the figure that would have been obtained if all disabled and nondisabled adults in the United States had been surveyed with the same techniques used. As in any survey, the results are subject to error of response and of reporting as well as to the sampling variability. The standard error is a measure of sampling variability and indicates the amounts by which the sample estimates may vary from the universe values that would have been obtained if all persons in the universe had been studied.

For interval estimates, the standard error is used to construct an interval with a prescribed confidence that the interval includes the universe value or the average of all possible samples drawn from the same universe. In about 68 percent of the samples from a population, the population value would be included in the interval from one standard error below the sample estimate to one standard error above it—referred to as the 68-percent confidence or one standard error interval. In about 95 percent of the samples from a population, the population value would be included in the interval from two standard errors below the sample estimates to two standard errors above it—the 95-percent confidence or two standard error interval. The 99-percent confidence interval extends approximately two and one-half standard errors above and below the sample estimate.

The standard error is also useful in testing the significance of the difference between two statistics—that is, the confidence one can have that the sample difference in means, percentages, or estimates is a real difference and not merely due to chance. To test this assumption, the standard error of the difference can be calculated from the square root of the sum of the squared standard errors of each sample estimate. If the observed difference is as large as one standard error of the difference it is statistically significant at the 68-percent confidence level; if it is as large as two standard errors it is significant at approximately the 95-percent level; and if as large as two and one-half standard errors it is significant at about the 99-percent level. As a general practice in the analyses presented here, differences between estimates and between percentages are considered statistically significant if the critical ratio equals or exceeds 1.96 standard errors, the level at which a predicted difference could be expected to occur by chance less than 5 out of 100 times, or the 0.05 level of significance.

Table I gives approximate standard errors for the total numbers of persons estimated from the sample to have certain characteristics. Table II gives standard errors for estimated percentages. Linear interpolation may be used to obtain values not specifically shown. In order to receive standard errors that are applicable to a variety of estimates, a number of assumptions and approximations were required. As a result, the tables of standard errors provide an indication of the order of magnitude rather than the precise standard error for any specific attribute.

TABLE I.—Standard errors of estimated numbers of persons with a severe disability

Size of estimate	Standard error
10,000	8,900
25,000	14,100
50,000	20,000
100,000	28,200
250,000	44,600
500,000	63,000
1,000,000	88,700
2,500,000	139,000
5,000,000	192,000
7,500,000	231,000
8,720,000	246,000

TABLE II.—Standard errors of estimated percentages of persons with a severe disability

Base of percentage (in thousands)	Estimated percentage					
	1 or 99	2.5 or 97.5	5 or 95	10 or 90	25 or 75	50
100	2.8	4.4	6.2	8.5	12.2	14.1
250	1.8	2.8	3.9	5.4	7.7	8.9
500	1.3	2.0	2.8	3.8	5.5	6.3
1,000	.9	1.4	1.9	2.7	3.9	4.5
2,500	.6	.9	1.2	1.7	2.4	2.8
5,000	.4	.6	.9	1.2	1.7	2.0
7,500	.3	.5	.7	1.0	1.4	1.6
8,720	.3	.5	.7	.9	1.3	1.5