THE SURVEY OF INCOME AND
PROGRAM PARTICIPATION

DEVELOPMENT AND EVALUATION OF A SURVEY-BASED TYPE OF BENEFIT CLASSIFICATION FOR THE SOCIAL SECURITY PROGRAM

No. 97

D. Vaughan
Social Security Administration

U. S. Department of Commerce BUREAU OF THE CENSUS

Survey of Income and Program Participation

Development and Evaluation of a
Survey-Based Type of Benefit Classification
for the Social Security Program

8920 — 97

Denton R. Vaughan
Social Security Administration

August 1989

ACKNOWLEDGEMENTS

Denton R. Vaughan is in the Division of Economic Research, Office of Research and Statistics, Office of Policy, Social Security Administration. This article is an extended version of the paper "A Survey-Based Type of Benefit Classification for the Social Security Program" presented by the author at the 1988 Joint Statistical Meetings of the American Statistical Association (ASA) in New Orleans, August 22-25. The paper appears in the **American Statistical Association 1988 Proceedings of the Social Statistics Section** and in the **Social Security Bulletin** (January 1989, Vol. 52, No. 1, pages 12-26). A number of persons have assisted the author in developing and evaluating the SIPP type of benefit code. The author's special thanks go to SSA colleagues Daniel Radner, Linda DelBene, and Henry Ezell and to Chet Bowie, John Coder, and Daniel Kasprzyk at the Bureau of the Census. The views expressed are attributable to the author and do not necessarily reflect those of the Census Bureau.

TABLE OF CONTENTS

PREVIOUS RESEARCH..... 2

BENEFIT CLASSIFICATION OF AGED RECIPIENTS..... 3

Aged Women..... 3
Procedural overview..... 3
Completeness of estimates..... 4
Estimates for Aged Men..... 5
Further Evaluation of Estimate Integrity..... 5
Age distributions by type of benefit..... 7
Benefit amount size distributions..... 7
Mean benefit amounts..... 12
Variation in mean benefit among retired-worker beneficiaries..... 14
Summary..... 15

BENEFIT CLASSIFICATION FOR RECIPIENTS AGED 18-64..... 15

Overview of Assignment Procedure..... 15
Evaluation of Assignment Procedure..... 16
Completeness of assignment..... 16
Completeness of estimates..... 16
Benefit amount size distributions and mean benefit amounts.... 19

BENEFIT CLASSIFICATION FOR CHILDREN UNDER AGE 18..... 19

SUMMARY..... 21

REFERENCES..... 23

TABLES

Table 1. SIPP estimates of the average number of female OASDI beneficiaries aged 65 or older, by type of benefit and benefit classification criteria, September-December 1983 6

Table 2. SIPP estimates compared with independent estimates of the average number of OASDI beneficiaries aged 65 or older, by sex and type of benefit, September-December 1983 6

Table 3. Percentage distribution of independent and SIPP estimates of the average number of OASDI beneficiaries aged 65 or older, by age, sex, and type of benefit, September-December 1983 8

Table 4. SSA administrative and SIPP percentage distributions of all retired-worker beneficiaries, by monthly benefit amount and age in 1983 8

Table 5. SSA administrative and SIPP percentage distributions of male retired-worker beneficiaries, by monthly benefit amount and age in 1983 10

Table 6. SSA administrative and SIPP percentage distributions of female retired-worker beneficiaries, by monthly benefit amount and age in 1983 11

Table 7. SSA administrative and SIPP percentage distributions of wives with entitlement based on age, by monthly benefit amount and age in 1983 13

Table 8. SSA administrative and SIPP percentage distributions of widow beneficiaries with entitlement based on age, by monthly benefit amount and age in 1983 13

Table 9. SIPP estimates compared with independent estimates of average number of OASDI beneficiaries aged 18-64, by type of benefit, September-December 1983 18

Table 10. SSA administrative and SIPP percentage distributions of disabled-worker beneficiaries, by monthly benefit amount and sex in 1983 20

CHARTS

Chart 1. Ratio of the mean monthly benefit amount (MBA) of men of each age group to the mean MBA of men aged 65-69 14

Chart 2. Ratio of the mean monthly benefit amount(MBA) of women of each age group to the mean MBA of women aged 65-69 17

Chart 3. Ratio of women's mean monthly benefit amount (MBA) to men's MBA, by age 17

DEVELOPMENT AND EVALUATION OF A SURVEY-BASED TYPE OF BENEFIT CLASSIFICATION FOR THE SOCIAL SECURITY PROGRAM

The Old-Age, Survivors, and Disability Insurance program (OASDI), popularly known as Social Security, serves a number of distinct subpopulations. The program analogue for these subpopulations is type of benefit. Analysis of the social and economic characteristics of different beneficiary subgroups using household survey data can contribute significantly to accurate portrayal of program outcomes and to planning program initiatives. However, previous research has shown that reliable discrimination among different types of benefits is not possible in the typical general household survey. Consequently, research requiring distinctions among benefit types has required that survey data be matched to SSA program records. Such matches are time consuming, difficult to implement, and subject to stringent confidentiality restrictions. This article reports on the development and evaluation of a procedure that identifies major benefit categories in the Survey of Income and Program Participation (SIPP) data set that relies solely on data collected from respondents at interview. The ability to identify type of benefit enhances the SIPP as an important new source of information for policy-related research on the Social Security program.

The Old-Age, Survivors, and Disability Insurance (OASDI) program, popularly known as Social Security, provides income support for retired and disabled workers and their dependents and for survivors of deceased workers. Because the data that the Social Security Administration (SSA) maintains on its own beneficiaries is limited to what is directly required to administer the OASDI program, and for the most part is restricted to current and past beneficiaries, the agency has long been involved in the development and use of household surveys to obtain a fuller picture of the social and economic characteristics of its beneficiaries and the populations from which they are drawn. For this reason, the Survey of Income and Program Participation (SIPP), administered by the Bureau of the Census, represents a source of information that is of considerable interest to SSA.

A valid means of identifying type of Social Security benefit in the SIPP context substantially enhances the survey's usefulness to SSA. Obviously, it is often important to be able to identify particular types of OASDI beneficiaries to evaluate policy options and assess program effects. It is also important to be able to compare the economic circumstances of different segments of the OASDI beneficiary population at a given point in time. In the past, SSA has not been able to conduct such analyses because household surveys that cover all major beneficiary groups generally do not permit identification of specific type of beneficiary, and surveys that focus on particular types of beneficiaries often pertain to different time periods or do not contain commonly defined measures of health status, family relationships, and economic resources. Finally, because type of Social Security

benefit summarizes important structural features of the individual's family and labor-force history, a reliable benefit classification sheds light on conditions that gave rise to current variation in economic status within the beneficiary population.

From a technical standpoint, a SIPP-SSA administrative data match would provide the least problematic means for categorizing OASDI benefit type, but it is unlikely that such matched data sets will materialize on a timely and recurring basis or that they will be released to researchers outside SSA and the Bureau of the Census. Thus, development of a benefit categorization scheme based on data available in SIPP public use files will permit more timely and efficient use of the SIPP at SSA and will allow outside researchers, who have contributed a great deal to the understanding of the Social Security program, to have access to this type of information.

PREVIOUS RESEARCH

The only well-documented previous effort to identify type of Social Security benefit receipt relying exclusively on data collected in a household survey was carried out by Projector and her colleagues at SSA (Projector and Bretz, 1975). This work was undertaken in the early 1970's as part of a larger SSA effort to model the tax and transfer system using data from the March Supplement to the Current Population Survey (CPS). The procedure for identifying type of benefit made use of information on marital status, family relationships, age, the relative benefit amounts of husbands and wives, and reason for not working. Although the research yielded useful results, six problem areas were evident:

* For widowed women, it was not possible to distinguish between retired-worker and widow benefits.

* Benefits for women dually entitled to a retired-worker and spouse benefit could not be identified.

* It was not always possible to distinguish between retired- and disabled-worker benefits for those aged 62-64.

* For women under age 65, some confusion occurred among disabled-worker, widow, and widowed-mother benefits.

* Disabled-worker and childhood disability benefits could not be distinguished from one another.

* The direct identification of benefits for children under age 18 was not possible.

These shortcomings most seriously affected the classification of Social Security benefits received by aged women. Since it was not possible to determine if widows were receiving retired-worker or widow benefits, the program status of widows was not clear. Similarly, the inability to identify women dually entitled to retired-worker and spouse benefits meant that the basis for the benefit receipt of many married women could not be established. These two difficulties combined to depress the survey estimate of aged women receiving retired-worker benefits to less than half the number in the survey universe.[1] A number of items and procedures were introduced in the SIPP instruments to address these shortcomings.[2] In addition, the general approach adopted for measuring transfer income in the SIPP is based on establishing the major categorical axes of transfer income receipt--for example, disability, survivorship, previous marital status(es), and retirement for each individual in the sample. Data collected about this context of income receipt is of considerable use in classifying type of Social Security benefit and in assessing the validity of type of benefit assignments.

BENEFIT CLASSIFICATION OF AGED RECIPIENTS

Aged Women

Procedural overview. The present classification effort began by attempting to identify type of benefits received by female recipients aged 65 or older. Benefits were categorized in three major groupings: retired worker, spouse, and widow. A relatively small number of aged women receive other types of benefits. These benefit types were grouped in a residual category and were not subjected to evaluation.

Five basic types of information, all collected at the time of the survey interview, were used to develop the benefit type categorization for aged women: Medicare type of benefit code (BIC); retirement status (ever retired from a job); receipt of a combined Social Security payment with one's spouse; current marital status; and previous marital status for those currently married.

---

[1]Projector and Bretz's estimate of the number of female retired-worker beneficiaries aged 65 or older was approximately 2.0 million (1975, page 410), or about 40 percent of the number thought to belong to the survey universe.

[2]The author of this article, a member of the SSA staff directed by Dorothy Projector, played a major role in the development of the SIPP questionnaire sections dealing with transfer income. Particular attention was given to the correct measurement of Social Security benefit receipt.

The key to the classification scheme is the Medicare type of benefit code that was recorded from the individual's Medicare card during the interview. The Medicare BIC categorizes the type of OASDI cash benefit to which the individual is entitled. When available, it generally provides an unambiguous basis for determining type of Social Security benefit. Indeed, 81 percent of the three major types of benefits received by aged women were identified solely by means of the Medicare benefit code (85 percent of retired-worker benefits, 78 percent of spouse benefits, and 71 percent of widow benefits).

Consistency with current and previous marital status was checked before the assignment of spouse or widow benefit on the basis of the Medicare type of benefit code. This review uncovered a relatively small number of aged women (2 percent of the total) with a nominally valid spousal BIC who were currently widowed. The median age for this group (about 81 years) was much higher than for married women with a valid spousal BIC (only about 72 years). It even exceeded the median age for widows with a valid widow BIC (about 76 years). Given the inconsistency between the reported BIC and current marital status and the singular age distribution of this group, it seems likely that these aged women were actually receiving widow benefits rather than spouse benefits. Consequently, they were classified as widow beneficiaries. In addition, approximately 400,000 married women with a Medicare code indicating widow benefits were classified as widow beneficiaries. Most of these women were reported to have been previously widowed and presumably retained widow benefits based on remarriage after age 60.

Because a valid Medicare type of benefit code was not obtained for about 20 percent of aged beneficiary women identified in the survey, alternative procedures were required to assign type of benefits for the 2.7 million beneficiaries with invalid or missing codes. Benefit type for this group was assigned on the basis of three pieces of information: receipt of a combined Social Security payment with one's spouse, report of retirement from a job, and current and previous marital status. All assignments that could be made on the basis of joint benefit receipt were made first, followed by assignments based on reported retirement from a job. Marital status was used to classify those remaining. The number of aged beneficiary women assigned under each of the supplemental criteria is shown in table 1. Clearly the bulk of the residual assignments were made on the basis of report of retirement from a job or current marital status.

Completeness of estimates. The final edited estimates for the three major types of benefits received by aged women are quite close to the independent estimates of the number of these beneficiaries in the survey universe (table 2). (Independent estimates were developed by adjusting OASDI program statistics to

account for differences between the complete program universe and the survey universe.)[3] Nominally, the combined estimate for the three types of benefits exceeds the independent estimate by about 2 percent. Considering the separate estimates by type of benefit, those for retired-worker and widow benefits nominally are 4 percent and 3 percent above the corresponding independent estimates, whereas the survey estimate for spouse benefits is about 4 percent below the independent estimate. Using generalized variance parameters estimated by SSA specifically for use with Social Security beneficiaries (Bye and Galicchio, 1988) and applying conventional statistical criteria, none of these differences would be considered statistically significant.

Estimates for Aged Men

Although aged men may be entitled to spouse, widower, or retired-worker benefits, currently more than 99 percent of aged male recipients receive retired-worker benefits. Consequently, the identification of aged men with retired-worker benefits is relatively unproblematic. If the basic survey estimates of Social Security benefit receipt among aged men are unbiased, the estimates of aged male retired workers will be similarly complete. Indeed, the SIPP estimate of male retired workers (9.6 million)[4] is close to the number of aged male retired workers thought to belong to the survey universe (9.5 million). The small difference is not statistically significant.

Further Evaluation Of Estimate Integrity

The ability to reproduce independent estimates of the number of recipients by type of benefit is the minimal requirement of the classification scheme. To what extent are important differences among beneficiary groups maintained by the survey measures and to what extent is benefit income well measured?

---

[3]The differences between the survey and program universes require that the program information be adjusted downwards to account for beneficiaries living in institutions, outside the 50 States and the District of Columbia, and decedents--that is, persons who were issued payments but were not alive at time of interview. It should be understood, however, that the adjustment process itself is subject to some level of error. Thus, although the independent estimates serve as a valuable guide to the completeness of the survey estimates, they are not themselves infallible. Both the survey and independent estimates refer in calendar time to average recipient characteristics for the last 4 months of 1983 (September, October, November and December).

[4]Eighty-two percent of the assignments were associated with a Medicare BIC indicating retired-worker benefits.

Table 1.—SIPP estimates of the average number of female OASDI beneficiaries aged 65 or older, by type of benefit and benefit classification criteria, September-December 1983

[Beneficiaries in thousands]

Element	Type of benefit			
	Total [1]	Retired worker	Spouse	Widow
Identified using Medicare BIC	11,690	7,210	1,981	2,499
Less				
Currently widowed with a spouse BIC	261	0	261	0
Subtotal	11,429	7,210	1,720	2,499
Plus				
Assignments made on the basis of other criteria	2,738	1,232	497	1,009
Currently widowed with a spouse BIC	261	0	0	261
Reports receipt of combined payment	99	0	99	0
Reports retirement from a job	1,095	[2] 1,095	0	0
Residual assignments based on current marital status	1,283	137	398	[3] 748
Married	390	0	[3] 390	0
Separated	8	0	[3] 8	0
Divorced	72	[3] 72	0	0
Widowed	748	0	0	748
Never married	65	[3] 65	0	0
Equals				
Edited estimate	14,167	8,442	2,217	3,508
Percent identified using the Medicare BIC	80.7	85.4	77.6	71.2

[1] Excludes persons receiving payments as special-age 72 beneficiaries, adults disabled in childhood, and dependent parents of deceased workers.

[2] Net of those reporting receipt of combined payments.

[3] Net of "ever retired."

Table 2.—SIPP estimates compared with independent estimates of the average number of OASDI beneficiaries aged 65 or older, by sex and type of benefit, September-December 1983

[Beneficiaries in thousands]

Selected statistics	Retired-worker men	Women			
		Total	Retired worker	Spouse	Widow
Independent estimate	9,471	13,855	8,137	2,306	3,412
SIPP estimate	9,593	14,168	8,442	2,218	3,508
As percent of independent estimate	101.3	102.3	103.7	96.2	102.8

Age distributions by type of benefit. The survey-based age distributions are compared with age distributions from independent estimates in table 3 for the four major aged benefit groups (retired-worker, spouse, and widow for women and retired-worker for men). The survey distributions preserve the basic age ranking among the four major beneficiary groups (spouse, retired-worker women, retired-worker men, and widow) youngest to oldest. Furthermore, the maximum absolute deviation between the two sets of distributions is only 1.5 percentage points. Thus for all practical purposes the survey-based distributions are indistinguishable from those based on independent estimates.

Benefit amount size distributions. The correct identification of OASDI benefit receipt represents only one aspect of the quality of SIPP estimates. Obviously, the nature of the SIPP data on OASDI benefit income, per se, is also important. Unfortunately, independent estimates of monthly benefit amount distributions that pertain to the survey universe are not available for either individual benefit types or for all OASDI beneficiaries as a group. However, monthly benefit amount distributions based on SSA administrative data are available for several types of beneficiaries for approximately the same calendar period covered by the survey. The most appropriate distributions for comparison to the survey estimates pertain to benefit receipt in January 1983, some 8-11 months before the survey reference period.[5]

Despite the fact that the administrative and survey data pertain to somewhat different time periods and that the program data have not been adjusted to exclude beneficiaries who do not belong to the survey universe, comparison of the survey-based monthly benefit distributions with those based on program data does provide a useful means of gauging the general quality of the SIPP data on monthly benefit amounts. These comparisons are provided for the three basic types of benefits received by the aged (retired worker, spouse, and widow) in tables 4-8.

---

[5]Other reports on the evaluation of the benefit code have compared survey benefit amounts to program data for January 1984 (Vaughan, 1989). These comparisons reveal patterns similar to those shown here. However, the program data for January 1984 reflect a 3.5 percent benefit increase that went into effect in that month and thus do not pertain to the survey reference months September-December 1983. Consequently, even though the program data for January 1984 are closer in time to the survey reference period than the data for January 1983, they are less reflective of the level of benefits observed during the survey reference period. Not surprisingly, then, the shift to program data from the earlier date as a basis of comparison reduces somewhat the observed discrepancies between the survey estimates and program data. Still, program data for the same period covered by the survey would be preferred. They are not currently available.

Table 3.—Percentage distribution of independent and SIPP estimates of the average number of OASDI beneficiaries aged 65 or older, by age, sex, and type of benefit, September-December 1983

Age	Retired-worker men		Women by type of benefit					
			Retired worker		Spouse		Widow	
	Independent estimate	SIPP	Independent estimate	SIPP	Independent estimate	SIPP	Independent estimate	SIPP
Total	100.0	99.9	99.9	100.1	100.1	99.9	100.0	99.9
65-74	65.2	64.4	61.3	62.2	71.2	69.8	45.9	44.4
75-84	29.1	29.5	31.3	31.4	26.2	27.1	39.3	40.1
85 or older	5.7	6.0	7.3	6.5	2.7	3.0	14.8	15.4

Table 4.—SSA administrative and SIPP percentage distributions of all retired-worker beneficiaries, by monthly benefit amount and age in 1983

Monthly benefit amount	Total		62-64		65 or older		65-69		70-74		75-84		85 or older	
	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than $180	5.5	6.1	11.9	8.6	4.7	5.8	5.2	7.0	4.7	4.8	4.8	5.5	2.5	6.4
$180-$199	4.0	2.6	3.8	2.7	4.0	2.6	3.0	3.0	3.0	2.0	4.0	2.3	11.7	4.4
$200-$249	8.0	8.2	12.8	13.3	7.4	7.7	8.2	8.1	7.6	7.8	6.4	7.2	6.9	6.8
$250-$299	10.0	9.2	14.5	13.5	9.5	8.6	9.4	8.5	9.1	8.3	9.5	9.0	11.7	9.5
$300-$349	9.2	9.9	9.3	9.4	9.2	10.0	8.6	8.6	8.8	9.8	9.4	10.7	12.2	14.9
$350-$399	8.6	8.6	7.9	8.3	8.7	8.6	7.7	7.6	8.6	8.4	9.3	9.2	10.9	11.9
$400-$449	10.5	12.2	8.5	9.9	10.7	12.5	8.5	9.8	10.5	12.7	12.7	14.7	14.1	15.1
$450-$499	13.3	12.1	12.0	13.1	13.5	11.9	9.8	8.4	12.8	13.1	15.7	13.6	19.6	17.5
$500-$549	10.8	11.1	13.6	16.9	10.5	10.4	10.1	9.5	10.3	10.6	12.6	12.2	5.1	5.5
$550-$599	7.4	7.4	4.0	2.3	7.8	8.0	8.8	10.2	8.8	7.1	7.5	7.8	1.6	1.7
$600-$649	4.2	3.8	1.4	1.2	4.5	4.1	6.1	5.5	5.8	5.2	2.7	1.9	.9	1.7
$650-$699	2.7	2.9	.3	.4	3.0	3.1	4.6	4.7	3.8	3.3	1.4	1.7	.8	1.4
$700-$749	2.4	2.3	.0	.2	2.7	2.6	4.7	4.3	2.8	2.7	1.0	1.0	.7	.7
$750-$799	1.8	1.5	.0	0	2.0	1.7	3.6	2.5	1.7	1.7	1.0	1.1	.3	.3
$800 or over	1.5	2.1	.0	.2	1.7	2.4	1.6	2.4	1.7	2.4	1.8	2.2	1.1	2.1
Index of dissimilarity	. . .	4.3	. . .	7.3	. . .	4.9	. . .	5.3	. . .	4.8	. . .	5.8	. . .	11.6
Mean	$419	$421	$349	$363	$428	$428	$445	$442	$436	$434	$417	$415	$370	$386
SIPP as percent of SSA administrative	. . .	100.4	. . .	104.1	. . .	100.0	. . .	99.3	. . .	99.6	. . .	99.6	. . .	104.2

Note: . . . denotes not applicable or not available.

Source: Administrative data are from the Social Security Bulletin, Annual Statistical Supplement, 1983, table 76, page 150, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

Turning first to the comparisons for aged retired workers, it is clear that for the group as a whole (see the subtotal column in table 4 for those aged 65 or older) the survey benefit distribution is similar to the distribution based on program data and that the similarity holds when comparisons are disaggregated by age, and by age and sex (table 5 and 6). The overall impression of similarity is confirmed by the index of dissimilarity for the distributions.[6]

The index value for all aged persons receiving retired-worker benefits is 4.9, indicating that only 4.9 percent of the individuals in the SIPP-based distribution would have to shift monthly benefit amount category to exactly reproduce the SSA administrative distribution. The value of the dissimilarity index is generally higher within separate age groups among aged beneficiaries but remains below 6.0 for all but the group aged 85 or older, where it reaches 11.6. The dissimilarity index is nominally higher when men and women retired workers are considered separately. However, the differences are generally small (2 index points or less) except for the oldest age group where the dissimilarity index for the monthly benefit amount distribution of both men and women reaches 17.7.

Four benefit intervals contribute two or more points to the index for retired-worker men aged 85 or older (less than $180, $180-$199, $350-$399, and $450-$499). The $450-$499 category is associated with the single largest discrepancy, whereas the differences stemming from the two lowest intervals are largely offsetting. The benefit amount intervals of less than $180, $180-$199, and $300-$349 contribute two or more points to the overall index value for retired-worker women in this age group. The largest single discrepancy is associated with the $180-$199 interval.

---

[6]The index is constructed by taking the absolute difference between the administrative and survey percentage for each amount category, summing across all the benefit amount categories for a given group or subgroup, and dividing by 2. The resulting statistic may be interpreted as the percentage of recipients in either the administrative or the survey distribution who would have to shift monthly benefit amount category to obtain equivalent distributions. The index is presented as a descriptive device to aid the reader in comparing the two sets of distributions. Since the SIPP distributions are based on a sample, variation in the index values for the survey distributions are likely to involve sampling error as well as the nonsampling error that affects the survey benefit amounts themselves and classification error that is attributable to the type of benefit algorithm. The administrative distributions are based on tabulations of the entire population of beneficiaries and consequently are not subject to sampling error.

Table 5.—SSA administrative and SIPP percentage distributions of male retired-worker beneficiaries, by monthly benefit amount and age in 1983

Monthly benefit amount	Total		62-64		65 or older		65-69		70-74		75-84		85 or older	
	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than $180	3.5	3.9	6.7	5.8	3.1	3.7	3.2	3.2	3.1	4.3	3.5	3.4	.4	4.8
$180-$199	2.8	2.0	2.1	.8	2.9	2.2	1.9	2.8	2.3	1.2	3.3	2.1	8.6	3.5
$200-$249	4.6	4.9	5.7	4.8	4.5	5.0	4.2	4.2	4.6	5.1	4.4	5.0	5.0	8.1
$250-$299	6.2	5.2	6.3	5.9	6.2	5.1	5.0	4.2	6.1	5.0	7.2	6.1	8.7	5.8
$300-$349	6.7	7.5	6.7	6.1	6.7	7.7	5.5	5.7	6.5	6.7	7.6	10.7	9.7	9.7
$350-$399	7.3	7.4	8.3	7.4	7.2	7.4	6.0	5.3	7.3	7.0	7.9	8.9	9.6	14.9
$400-$449	10.6	11.8	11.0	13.6	10.6	11.6	8.2	8.8	10.3	11.9	12.2	13.9	15.5	14.4
$450-$499	15.1	13.0	19.3	17.9	14.6	12.5	10.8	9.0	14.5	14.1	16.8	13.4	27.3	20.0
$500-$549	14.1	14.6	24.0	30.3	13.0	12.8	12.2	12.2	12.0	12.2	16.1	15.6	7.2	6.5
$550-$599	10.2	10.6	6.9	4.2	10.6	11.3	12.1	14.8	11.4	9.6	10.1	10.4	2.2	3.3
$600-$649	6.0	5.4	2.4	2.0	6.4	5.8	8.6	8.2	7.9	7.3	3.4	2.3	1.4	1.4
$650-$699	4.1	4.3	.5	.4	4.5	4.7	6.8	7.1	5.3	4.7	1.8	2.3	1.0	2.7
$700-$749	3.7	3.6	.1	.5	4.1	3.9	7.3	6.7	4.0	3.6	1.4	1.5	1.1	1.3
$750-$799	2.8	2.3	.0	0	3.1	2.6	5.6	4.1	2.3	2.7	1.4	1.2	.6	.0
$800 or over	2.3	3.5	.0	.4	2.6	3.8	2.6	3.8	2.4	4.6	2.8	3.1	1.7	3.7
Index of dissimilarity	...	5.1	...	9.7	...	5.4	...	6.5	...	6.3	...	7.7	...	17.7
Mean	$470	$473	$417	$429	$476	$478	$509	$514	$479	$480	$449	$446	$409	$414
SIPP as percent of SSA administrative	...	100.7	...	102.8	...	100.5	...	101.0	...	100.3	...	99.3	...	101.3

Note: ... denotes not applicable or not available.

Source: Administrative data are from the Social Security Bulletin, Annual Statistical Supplement, 1983, table 76, pages 150-151, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

Table 6.—SSA administrative and SIPP percentage distributions of female retired-worker beneficiaries, by monthly benefit amount and age in 1983

Monthly benefit amount	Total		62-64		65 or older		65-69		70-74		75-84		85 or older	
	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than $180	7.8	8.7	17.2	11.3	6.6	8.3	7.7	11.6	6.5	5.3	6.3	7.7	4.1	8.1
$180-$199	5.3	3.2	5.7	4.6	5.2	3.1	4.4	3.3	3.7	2.9	4.8	2.5	14.2	5.4
$200-$249	11.9	11.9	20.2	21.4	10.9	10.7	13.3	12.9	11.4	10.8	8.6	9.4	8.7	5.3
$250-$299	14.4	13.6	23.0	20.8	13.3	12.7	15.0	13.7	12.7	12.0	11.9	12.1	14.0	13.4
$300-$349	12.0	12.6	11.8	12.6	12.0	12.6	12.6	12.1	11.5	13.4	11.1	10.8	14.4	20.5
$350-$399	10.1	9.8	7.6	9.1	10.4	9.9	9.9	10.4	10.2	9.9	10.8	9.6	11.8	8.7
$400-$449	10.5	12.8	6.1	6.5	11.1	13.6	8.9	11.1	10.5	13.6	13.1	15.6	13.0	15.8
$450-$499	10.8	11.1	4.5	8.5	11.6	11.4	8.6	7.8	11.2	12.0	14.4	13.8	13.2	14.9
$500-$549	7.0	7.1	2.4	4.0	7.6	7.5	6.9	6.1	8.4	8.8	9.0	8.5	3.4	4.5
$550-$599	4.2	3.8	1.0	.4	4.6	4.2	4.8	4.4	5.7	4.3	4.7	4.9	1.1	.0
$600-$649	2.4	2.0	.4	.4	2.7	2.2	3.0	2.2	3.4	3.0	2.1	1.5	.6	2.1
$650-$699	1.3	1.2	.1	.4	1.5	1.4	1.9	1.7	2.0	1.6	1.0	1.0	.4	.0
$700-$749	1.0	.9	.0	.0	1.1	1.1	1.6	1.3	1.3	1.6	.7	.4	.3	.0
$750-$799	.7	.6	.0	0	.8	.7	1.0	.6	.7	.7	.6	.9	.3	.7
$800 or over	.5	.6	.0	.0	.6	.7	.3	.7	.7	.0	.8	1.2	.4	.5
Index of dissimilarity	. . .	4.3	. . .	9.8	. . .	4.8	. . .	7.0	. . .	6.5	. . .	5.8	. . .	17.7
Mean	$362	$363	$277	$299	$373	$371	$365	$353	$384	$382	$382	$383	$338	$354
SIPP as percent of SSA administrative	. . .	100.2	. . .	108.0	. . .	99.4	. . .	96.6	. . .	99.6	. . .	100.2	. . .	104.9

Note: . . . denotes not applicable or not available.

Source: Administrative data are from the Social Security Bulletin, Annual Statistical Supplement, 1983, table 76, page 151, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

Survey and program-based benefit amount distributions for aged wives and widows with entitlement based on age are given in tables 7 and 8. For all wife beneficiaries aged 65 or older, the index of dissimilarity is 5.6. As for aged retired workers, the index appears to be higher when separate age groups are considered (varying in a narrow range of 10.3 to 11.4). For aged widow beneficiaries, the overall dissimilarity index at 10.7 is nominally higher than for retired worker and aged wives, and reaches 16.9 for those aged 70-74 and 23.9 for those aged 85 or older.[7] Among widow beneficiaries aged 70-74, three benefit amount intervals contribute two or more points to the index (less than $180, $200-$249, and $400-$449), and the survey distribution is consistently underreported relative to the administrative distribution in the six benefit amount intervals over $349. Among widow beneficiaries aged 85 or older, four benefit intervals contribute two or more points to the index (less than $180, $180-$199, $450-$499, and $600 or more). The survey distribution is consistently underrepresented relative to the administrative distribution in the five benefit amount intervals between $250 and $499. Discrepancies appear to be particularly high for the intervals less than $180 and $450-$499.

Mean benefit amounts. Tables 4-8 also present SIPP and SSA program estimates for mean benefit amounts by age. For aged retired workers, the overall mean amount ($428) is the same regardless of the source of the estimate and, by age, the survey mean amounts closely follow the program estimates. This finding of agreement of mean benefit amounts overall and by age equally applies when male and female retired-worker beneficiaries are considered separately (tables 5 and 6). Survey and program mean benefit amounts for aged wife and widow beneficiaries are presented in tables 7 and 8. The overall survey mean amount for wife beneficiaries aged 65 or older nominally exceeds the program amount by about 6 percent. By age, survey mean amounts vary from 96 percent to 112 percent of the program mean amounts. For widow beneficiaries aged 65 or older, the overall survey mean is 93 percent of the program mean; by age, the survey means vary from 86 percent to 98 percent of the program estimates. Although survey estimates of mean benefit amounts by age for wife and widow beneficiaries aged 65 or older appear to depart somewhat more from the program estimates than is the case for retired workers in this age group, differences remain moderate.

---

[7]That the index is highest for the oldest age group among retired workers and aged widows is perhaps not surprising. It is estimated that 25-30 percent of these individuals fall outside the survey universe, principally as a result of institutionalization. Among aged wives, however, more than 90 percent of program beneficiaries in the oldest age group belong to the survey universe.

Table 7.—SSA administrative and SIPP percentage distributions of wives with entitlement based on age, by monthly benefit amount and age in 1983

Monthly benefit amount	Total		62-64		65 or older		65-69		70-74		75 or older	
	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than $200	38.8	36.0	39.3	34.2	38.7	36.3	39.3	31.7	39.2	32.6	37.3	46.1
$200-$249	31.2	28.9	31.1	33.4	31.2	28.0	28.9	26.2	31.2	27.0	34.3	31.5
$250-$299	17.5	19.4	24.9	26.1	16.0	18.0	15.8	23.2	14.1	16.2	18.3	12.6
$300-$349	6.8	7.9	4.4	4.5	7.3	8.5	8.6	8.7	8.1	9.7	4.7	7.2
$350-$399	4.3	4.6	.3	.9	5.1	5.3	5.9	6.1	5.9	9.1	3.2	.5
$400 or over	1.4	3.2	0	.9	1.7	3.9	1.5	4.2	1.5	5.5	2.2	1.9
Index of dissimilarity	. . .	5.1	. . .	5.1	. . .	5.6	. . .	10.3	. . .	10.9	. . .	11.4
Mean	$215	$226	$205	$212	$217	$229	$218	$235	$218	$243	$215	$207
SIPP as percent of SSA administrative	. . .	105.1	. . .	103.7	. . .	105.4	. . .	108.0	. . .	111.5	. . .	96.2

Note: . . . denotes not applicable or not available.
Source: Administrative data are taken from the **Social Security Bulletin, Annual Statistical Supplement, 1983**, table 86, page 161, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

Table 8.—SSA administrative and SIPP percentage distributions of widow beneficiaries with entitlement based on age, by monthly benefit amount and age in 1983

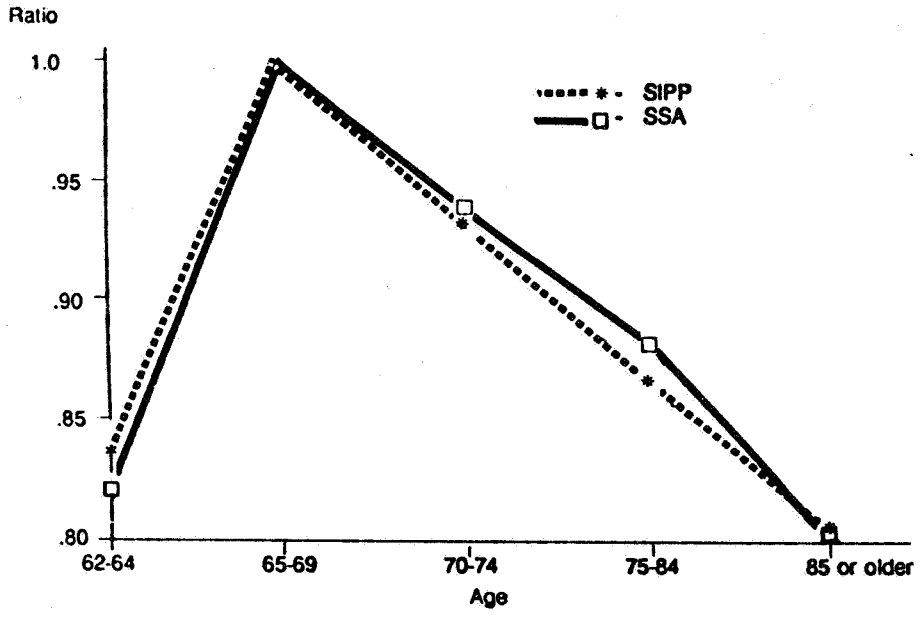
Monthly benefit amount	Total		60-64		65 or older		65-69		70-74		75-84		85 or older	
	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than $180	3.8	9.0	7.5	6.0	3.2	9.4	6.4	10.1	4.6	12.0	1.8	6.1	.9	12.7
$180-$199	5.3	4.7	2.3	2.7	5.8	4.9	2.4	5.1	3.3	5.3	6.8	4.2	10.4	6.1
$200-$249	6.7	9.9	7.8	9.6	6.5	10.0	7.1	8.1	6.5	12.3	5.9	9.3	7.3	11.0
$250-$299	9.6	10.1	9.0	9.5	9.7	10.2	9.0	11.2	9.1	9.3	9.7	9.6	12.0	11.3
$300-$349	12.3	13.1	14.8	18.4	11.9	12.4	14.5	16.4	11.2	12.6	10.3	10.6	13.0	10.8
$350-$399	16.0	13.3	19.1	14.7	15.5	13.1	19.5	12.4	18.5	16.9	13.1	12.4	12.6	10.5
$400-$449	18.7	17.6	17.6	14.2	18.9	18.0	15.8	14.8	18.5	14.3	20.8	22.2	18.6	17.2
$450-$499	15.5	11.1	12.1	14.3	16.0	10.7	10.2	7.0	12.4	8.6	19.2	15.1	20.3	7.3
$500-$549	6.4	5.7	6.0	6.5	6.5	5.6	6.3	7.0	7.6	4.3	7.3	5.6	3.0	5.3
$550-$599	2.9	2.8	2.4	.8	3.0	3.1	3.9	2.1	4.4	2.3	2.7	4.2	.8	2.9
$600 or over	2.8	2.8	1.4	3.4	3.0	2.7	4.8	5.9	3.9	2.0	2.4	.6	1.0	5.0
Index of dissimilarity	. . .	9.7	. . .	10.9	. . .	10.7	. . .	13.2	. . .	16.9	. . .	10.9	. . .	23.9
Mean	$379	$355	$362	$364	$382	$354	$365	$357	$389	$335	$389	$367	$362	$345
SIPP as percent of SSA administrative	. . .	93.6	. . .	100.7	. . .	92.7	. . .	97.7	. . .	86.1	. . .	94.2	. . .	95.4

Note: . . . denotes not applicable or not available.
Source: Administrative data are from the **Social Security Bulletin, Annual Statistical Supplement, 1983**, table 93, page 168, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

Variation in mean benefit amounts among retired-worker beneficiaries. The main patterns of variation in mean benefit amounts observed in the program data by age and sex are also observed in the SIPP data. This similarity is not surprising given the close agreement between survey estimates and program data on mean benefit amounts; indeed it could hardly be otherwise and provides an opportunity to illustrate just how well the survey can reproduce important patterns of differences among demographic subgroups in the Social Security program population. By age, for example, the survey and program mean benefit amounts both describe an inverted U-shape: Mean benefit amounts for those aged 62-64 and aged 85 or older are below the amounts for persons aged 65-69 and aged 70-74 (estimates for those aged 62-64 are included to make this point more clearly). However, among men, the group aged 65-69 has the highest mean; among women, mean benefit amounts peak among those aged 70-74 and 75-84.

The basic similarity of the patterns of variation in survey and administrative means is more easily seen by expressing the mean benefit amounts for each age group as a percent of the mean benefit for those aged 65-69 in each data source (see charts 1 and 2). Differences in mean monthly benefit amount by sex are also similar in both data sets. In fact, the overall ratio of female mean amount to male mean amount is the same (0.77) and, as seen in chart 3, the ratios are quite comparable across age groups.

Chart 1.—Ratio of the mean monthly benefit amount (MBA) of men of each age group to the mean MBA of men aged 65-69



Summary. The comparison of survey information on benefit amounts by type of benefit to SSA program data indicates that the survey estimates provide a reasonably accurate portrayal of the monthly benefit distributions and mean benefit amounts for the major types of aged beneficiaries. This finding contributes significantly to confidence in the general quality of the SIPP data on monthly benefit amounts as well as in the basic integrity of the type of benefit classification. To some significant degree, the remaining differences observed between the survey and program benefit amount size distributions and mean amounts are likely to be attributable to the 8-11 months separating the survey estimates and program data and the current inability to adjust the program data to exclude beneficiaries not included in the survey universe.

BENEFIT CLASSIFICATION FOR RECIPIENTS AGED 18-64

Overview of Assignment Procedure

Thirteen basic pieces of information were used to classify type of benefit for recipients aged 18-64. They are:

Medicare type of benefit code (BIC)
Reported reasons for receiving Social Security benefit
Medicare coverage status when the Medicare BIC was not available
Reported work disability status
Reported retirement status (ever retired from a job)
Current marital status
Previous marital status for currently married persons
Age
Sex
Report of receipt of separate child benefits by an adult recipient
Postsecondary school enrollment status
Presence of own children under age 18 in the household
Age at which disability first prevented work[8]

Medicare type of benefit code and reported reasons(s) for receiving Social Security are the two pivotal items. The Medicare code was indispensable for identification of the three types of Disability Insurance benefits received by the nonaged and also played a role in discriminating between receipt of retired- and disabled-worker benefits among those 62-64.

---

[8]This information was obtained by matching the appropriate items from the disability module administered in the third interview and proved useful in distinguishing between disabled workers and adults disabled in childhood in instances when the Medicare BIC was not available.

All recipients age 18-64 were asked the reason(s) for Social Security benefit receipt. This information was important for the identification of retired-worker benefits and distinguishing between receipt of retired-worker, dependent, and survivor benefits. The remaining items were useful when the Medicare BIC and/or the items on reason for benefit receipt were unavailable or appeared to be insufficient to make a reliable assignment.

Evaluation Of Assignment Procedure

Results of the classification of type of benefit for recipients aged 18-64 are given in table 9, which compares survey estimates of the number of recipients by type of benefit to independent estimates of the number of recipients in the survey population.

Completeness of assignment. The classification scheme assigns benefit type to 6.7 million of the 6.9 million persons aged 18-64 who were identified in the survey as OASDI beneficiaries in the last 4 months of 1983. Only 3 percent of the beneficiaries could not be classified by type of benefit receipt. Thus the algorithm meets the important first test of nearly complete assignment of benefit type to recipients in this age range.

Completeness of estimates. The survey estimate of the total number of OASDI beneficiaries aged 18-64 is 97 percent of the number of beneficiaries believed to belong to the survey universe (7.1 million). Thus the overall estimates for the age group may be judged to be quite complete.

Results for seven different benefit categories are also given in table 9:

(1) Retired worker
(2) Disabled worker
(3) Spouse entitled on basis of age
(4) Widow(er) entitled on basis of age or disability
(5) Spouse entitled on basis of care of retired or disabled worker's child
(6) Widow(er) entitled on basis of care of retired, disabled, or deceased worker's child
(7) Child aged 18 or older.[9]

---

[9]Individuals in this group are paid benefits either as students or adults disabled in childhood. Although student benefits were still available to postsecondary students at the time of the 1983 SIPP survey, they are currently payable only to elementary or secondary school students through their 19th birthday and fewer than 100,000 such individuals are currently receiving benefits. At the time of the survey, approximately 490,000 persons were receiving benefits as adults disabled in childhood. Approximately 330,000 are believed to have belonged to the survey universe, and 86 percent of them were identified and classified as such.

Chart 2.—Ratio of the mean monthly benefit amount (MBA) of women of each age group to the mean MBA of women aged 65-69

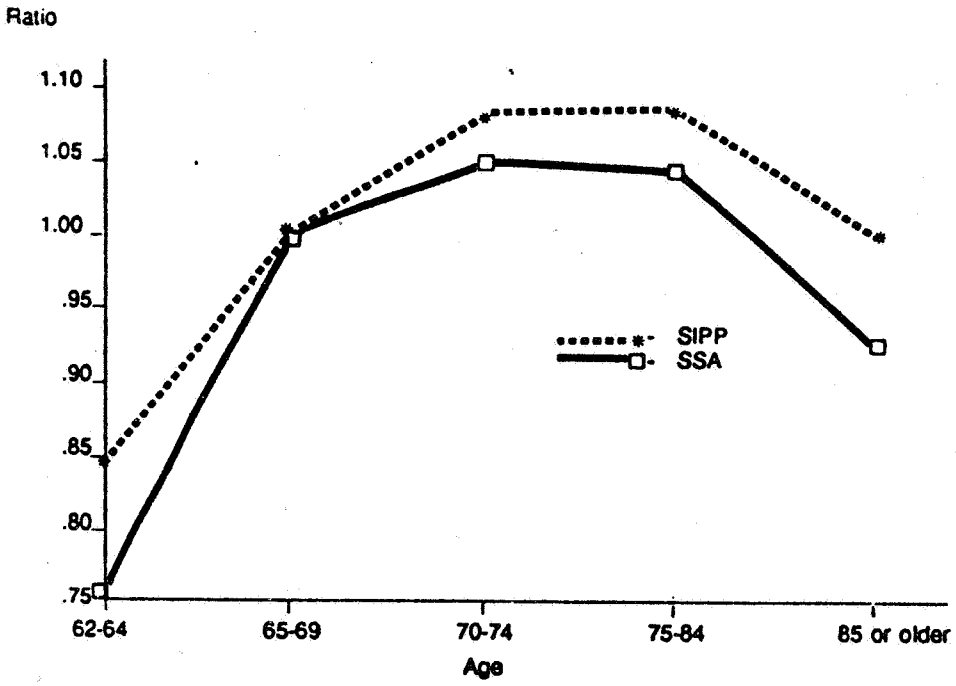
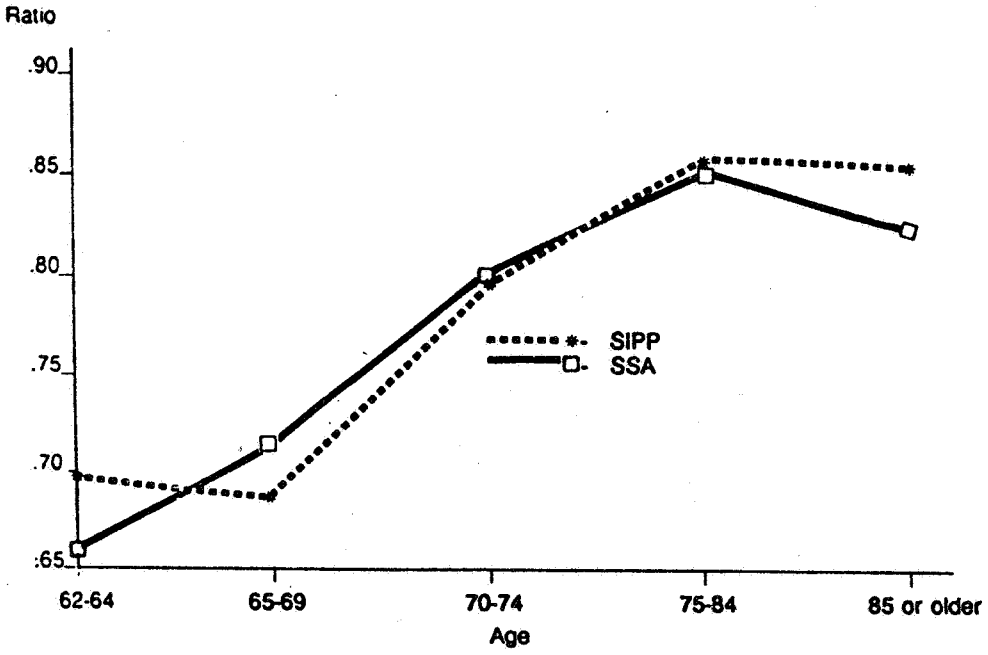


Chart 3.—Ratio of women's mean monthly benefit amount (MBA) to men's MBA, by age



The extent of agreement between the survey and independent estimates varies somewhat by type of benefit. The survey estimates of the number of persons receiving retired-worker, disabled-worker, aged spouse, and adult children's benefits appear to be complete (at 96, 102, 96, and 98 percent, respectively, of the corresponding independent estimates with none of the differences being statistically significant). Furthermore, among disabled-worker beneficiaries no noteworthy difference is evident in the level of completeness by age (data not shown).

On the other hand, estimates of the number of persons with benefits based on care of entitled children (mothers and fathers of the children of retired or disabled workers and widowed mother and fathers of the children of deceased workers), and of those receiving benefits as disabled or aged widows are somewhat incomplete (respectively 68, 77, and 83 percent of the corresponding independent estimates). In each case, the shortfall is statistically significant.

Given that the estimates for retired and disabled workers are essentially unbiased, it is likely that the unidentified recipients with a benefit based on the care of a retired or disabled worker's child may be identified by shifting the level of analysis from persons to families. However, a shift to a family level of analysis would not be expected to yield improved estimates for aged and disabled widows because their benefit is not conditioned on the recipiency patterns of coresident family members. Some modest improvement in the completeness of the estimate of widowed mothers and fathers might follow implementation of a family-based approach, however. About 8 percent of widowed parents are entitled solely on the basis of care of an adult child disabled in childhood, and the presence of an adult child cannot be inferred from information on the parent's survey record.

Table 9.—SIPP estimates compared with independent estimates of average number of OASDI beneficiaries aged 18-64, by type of benefit, September-December 1983

[Beneficiaries in thousands]

Selected statistics	Total	Type of benefit								
		Subtotal, benefit type assigned	Retired worker	Disabled worker	Aged spouse	Spouse caring for an entitled child	Aged or disabled widow	Widow(er) caring for an entitled child	Child aged 18 or older	Type of benefit unassigned
Independent estimate	7,128	7,128	2,231	2,405	477	346	715	405	549	7,128
SIPP estimate	6,895	6,719	2,132	2,448	460	236	593	310	540	176
As percent of independent estimate	96.7	94.3	95.6	101.8	96.4	68.2	82.9	76.5	98.4	2.5

Benefit amount size distributions and mean benefit amounts. As in the case of beneficiaries aged 65 or older, comparison of survey and program benefit amount size distributions and mean benefit amounts sheds additional light on the integrity of the survey estimates in general and the type of benefit classification procedure in particular. This information is presented in tables 4-8 and table 10 for the four largest beneficiary groups in the age 18-64 age class: retired and disabled workers, and wives and widows with entitlement based on age.

The review of these estimates uncovers no substantial anomalies. For retired workers aged 62-64, the index of dissimilarity for the survey and program benefit amount size distributions is 7.3 overall, and 9.7 and 9.8, respectively, for men and women. These values are generally comparable to those observed for the separate age groups among retired workers aged 65 or older. Nominally, the survey estimates of mean benefit amounts for retired workers exceed the program mean amounts, but only to a moderate degree (by 3-8 percent). The index of dissimilarity for wife beneficiaries in this age group is only 5.1. The survey estimate of mean benefit amount is 104 percent of the program mean. For widow beneficiaries, the index of dissimilarity is 10.9 and the survey mean amount ($364) is virtually identical to the program mean ($362). For disabled workers (see table 10), the indices of dissimilarity for the benefit amount size distributions are nominally somewhat higher than for retired workers (12.2 overall and 14.0 and 13.9 for mean and women, respectively). Survey estimates of mean benefit amounts are relatively close to those given by program statistics (96 percent overall and 100 and 95 percent, respectively, for men and women).

BENEFIT CLASSIFICATION FOR CHILDREN UNDER AGE 18

To overcome major shortcomings in the measurement of minor children's benefits in the Current Population Survey (Vaughan, 1979), considerable attention is devoted in the SIPP to the identification of this type of benefit. In their analysis of Social Security reporting in the CPS, Projector and Bretz used direct and indirect approaches for identifying benefit receipt for minor children. The direct approach relied on the presence of Social Security income in the child's survey record, and given that income information in the CPS at that time was not obtained for persons under age 14 (the lower age limit is now 15), the direct method was serviceable only for child beneficiaries aged 14-17. (At the present time, this group accounts for just under half of all minor child beneficiaries.) Their indirect method employed the report of Social Security income by a related adult, generally a parent, to identify child beneficiaries. Given program rules, report of Social Security income by a parent nearly always implies benefit receipt by the minor children and therefore provides a means for identifying child beneficiaries. Together, the direct and indirect methods yielded an estimate of

slightly more than 3 million minor child beneficiaries (Projector and Bretz, 1975, page 406), about 83 percent of the number believed to be in the CPS universe at that time. However, about 70 percent of the minor child beneficiaries were identified by the indirect method, and the minority identified by the direct approach accounted for less than 20 percent of the minor child beneficiaries in the CPS universe.

Table 10.—SSA administrative and SIPP percentage distributions of disabled-worker beneficiaries, by monthly benefit amount and sex in 1983

Monthly benefit amount	Total		Men		Women	
	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0
Less than $180	1.2	6.1	.8	2.5	2.7	11.6
$180-$199	3.7	1.5	2.0	.2	6.2	3.5
$200-$249	5.1	5.5	2.6	2.1	9.0	10.8
$250-$299	10.8	8.0	6.8	3.0	16.7	15.9
$300-$349	12.0	16.0	8.9	13.3	18.3	20.3
$350-$399	10.3	10.1	8.9	9.4	14.5	11.2
$400-$449	10.1	9.7	9.9	9.3	10.6	10.3
$450-$499	9.5	9.6	10.6	11.2	7.8	.1
$500-$549	10.0	10.7	12.2	15.2	5.8	4.0
$550-$599	9.2	6.2	12.1	9.8	3.7	.5
$600-$649	8.6	8.8	11.9	12.8	2.2	2.6
$650-$699	5.9	3.0	8.5	4.3	1.2	.8
$700-$749	2.3	2.6	3.2	3.3	.6	1.5
$750-$799	.7	0	.8	0	.3	0
$800 or over	.5	2.1	.7	3.5	.3	.0
Index of dissimilarity	. . .	12.2	. . .	14.0	. . .	13.9
Mean	$441	$424	$486	$483	$349	$331
SIPP as percent of SSA administrative	. . .	96.2	. . .	99.5	. . .	94.8

Note: . . . denotes not applicable or not available.

Source: Administrative data are from the Social Security Bulletin, Annual Statistical Supplement, 1983, table 80, page 155, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

When the person-based orientation of the current version of the benefit classification algorithm is augmented by taking family relationships more fully into account, it will be possible to employ indirect as well as direct methods to identify minor child beneficiaries. Consequently, it is noteworthy that by relying only on the direct method, 80 percent of minor child beneficiaries believed to belong to the survey universe (2.1 of 2.7 million recipients) were identified. Also the survey distribution by age is virtually identical to the age distribution given by program data (information not shown), indicating that there is no differential bias by age in the direct measure.

These results indicate a very marked improvement over CPS procedures based on indirect methods. Importantly, the implications of this improvement extend beyond identification of recipiency because the same CPS measurement limitations that necessitate reliance on indirect identification of recipiency have been shown to be associated with an underreport of children's Social Security benefit amounts by 25-30 percent (Vaughan, 1979, page 68).

As the SIPP benefit classification procedure is extended to a family-based approach, further improvement in the estimate of benefits for minor children may be expected. Indeed, early indications suggest the final estimates will exceed 90 percent of the numbers of minor child beneficiaries in the survey universe.

SUMMARY

This attempt to classify Social Security beneficiaries by type of benefit using the new Survey of Income and Program Participation (SIPP) has yielded promising results. Evaluations of the classification algorithm based on comparison of the estimated number of beneficiaries in each of the several categories to independent estimates of the number of beneficiaries indicate that in most instances a high percentage of each category has been identified. For the most part, age and monthly benefit amount size distributions seem reasonable. Furthermore, very few persons in the sample who were identified as Social Security beneficiaries could not be assigned to one or another of the benefit groups.

The classification procedure also represents a marked improvement over earlier efforts to classify type of beneficiary that relied on data from the March Supplement to the Current Population Survey (CPS). Most importantly, the benefit classification scheme based on SIPP data appears to provide reasonably reliable distinctions between retired-worker and widow benefits for widowed women and permits the identification of retired-worker benefits for those women dually entitled to retired-worker and spouse benefits. In addition, the distinction between disabled- and retired-worker benefits for recipients aged 62-64 appears to be reasonably reliable, and for women under age 65, the

classification procedure distinguishes between disabled-worker benefits on the one hand and widow and widowed mother benefits on the other. Finally, SIPP procedures for identifying minor child beneficiaries yield markedly better estimates than those available from the Current Population Survey.

These improvements in the SIPP context are due entirely to the presence of information not collected in the CPS. The enhancement of the SIPP data set in turn resulted directly from an assessment of earlier work carried out by Projector and Bretz in the CPS context and on extensive research into the nature of Social Security reporting errors in the CPS. The superiority of the SIPP data set is linked principally to the presence of three pieces of information: The Medicare BIC, the direct question on reasons for benefit receipt asked of persons under age 65, and the direct measurement of recipiency and amount of benefits for minor children. Other items of some import include self-reported work disability, retirement status (ever retired from a job), previous marital status for currently married women, age first prevented from working due to a health condition, and Supplemental Security Income misreporting items.

Researchers at the Social Security Administration (SSA) look forward to employing the SIPP as a new source of information about the social and economic circumstances of the major types of Social Security beneficiaries. Staff in SSA have already initiated a new series of SIPP-based tables in the **Annual Statistical Supplement to the Social Security Bulletin** (SSA, 1987, pages 85-97), and the first study focusing on the financial resources of the major beneficiary groups appears as a companion article in this issue of the **Social Security Bulletin** (Grad, 1989). Analysts outside of SSA who are interested in using the type of benefit code in their own research should contact the author.

REFERENCES

Bye, Barry V. and Salvatore J. Gallicchio, "A Note on Sampling Variance Estimates for Social Security Program Participants From the Survey of Income and Program Participation," **Social Security Bulletin**, October 1988, pages 4-21.

Grad, Susan, "Income and Assets of Social Security Beneficiaries by Type of Benefit," **Social Security Bulletin**, January 1989, pages 2-10.

Projector, Dorothy S. and Judith S. Bretz, "Measurement of Transfer Income in the Current Population Survey," in **The Personal Distribution of Income and Wealth** (Studies in Income and Wealth, No. 39), edited by James D. Smith, New York, National Bureau of Economic Research, 1975, pages 377-447.

Social Security Administration, Office of Policy, Office of Research and Statistics, **Annual Statistical Supplement to the Social Security Bulletin**, 1987, Washington, DC, U.S. Government Printing Office.

Vaughan, Denton R., "A Survey-Based Type of Benefit Classification for the Social Security Program," **The 1988 Proceedings of the Social Statistics Section**, American Statistical Association, Alexandria, VA, 1989.

Vaughan, Denton R., **Measurement of OASDI Income in the Current Population Survey (CPS): Results, Speculations and Prospects from Experience with the March-June 1973 CPS Exact Match File**, Social Security Administration, Office of Research and Statistics, Division of Economic Research, 1979.

DEVELOPMENT AND EVALUATION OF A SURVEY-BASED TYPE OF BENEFIT CLASSIFICATION FOR THE SOCIAL SECURITY PROGRAM

The Old-Age, Survivors, and Disability Insurance program (OASDI), popularly known as Social Security, serves a number of distinct subpopulations. The program analogue for these subpopulations is type of benefit. Analysis ~~for~~ of the social and economic characteristics of different beneficiary subgroups using household survey data can contribute significantly to accurate portrayal of program outcomes and to planning program initiatives. However, previous research has shown that reliable discrimination among different types of benefits is not possible in the typical general household survey. Consequently, research requiring distinctions among benefit types has required that survey data be matched to SSA program records. Such matches are time consuming, difficult to implement, and subject to stringent confidentiality restrictions. This article reports on the development and evaluation of a procedure that identifies major benefit categories in the Survey of Income and Program Participation (SIPP) data set that relies solely on data collected from respondents at interview. The ability to identify type of benefit enhances the SIPP as an important new source of information for policy-related research on the Social Security program.

The Old-Age, Survivors, and Disability Insurance (OASDI) program, popularly known as Social Security, provides income support for retired and disabled workers and their dependents and for survivors of deceased workers. Because the data that the Social Security Administration (SSA) maintains on its own beneficiaries is limited to what is directly required to administer the OASDI program, and for the most part is restricted to current and past beneficiaries, the agency has long been involved in the development and use of household surveys to obtain a fuller picture of the social and economic characteristics of its beneficiaries and the populations from which they are drawn. For this reason, the Survey of Income and Program Participation (SIPP), administered by the Bureau of the Census, represents a source of information that is of considerable interest to SSA.

A valid means of identifying type of Social Security benefit in the SIPP context substantially enhances the survey's usefulness to SSA. Obviously, it is often important to be able to identify particular types of OASDI beneficiaries to evaluate policy options and assess program effects. It is also important to be able to compare the economic circumstances of different segments of the OASDI beneficiary population at a given point in time. In the past, SSA has not been able to conduct such analyses because household surveys that cover all major beneficiary groups generally do not permit identification of specific type of beneficiary, and surveys that focus on particular types of beneficiaries often pertain to different time periods or do not contain commonly defined measures of health status, family relationships, and economic resources. Finally, because type of Social Security

These shortcomings most seriously affected the classification of Social Security benefits received by aged women. Since it was not possible to determine if widows were receiving retired-worker or widow benefits, the program status of widows was not clear. Similarly, the inability to identify women dually entitled to retired-worker and spouse benefits meant that the basis for the benefit receipt of many married women could not be established. These two difficulties combined to depress the survey estimate of aged women receiving retired-worker benefits to less than half the number in the survey universe.[1] A number of items and procedures were introduced in the SIPP instruments to address these shortcomings.[2] In addition, the general approach adopted for measuring transfer income in the SIPP is based on establishing the major categorical axes of transfer income receipt--for example, disability, survivorship, previous marital status(es), and retirement for each individual in the sample. Data collected about this context of income receipt is of considerable use in classifying type of Social Security benefit and in assessing the validity of type of benefit assignments.

BENEFIT CLASSIFICATION OF AGED RECIPIENTS

Aged Women

Procedural overview. The present classification effort began by attempting to identify type of benefits received by female recipients aged 65 or older. Benefits were categorized in three major groupings: retired worker, spouse, and widow. A relatively small number of aged women receive other types of benefits. These benefit types were grouped in a residual category and were not subjected to evaluation.

Five basic types of information, all collected at the time of the survey interview, were used to develop the benefit type categorization for aged women: Medicare type of benefit code (BIC); retirement status (ever retired from a job); receipt of a combined Social Security payment with one's spouse; current marital status; and previous marital status for those currently married.

---

[1]Projector and Bretz's estimate of the number of female retired-worker beneficiaries aged 65 or older was approximately 2.0 million (1975, page 410), or about 40 percent of the number thought to belong to the survey universe.

[2]The author of this article, a member of the SSA staff directed by Dorothy Projector, played a major role in the development of the SIPP questionnaire sections dealing with transfer income. Particular attention was given to the correct measurement of Social Security benefit receipt.

The key to the classification scheme is the Medicare type of benefit code that was recorded from the individual's Medicare card during the interview. The Medicare BIC categorizes the type of OASDI cash benefit to which the individual is entitled. When available, it generally provides an unambiguous basis for determining type of Social Security benefit. Indeed, 81 percent of the three major types of benefits received by aged women were identified solely by means of the Medicare benefit code (85 percent of retired-worker benefits, 78 percent of spouse benefits, and 71 percent of widow benefits).

Consistency with current and previous marital status was checked before the assignment of spouse or widow benefit on the basis of the Medicare type of benefit code. This review uncovered a relatively small number of aged women (2 percent of the total) with a nominally valid spousal BIC who were currently widowed. The median age for this group (about 81 years) was much higher than for married women with a valid spousal BIC (only about 72 years). It even exceeded the median age for widows with a valid widow BIC (about 76 years). Given the inconsistency between the reported BIC and current marital status and the singular age distribution of this group, it seems likely that these aged women were actually receiving widow benefits rather than spouse benefits. Consequently, they were classified as widow beneficiaries. In addition, approximately 400,000 married women with a Medicare code indicating widow benefits were classified as widow beneficiaries. Most of these women were reported to have been previously widowed and presumably retained widow benefits based on remarriage after age 60.

Because a valid Medicare type of benefit code was not obtained for about 20 percent of aged beneficiary women identified in the survey, alternative procedures were required to assign type of benefits for the 2.7 million beneficiaries with invalid or missing codes. Benefit type for this group was assigned on the basis of three pieces of information: receipt of a combined Social Security payment with one's spouse, report of retirement from a job, and current and previous marital status. All assignments that could be made on the basis of joint benefit receipt were made first, followed by assignments based on reported retirement from a job. Marital status was used to classify those remaining. The number of aged beneficiary women assigned under each of the supplemental criteria is shown in table 1. Clearly the bulk of the residual assignments were made on the basis of report of retirement from a job or current marital status.

Completeness of estimates. The final edited estimates for the three major types of benefits received by aged women are quite close to the independent estimates of the number of these beneficiaries in the survey universe (table 2). (Independent estimates were developed by adjusting OASDI program statistics to

account for differences between the complete program universe and the survey universe.)[3] Nominally, the combined estimate for the three types of benefits exceeds the independent estimate by about 2 percent. Considering the separate estimates by type of benefit, those for retired-worker and widow benefits nominally are 4 percent and 3 percent above the corresponding independent estimates, whereas the survey estimate for spouse benefits is about 4 percent below the independent estimate. Using generalized variance parameters estimated by SSA specifically for use with Social Security beneficiaries (Bye and Galicchio, 1988) and applying conventional statistical criteria, none of these differences would be considered statistically significant.

Estimates for Aged Men

Although aged men may be entitled to spouse, widower, or retired-worker benefits, currently more than 99 percent of aged male recipients receive retired-worker benefits. Consequently, the identification of aged men with retired-worker benefits is relatively unproblematic. If the basic survey estimates of Social Security benefit receipt among aged men are unbiased, the estimates of aged male retired workers will be similarly complete. Indeed, the SIPP estimate of male retired workers (9.6 million)[4] is close to the number of aged male retired workers thought to belong to the survey universe (9.5 million). The small difference is not statistically significant.

Further Evaluation Of Estimate Integrity

The ability to reproduce independent estimates of the number of recipients by type of benefit is the minimal requirement of the classification scheme. To what extent are important differences among beneficiary groups maintained by the survey measures and to what extent is benefit income well measured?

---

[3]The differences between the survey and program universes require that the program information be adjusted downwards to account for beneficiaries living in institutions, outside the 50 States and the District of Columbia, and decedents--that is, persons who were issued payments but were not alive at time of interview. It should be understood, however, that the adjustment process itself is subject to some level of error. Thus, although the independent estimates serve as a valuable guide to the completeness of the survey estimates, they are not themselves infallible. Both the survey and independent estimates refer in calendar time to average recipient characteristics for the last 4 months of 1983 (September, October, November and December).

[4]Eighty-two percent of the assignments were associated with a Medicare BIC indicating retired-worker benefits.

Age distributions by type of benefit. The survey-based age distributions are compared with age distributions from independent estimates in table 3 for the four major aged benefit groups (retired-worker, spouse, and widow for women and retired-worker for men). The survey distributions preserve the basic age ranking among the four major beneficiary groups (spouse, retired-worker women, retired-worker men, and widow) youngest to oldest. Furthermore, the maximum absolute deviation between the two sets of distributions is only 1.5 percentage points. Thus for all practical purposes the survey-based distributions are indistinguishable from those based on independent estimates.

Benefit amount size distributions. The correct identification of OASDI benefit receipt represents only one aspect of the quality of SIPP estimates. Obviously, the nature of the SIPP data on OASDI benefit income, per se, is also important. Unfortunately, independent estimates of monthly benefit amount distributions that pertain to the survey universe are not available for either individual benefit types or for all OASDI beneficiaries as a group. However, monthly benefit amount distributions based on SSA administrative data are available for several types of beneficiaries for approximately the same calendar period covered by the survey. The most appropriate distributions for comparison to the survey estimates pertain to benefit receipt in January 1983, some 8-11 months before the survey reference period.[5]

Despite the fact that the administrative and survey data pertain to somewhat different time periods and that the program data have not been adjusted to exclude beneficiaries who do not belong to the survey universe, comparison of the survey-based monthly benefit distributions with those based on program data does provide a useful means of gauging the general quality of the SIPP data on monthly benefit amounts. These comparisons are provided for the three basic types of benefits received by the aged (retired worker, spouse, and widow) in tables 4-8.

---

[5]Other reports on the evaluation of the benefit code have compared survey benefit amounts to program data for January 1984 (Vaughan, 1989). These comparisons reveal patterns similar to those shown here. However, the program data for January 1984 reflect a 3.5 percent benefit increase that went into effect in that month and thus do not pertain to the survey reference months September-December 1983. Consequently, even though the program data for January 1984 are closer in time to the survey reference period than the data for January 1983, they are less reflective of the level of benefits observed during the survey reference period. Not surprisingly, then, the shift to program data from the earlier date as a basis of comparison reduces somewhat the observed discrepancies between the survey estimates and program data. Still, program data for the same period covered by the survey would be preferred. They are not currently available.

Development and Evaluation of a Survey-Based Type of Benefit Classification for the Social Security Program

by Denton R. Vaughan*

The Old-Age, Survivors, and Disability Insurance program (OASDI), popularly known as Social Security, serves a number of distinct subpopulations. The program analogue for these subpopulations is type of benefit. Analysis of the social and economic characteristics of different beneficiary subgroups using household survey data can contribute significantly to accurate portrayal of program outcomes and to planning program initiatives. However, previous research has shown that reliable discrimination among different types of benefits is not possible in the typical general household survey. Consequently, research requiring distinctions among benefit types has required that survey data be matched to SSA program records. Such matches are time consuming, difficult to implement, and subject to stringent confidentiality restrictions. This article reports on the development and evaluation of a procedure that identifies major benefit categories in the Survey of Income and Program Participation (SIPP) data set that relies solely on data collected from respondents at interview. The ability to identify type of benefit enhances the SIPP as an important new source of information for policy-related research on the Social Security program.

---

*Division of Economic Research, Office of Research and Statistics, Office of Policy, Social Security Administration. This article is an extended version of the paper "A Survey-Based Type of Benefit Classification for the Social Security Program" presented by the author at the 1988 Joint Statistical Meetings of the American Statistical Association (ASA) in New Orleans, August 22-25. The paper will appear in the **American Statistical Association 1988 Proceedings of the Social Statistics Section**, to be published by the ASA in the spring of 1989. A number of persons have assisted the author in developing and evaluating the SIPP type of benefit code. His special thanks to SSA colleagues Daniel Radner, Linda DelBene, and Henry Ezell and to Chet Bowie, John Coder, and Daniel Kasprzyk at the Bureau of the Census.

The Old-Age, Survivors, and Disability Insurance (OASDI) program, popularly known as Social Security, provides income support for retired and disabled workers and their dependents and for survivors of deceased workers. Because the data that the Social Security Administration (SSA) maintains on its own beneficiaries is limited to what is directly required to administer the OASDI program, and for the most part is restricted to current and past beneficiaries, the agency has long been involved in the development and use of household surveys to obtain a fuller picture of the social and economic characteristics of its beneficiaries and the populations from which they are drawn. For this reason, the Survey of Income and Program Participation (SIPP), administered by the Bureau of the Census, represents a source of information that is of considerable interest to SSA.

A valid means of identifying type of Social Security benefit in the SIPP context substantially enhances the survey's usefulness to SSA. Obviously, it is often important to be able to identify particular types of OASDI beneficiaries to evaluate policy options and assess program effects. It is also important to be able to compare the economic circumstances of different segments of the OASDI beneficiary population at a given point in time. In the past, SSA has not been able to conduct such analyses because household surveys that cover all major beneficiary groups generally do not permit identification of specific type of beneficiary, and surveys that focus on particular types of beneficiaries often pertain to different time periods or do not contain commonly defined measures of health status, family relationships, and economic resources. Finally, because type of Social Security benefit summarizes important structural features of the individual's family and labor-force history, a reliable benefit classification sheds light on conditions that gave rise to current variation in economic status within the beneficiary population.

From a technical standpoint, a SIPP-SSA administrative data match would provide the least problematic means for categorizing OASDI benefit type, but it is unlikely that such matched data sets will materialize on a timely and recurring basis or that they will be released to researchers outside SSA and the Bureau of the Census. Thus, development of a benefit categorization scheme based on data available in SIPP public use files will permit more timely and efficient use of the SIPP at SSA and will allow outside researchers, who have contributed a great deal to the understanding of the Social Security program, to have access to this type of information.

Previous Research

The only well-documented previous effort to identify type of Social Security benefit receipt relying exclusively on data collected in a household survey was carried out by Projector and her colleagues at SSA (Projector and Bretz, 1975). This work was undertaken in the early 1970's as part of a larger SSA effort to model the tax and transfer system using data from the March Supplement to the Current Population Survey (CPS). The procedure for identifying type of benefit made use of information on marital status, family relationships, age, the relative benefit amounts of husbands and wives, and reason for not working. Although the research yielded useful results, six problem areas were evident:

- For widowed women, it was not possible to distinguish between retired-worker and widow benefits.
- Benefits for women dually entitled to a retired-worker and spouse benefit could not be identified.
- It was not always possible to distinguish between retired- and disabled-worker benefits for those aged 62-64.
- For women under age 65, some confusion occurred

among disabled-worker, widow, and widowed-mother benefits.

- Disabled-worker and childhood disability benefits could not be distinguished from one another.

- The direct identification of benefits for children under age 18 was not possible.

These shortcomings most seriously affected the classification of Social Security benefits received by aged women. Since it was not possible to determine if widows were receiving retired-worker or widow benefits, the program status of widows was not clear. Similarly, the inability to identify women dually entitled to retired-worker and spouse benefits meant that the basis for the benefit receipt of many married women could not be established. These two difficulties combined to depress the survey estimate of aged women receiving retired-worker benefits to less than half the number in the survey universe.[1] A number of items and procedures were introduced in the SIPP instruments to address these shortcomings.[2] In addition, the general approach adopted for measuring transfer income in the SIPP is based on establishing the major categorical axes of transfer income receipt—for example, disability, survivorship, previous marital status(es), and retirement for each individual in the sample. Data collected about this context of income receipt is of considerable use in classifying type of Social Security benefit and in assessing the validity of type of benefit assignments.

Benefit Classification of Aged Recipients

Aged Women

Procedural overview. The present classification effort began by attempting to identify type of benefits received by female recipients aged 65 or older. Benefits were categorized in three major groupings: retired worker, spouse, and widow. A relatively small number of aged women receive other types of benefits. These benefit types were grouped in a residual category and were not subjected to evaluation.

Five basic types of information, all collected at the time of the survey interview, were used to develop the benefit type categorization for aged women: Medicare type of benefit code (BIC); retirement status (ever retired from a job); receipt of a combined Social Security payment with one's spouse; current marital status; and previous marital status for those currently married.

The key to the classification scheme is the Medicare type of benefit code that was recorded from the individual's Medicare card during the interview. The Medicare BIC categorizes the type of OASDI cash benefit to which the individual is entitled. When available, it generally provides an unambiguous basis for determining type of Social Security benefit. Indeed, 81 percent of the three major types of benefits received by aged women were identified solely by means of the Medicare benefit code (85 percent of retired-worker benefits, 78 percent of spouse benefits, and 71 percent of widow benefits).

Consistency with current and previous marital status was checked before the assignment of spouse or widow benefit on the basis of the Medicare type of benefit code. This review uncovered a relatively small number of aged women (2 percent of the total) with a nominally valid spousal BIC who were currently widowed. The median age for this group (about 81 years) was much higher than for married women with a valid spousal BIC (only about 72 years). It even exceeded the median age for widows with a valid widow BIC (about 76 years). Given the inconsistency between the reported BIC and current marital status and the singular age distribution of this group, it seems likely that these aged women were actually receiving widow benefits rather than spouse benefits. Consequently, they were classified as widow beneficiaries. In addition, approximately 400,000 married women with a Medicare code indicating widow benefits were classified as widow beneficiaries. Most of these women were reported to have been previously widowed and presumably retained widow benefits based on remarriage after age 60.

Because a valid Medicare type of benefit code was not obtained for about 20 percent of aged beneficiary women identified in the survey, alternative procedures were required to assign type of benefits for the 2.7 million beneficiaries with invalid or missing codes. Benefit type for this group was assigned on the basis of three pieces of information: receipt of a combined Social Security payment with one's

[1] Projector and Bretz's estimate of the number of female retired-worker beneficiaries aged 65 or older was approximately 2.0 million (1975, page 410), or about 40 percent of the number thought to belong to the survey universe.

[2] The author of this article, a member of the SSA staff directed by Dorothy Projector, played a major role in the development of the SIPP questionnaire sections dealing with transfer income. Particular attention was given to the correct measurement of Social Security benefit receipt.

spouse, report of retirement from a job, and current and previous marital status. All assignments that could be made on the basis of joint benefit receipt were made first, followed by assignments based on reported retirement from a job. Marital status was used to classify those remaining. The number of aged beneficiary women assigned under each of the supplemental criteria is shown in table 1. Clearly the bulk of the residual assignments were made on the basis of report of retirement from a job or current marital status.

Completeness of estimates. The final edited estimates for the three major types of benefits received by aged women are quite close to the independent estimates of the number of these beneficiaries in the survey universe (table 2). (Independent estimates were developed by adjusting OASDI program statistics to account for differences between the complete program universe and the survey universe.)[3] Nominally, the combined estimate for the three types of benefits exceeds the independent estimate by about 2 percent. Considering the separate estimates by type of benefit, those for retired-

[3] The differences between the survey and program universes require that the program information be adjusted downwards to account for beneficiaries living in institutions, outside the 50 States and the District of Columbia, and decedents—that is, persons who were issued payments but were not alive at time of interview. It should be understood, however, that the adjustment process itself is subject to some level of error. Thus, although the independent estimates serve as a valuable guide to the completeness of the survey estimates, they are not themselves infallible. Both the survey and independent estimates refer in calendar time to average recipient characteristics for the last 4 months of 1983 (September, October, November, and December).

Table 1.—SIPP estimates of the average number of female OASDI beneficiaries aged 65 or older, by type of benefit and benefit classification criteria, September-December 1983

[Beneficiaries in thousands]

Element	Type of benefit			
	Total [1]	Retired worker	Spouse	Widow
Identified using Medicare BIC	11,690	7,210	1,981	2,499
Less				
Currently widowed with a spouse BIC	261	0	261	0
Subtotal	11,429	7,210	1,720	2,499
Plus				
Assignments made on the basis of other criteria	2,738	1,232	497	1,009
Currently widowed with a spouse BIC	261	0	0	261
Reports receipt of combined payment	99	0	99	0
Reports retirement from a job	1,095	[2] 1,095	0	0
Residual assignments based on current marital status	1,283	137	398	[3] 748
Married	390	0	[3] 390	0
Separated	8	0	[3] 8	0
Divorced	72	[3] 72	0	0
Widowed	748	0	0	748
Never married	65	[3] 65	0	0
Equals				
Edited estimate	14,167	8,442	2,217	3,508
Percent identified using the Medicare BIC	80.7	85.4	77.6	71.2

[1] Excludes persons receiving payments as special-age 72 beneficiaries, adults disabled in childhood, and dependent parents of deceased workers.
[2] Net of those reporting receipt of combined payments.
[3] Net of "ever retired."

Table 2.—SIPP estimates compared with independent estimates of the average number of OASDI beneficiaries aged 65 or older, by sex and type of benefit, September-December 1983

[Beneficiaries in thousands]

Selected statistics	Retired-worker men	Women			
		Total	Retired worker	Spouse	Widow
Independent estimate	9,471	13,855	8,137	2,306	3,412
SIPP estimate	9,593	14,168	8,442	2,218	3,508
As percent of independent estimate	101.3	102.3	103.7	96.2	102.8

worker and widow benefits nominally are 4 percent and 3 percent above the corresponding independent estimates, whereas the survey estimate for spouse benefits is about 4 percent below the independent estimate. Using generalized variance parameters estimated by SSA specifically for use with Social Security beneficiaries (Bye and Gallicchio, 1988) and applying conventional statistical criteria, none of these differences would be considered statistically significant.

Estimates for Aged Men

Although aged men may be entitled to spouse, widower, or retired-worker benefits, currently more than 99 percent of aged male recipients receive retired-worker benefits. Consequently, the identification of aged men with retired-worker benefits is relatively unproblematic. If the basic survey estimates of Social Security benefit receipt among aged men are unbiased, the estimates of aged male retired workers will be similarly complete. Indeed, the SIPP estimate of male retired workers (9.6 million)[4] is close to the number of aged male retired workers thought to belong to the survey universe (9.5 million). The small difference is not statistically significant.

Further Evaluation of Estimate Integrity

The ability to reproduce independent estimates of the number of recipients by type of benefit is the minimal requirement of the classification scheme. To what extent are important differences among beneficiary groups maintained by the survey measures and to what extent is benefit income well measured?

Age distributions by type of benefit. The survey-based age distributions are compared with age distributions from independent estimates in table 3 for the four major aged benefit groups (retired-worker, spouse, and widow for women and retired-worker for men). The survey distributions preserve the basic age ranking among the four major beneficiary groups (spouse, retired-worker women, retired-worker men, and widow) youngest to oldest. Furthermore, the maximum absolute deviation between the two sets of distributions is only 1.5 percentage points. Thus for all practical purposes the survey-based distributions are indistinguishable from those based on independent estimates.

Benefit amount size distributions. The correct identification of OASDI benefit receipt represents only one aspect of the quality of SIPP estimates. Obviously, the nature of the SIPP data on OASDI benefit income, per se, is also important. Unfortunately, independent estimates of monthly benefit amount distributions that pertain to the survey universe are not available for either individual benefit types or for all OASDI beneficiaries as a group. However, monthly benefit amount distributions based on SSA administrative data are available for several types of beneficiaries for approximately the same calendar period covered by the survey. The most appropriate distributions for comparison to the survey estimates pertain to benefit receipt in January 1983, some 8-11 months before the survey reference period.[5]

Despite the fact that the administrative and survey data pertain to somewhat different time periods and that the program data have not been adjusted to exclude beneficiaries who do not belong to the survey universe, comparison of the survey-based monthly benefit distributions with those based on program data does provide a useful means of gauging the general quality of the SIPP data on monthly benefit amounts. These comparisons are provided for the three basic types of benefits received by the aged (retired worker, spouse, and widow) in tables 4-8.

Turning first to the comparisons for aged retired workers, it is clear that for the group as a whole (see the subtotal column in table 4 for those aged 65 or older) the survey benefit distribution is similar to the distribution based on program data and that the similarity holds when comparisons are disaggregated by age, and by age and sex (tables 5

[4] Eighty-two percent of the assignments were associated with a Medicare BIC indicating retired-worker benefits.

[5] Other reports on the evaluation of the benefit code have compared survey benefit amounts to program data for January 1984 (Vaughan, 1989). These comparisons reveal patterns similar to those shown here. However, the program data for January 1984 reflect a 3.5 percent benefit increase that went into effect in that month and thus do not pertain to the survey reference months September-December 1983. Consequently, even though the program data for January 1984 are closer in time to the survey reference period than the data for January 1983, they are less reflective of the level of benefits observed during the survey reference period. Not surprisingly, then, the shift to program data from the earlier date as a basis of comparison reduces somewhat the observed discrepancies between the survey estimates and program data. Still, program data for the same period covered by the survey would be preferred. They are not currently available.

Table 3.—Percentage distribution of independent and SIPP estimates of the average number of OASDI beneficiaries aged 65 or older, by age, sex, and type of benefit, September-December 1983

Age	Retired-worker men		Women by type of benefit					
			Retired worker		Spouse		Widow	
	Independent estimate	SIPP	Independent estimate	SIPP	Independent estimate	SIPP	Independent estimate	SIPP
Total	100.0	99.9	99.9	100.1	100.1	99.9	100.0	99.9
65-74	65.2	64.4	61.3	62.2	71.2	69.8	45.9	44.4
75-84	29.1	29.5	31.3	31.4	26.2	27.1	39.3	40.1
85 or older	5.7	6.0	7.3	6.5	2.7	3.0	14.8	15.4

Table 4.—SSA administrative and SIPP percentage distributions of all retired-worker beneficiaries, by monthly benefit amount and age in 1983

Monthly benefit amount	Total		62-64		65 or older		65-69		70-74		75-84		85 or older	
	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than $180	5.5	6.1	11.9	8.6	4.7	5.8	5.2	7.0	4.7	4.8	4.8	5.5	2.5	6.4
$180-$199	4.0	2.6	3.8	2.7	4.0	2.6	3.0	3.0	3.0	2.0	4.0	2.3	11.7	4.4
$200-$249	8.0	8.2	12.8	13.3	7.4	7.7	8.2	8.1	7.6	7.8	6.4	7.2	6.9	6.8
$250-$299	10.0	9.2	14.5	13.5	9.5	8.6	9.4	8.5	9.1	8.3	9.5	9.0	11.7	9.5
$300-$349	9.2	9.9	9.3	9.4	9.2	10.0	8.6	8.6	8.8	9.8	9.4	10.7	12.2	14.9
$350-$399	8.6	8.6	7.9	8.3	8.7	8.6	7.7	7.6	8.6	8.4	9.3	9.2	10.9	11.9
$400-$449	10.5	12.2	8.5	9.9	10.7	12.5	8.5	9.8	10.5	12.7	12.7	14.7	14.1	15.1
$450-$499	13.3	12.1	12.0	13.1	13.5	11.9	9.8	8.4	12.8	13.1	15.7	13.6	19.6	17.5
$500-$549	10.8	11.1	13.6	16.9	10.5	10.4	10.1	9.5	10.3	10.6	12.6	12.2	5.1	5.5
$550-$599	7.4	7.4	4.0	2.3	7.8	8.0	8.8	10.2	8.8	7.1	7.5	7.8	1.6	1.7
$600-$649	4.2	3.8	1.4	1.2	4.5	4.1	6.1	5.5	5.8	5.2	2.7	1.9	.9	1.7
$650-$699	2.7	2.9	.3	.4	3.0	3.1	4.6	4.7	3.8	3.3	1.4	1.7	.8	1.4
$700-$749	2.4	2.3	.0	.2	2.7	2.6	4.7	4.3	2.8	2.7	1.0	1.0	.7	.7
$750-$799	1.8	1.5	.0	0	2.0	1.7	3.6	2.5	1.7	1.7	1.0	1.1	.3	.3
$800 or over	1.5	2.1	.0	.2	1.7	2.4	1.6	2.4	1.7	2.4	1.8	2.2	1.1	2.1
Index of dissimilarity	. . .	4.3	. . .	7.3	. . .	4.9	. . .	5.3	. . .	4.8	. . .	5.8	. . .	11.6
Mean	$419	$421	$349	$363	$428	$428	$445	$442	$436	$434	$417	$415	$370	$386
SIPP as percent of SSA administrative	. . .	100.4	. . .	104.1	. . .	100.0	. . .	99.3	. . .	99.6	. . .	99.6	. . .	104.2

Note: . . . denotes not applicable or not available.

Source: Administrative data are from the **Social Security Bulletin, Annual Statistical Supplement, 1983**, table 76, page 150, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

Table 5.—SSA administrative and SIPP percentage distributions of male retired-worker beneficiaries, by monthly benefit amount and age in 1983

Monthly benefit amount	Total		62-64		65 or older		65-69		70-74		75-84		85 or older	
	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than $180	3.5	3.9	6.7	5.8	3.1	3.7	3.2	3.2	3.1	4.3	3.5	3.4	.4	4.8
$180-$199	2.8	2.0	2.1	.8	2.9	2.2	1.9	2.8	2.3	1.2	3.3	2.1	8.6	3.5
$200-$249	4.6	4.9	5.7	4.8	4.5	5.0	4.2	4.2	4.6	5.1	4.4	5.0	5.0	8.1
$250-$299	6.2	5.2	6.3	5.9	6.2	5.1	5.0	4.2	6.1	5.0	7.2	6.1	8.7	5.8
$300-$349	6.7	7.5	6.7	6.1	6.7	7.7	5.5	5.7	6.5	6.7	7.6	10.7	9.7	9.7
$350-$399	7.3	7.4	8.3	7.4	7.2	7.4	6.0	5.3	7.3	7.0	7.9	8.9	9.6	14.9
$400-$449	10.6	11.8	11.0	13.6	10.6	11.6	8.2	8.8	10.3	11.9	12.2	13.9	15.5	14.4
$450-$499	15.1	13.0	19.3	17.9	14.6	12.5	10.8	9.0	14.5	14.1	16.8	13.4	27.3	20.0
$500-$549	14.1	14.6	24.0	30.3	13.0	12.8	12.2	12.2	12.0	12.2	16.1	15.6	7.2	6.5
$550-$599	10.2	10.6	6.9	4.2	10.6	11.3	12.1	14.8	11.4	9.6	10.1	10.4	2.2	3.3
$600-$649	6.0	5.4	2.4	2.0	6.4	5.8	8.6	8.2	7.9	7.3	3.4	2.3	1.4	1.4
$650-$699	4.1	4.3	.5	.4	4.5	4.7	6.8	7.1	5.3	4.7	1.8	2.3	1.0	2.7
$700-$749	3.7	3.6	.1	.5	4.1	3.9	7.3	6.7	4.0	3.6	1.4	1.5	1.1	1 .3
$750-$799	2.8	2.3	.0	0	3.1	2.6	5.6	4.1	2.3	2.7	1.4	1.2	.6	.0
$800 or over	2.3	3.5	.0	.4	2.6	3.8	2.6	3.8	2.4	4.6	2.8	3.1	1.7	3.7
Index of dissimilarity	. . .	5.1	. . .	9.7	. . .	5.4	. . .	6.5	. . .	6.3	. . .	7.7	. . .	17.7
Mean	$470	$473	$417	$429	$476	$478	$509	$514	$479	$480	$449	$446	$409	$414
SIPP as percent of SSA administrative	. . .	100.7	. . .	102.8	. . .	100.5	. . .	101.0	. . .	100.3	. . .	99.3	. . .	101.3

Note: . . . denotes not applicable or not available.
Source: Administrative data are from the **Social Security Bulletin, Annual Statistical Supplement, 1983**, table 76, pages 150-151, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

and 6). The overall impression of similarity is confirmed by the index of dissimilarity for the distributions.[6] The index value for all aged persons receiving retired-worker benefits is 4.9, indicating that only 4.9 percent of the individuals in the SIPP-based distribution would have to shift monthly benefit amount category to exactly reproduce the SSA administrative distribution. The value of the dissimilarity index is generally higher within separate age groups among aged beneficiaries but remains below 6.0 for all but the group aged 85 or older, where it reaches 11.6. The dissimilarity index is nominally higher when men and women retired workers are considered separately. However, the differences are generally small (2 index points or less) except for the oldest age group where the dissimilarity index for the monthly benefit amount distribution of both men and women reaches 17.7.

Four benefit intervals contribute two or more points to the index for retired-worker men aged 85 or older (less than $180, $180-$199, $350-$399, and $450-$499). The $450-$499 category is associated with the single largest discrepancy, whereas the differences stemming from the two lowest intervals are

[6] The index is constructed by taking the absolute difference between the administrative and survey percentage for each amount category, summing across all the benefit amount categories for a given group or subgroup, and dividing by 2. The resulting statistic may be interpreted as the percentage of recipients in either the administrative or the survey distribution who would have to shift monthly benefit amount category to obtain equivalent distributions. The index is presented as a descriptive device to aid the reader in comparing the two sets of distributions. Since the SIPP distributions are based on a sample, variation in the index values for the survey distributions are likely to involve sampling error as well as the nonsampling error that affects the survey benefit amounts themselves and classification error that is attributable to the type of benefit algorithm. The administrative distributions are based on tabulations of the entire population of beneficiaries and consequently are not subject to sampling error.

Table 6.—SSA administrative and SIPP percentage distributions of female retired-worker beneficiaries, by monthly benefit amount and age in 1983

Monthly benefit amount	Total		62-64		65 or older		65-69		70-74		75-84		85 or older	
	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than $180	7.8	8.7	17.2	11.3	6.6	8.3	7.7	11.6	6.5	5.3	6.3	7.7	4.1	8.1
$180-$199	5.3	3.2	5.7	4.6	5.2	3.1	4.4	3.3	3.7	2.9	4.8	2.5	14.2	5.4
$200-$249	11.9	11.9	20.2	21.4	10.9	10.7	13.3	12.9	11.4	10.8	8.6	9.4	8.7	5.3
$250-$299	14.4	13.6	23.0	20.8	13.3	12.7	15.0	13.7	12.7	12.0	11.9	12.1	14.0	13.4
$300-$349	12.0	12.6	11.8	12.6	12.0	12.6	12.6	12.1	11.5	13.4	11.1	10.8	14.4	20.5
$350-$399	10.1	9.8	7.6	9.1	10.4	9.9	9.9	10.4	10.2	9.9	10.8	9.6	11.8	8.7
$400-$449	10.5	12.8	6.1	6.5	11.1	13.6	8.9	11.1	10.5	13.6	13.1	15.6	13.0	15.8
$450-$499	10.8	11.1	4.5	8.5	11.6	11.4	8.6	7.8	11.2	12.0	14.4	13.8	13.2	14.9
$500-$549	7.0	7.1	2.4	4.0	7.6	7.5	6.9	6.1	8.4	8.8	9.0	8.5	3.4	4.5
$550-$599	4.2	3.8	1.0	.4	4.6	4.2	4.8	4.4	5.7	4.3	4.7	4.9	1.1	.0
$600-$649	2.4	2.0	.4	.4	2.7	2.2	3.0	2.2	3.4	3.0	2.1	1.5	.6	2.1
$650-$699	1.3	1.2	.1	.4	1.5	1.4	1.9	1.7	2.0	1.6	1.0	1.0	.4	.0
$700-$749	1.0	.9	.0	.0	1.1	1.1	1.6	1.3	1.3	1.6	.7	.4	.3	.0
$750-$799	.7	.6	.0	0	.8	.7	1.0	.6	.7	.7	.6	.9	.3	.7
$800 or over	.5	.6	.0	.0	.6	.7	.3	.7	.7	.0	.8	1.2	.4	.5
Index of dissimilarity	. . .	4.3	. . .	9.8	. . .	4.8	. . .	7.0	. . .	6.5	. . .	5.8	. . .	17.7
Mean	$362	$363	$277	$299	$373	$371	$365	$353	$384	$382	$382	$383	$338	$354
SIPP as percent of SSA administrative	. . .	100.2	. . .	108.0	. . .	99.4	. . .	96.6	. . .	99.6	. . .	100.2	. . .	104.9

Note: . . . denotes not applicable or not available.
Source: Administrative data are from the **Social Security Bulletin, Annual Statistical Supplement, 1983**, table 76, page 151, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

largely offsetting. The benefit amount intervals of less than $180, $180-$199, and $300-$349 contribute two or more points to the overall index value for retired-worker women in this age group. The largest single discrepancy is associated with the $180-$199 interval.

Survey and program-based benefit amount distributions for aged wives and widows with entitlement based on age are given in tables 7 and 8. For all wife beneficiaries aged 65 or older, the index of dissimilarity is 5.6. As for aged retired workers, the index appears to be higher when separate age groups are considered (varying in a narrow range of 10.3 to 11.4). For aged widow beneficiaries, the overall dissimilarity index at 10.7 is nominally higher than for retired worker and aged wives, and reaches 16.9 for those aged 70-74 and 23.9 for those aged 85 or older.[7] Among widow beneficiaries aged 70-74, three benefit amount intervals contribute two or more points to the index (less than $180, $200-$249, and $400-$449), and the survey distribution is consistently underreported relative to the administrative distribution in the six benefit amount intervals over $349. Among widow beneficiaries aged 85 or older, four benefit intervals contribute two or more points to the index (less than $180, $180-$199, $450-$499, and $600 or more). The survey distribution is consistently underrepresented relative to the administrative distribution in the five benefit amount intervals between $250 and $499. Discrepancies appear to be particularly high for the intervals less than $180 and $450-$499.

Mean benefit amounts. Tables 4-8 also present SIPP and SSA program estimates of mean benefit amounts by age. For aged retired workers, the overall mean amount

[7] That the index is highest for the oldest age group among retired workers and aged widows is perhaps not surprising. It is estimated that 25-30 percent of these individuals fall outside the survey universe, principally as a result of institutionalization. Among aged wives, however, more than 90 percent of program beneficiaries in the oldest age group belong to the survey universe.

Table 7.—SSA administrative and SIPP percentage distributions of wives with entitlement based on age, by monthly benefit amount and age in 1983

Monthly benefit amount	Total		62-64		65 or older		65-69		70-74		75 or older	
	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than $200	38.8	36.0	39.3	34.2	38.7	36.3	39.3	31.7	39.2	32.6	37.3	46.1
$200-$249	31.2	28.9	31.1	33.4	31.2	28.0	28.9	26.2	31.2	27.0	34.3	31.5
$250-$299	17.5	19.4	24.9	26.1	16.0	18.0	15.8	23.2	14.1	16.2	18.3	12.6
$300-$349	6.8	7.9	4.4	4.5	7.3	8.5	8.6	8.7	8.1	9.7	4.7	7.2
$350-$399	4.3	4.6	.3	.9	5.1	5.3	5.9	6.1	5.9	9.1	3.2	.5
$400 or over	1.4	3.2	0	.9	1.7	3.9	1.5	4.2	1.5	5.5	2.2	1.9
Index of dissimilarity	. . .	5.1	. . .	5.1	. . .	5.6	. . .	10.3	. . .	10.9	. . .	11.4
Mean	$215	$226	$205	$212	$217	$229	$218	$235	$218	$243	$215	$207
SIPP as percent of SSA administrative	. . .	105.1	. . .	103.7	. . .	105.4	. . .	108.0	. . .	111.5	. . .	96.2

Note: . . . denotes not applicable or not available.
Source: Administrative data are taken from the **Social Security Bulletin, Annual Statistical Supplement, 1983,** table 86, page 161, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

Table 8.—SSA administrative and SIPP percentage distributions of widow beneficiaries with entitlement based on age, by monthly benefit amount and age in 1983

Monthly benefit amount	Total		60-64		65 or older		65-69		70-74		75-84		85 or older	
	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than $180	3.8	9.0	7.5	6.0	3.2	9.4	6.4	10.1	4.6	12.0	1.8	6.1	.9	12.7
$180-$199	5.3	4.7	2.3	2.7	5.8	4.9	2.4	5.1	3.3	5.3	6.8	4.2	10.4	6.1
$200-$249	6.7	9.9	7.8	9.6	6.5	10.0	7.1	8.1	6.5	12.3	5.9	9.3	7.3	11.0
$250-$299	9.6	10.1	9.0	9.5	9.7	10.2	9.0	11.2	9.1	9.3	9.7	9.6	12.0	11.3
$300-$349	12.3	13.1	14.8	18.4	11.9	12.4	14.5	16.4	11.2	12.6	10.3	10.6	13.0	10.8
$350-$399	16.0	13.3	19.1	14.7	15.5	13.1	19.5	12.4	18.5	16.9	13.1	12.4	12.6	10.5
$400-$449	18.7	17.6	17.6	14.2	18.9	18.0	15.8	14.8	18.5	14.3	20.8	22.2	18.6	17.2
$450-$499	15.5	11.1	12.1	14.3	16.0	10.7	10.2	7.0	12.4	8.6	19.2	15.1	20.3	7.3
$500-$549	6.4	5.7	6.0	6.5	6.5	5.6	6.3	7.0	7.6	4.3	7.3	5.6	3.0	5.3
$550-$599	2.9	2.8	2.4	.8	3.0	3.1	3.9	2.1	4.4	2.3	2.7	4.2	.8	2.9
$600 or over	2.8	2.8	1.4	3.4	3.0	2.7	4.8	5.9	3.9	2.0	2.4	.6	1.0	5.0
Index of dissimilarity	. . .	9.7	. . .	10.9	. . .	10.7	. . .	13.2	. . .	16.9	. . .	10.9	. . .	23.9
Mean	$379	$355	$362	$364	$382	$354	$365	$357	$389	$335	$389	$367	$362	$345
SIPP as percent of SSA administrative	. . .	93.6	. . .	100.7	. . .	92.7	. . .	97.7	. . .	86.1	. . .	94.2	. . .	95.4

Note: . . . denotes not applicable or not available.
Source: Administrative data are from the **Social Security Bulletin, Annual Statistical Supplement, 1983,** table 93, page 168, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

($428) is the same regardless of the source of the estimate and, by age, the survey mean amounts closely follow the program estimates. This finding of agreement of mean benefit amounts overall and by age equally applies when male and female retired-worker beneficiaries are considered separately (tables 5 and 6).

Survey and program mean benefit amounts for aged wife and widow beneficiaries are presented in tables 7 and 8. The overall survey mean amount for wife beneficiaries aged 65 or older nominally exceeds the program amount by about 6 percent. By age, survey mean amounts vary from 96 percent to 112 percent of the program mean amounts. For widow beneficiaries aged 65 or older, the overall survey mean is 93 percent of the program mean; by age, the survey means vary from 86 percent to 98 percent of the program estimates. Although survey estimates of mean benefit amounts by age for wife and widow beneficiaries aged 65 or older appear to depart somewhat more from the program estimates than is the case for retired workers in this age group, differences remain moderate.

Variation in mean benefit amounts among retired-worker beneficiaries. The main patterns of variation in mean benefit amounts observed in the program data by age and sex are also observed in the SIPP data. This similarity is not surprising given the close agreement between survey estimates and program data on mean benefit amounts; indeed it could hardly be otherwise and provides an opportunity to illustrate just how well the survey can reproduce important patterns of differences among demographic subgroups in the Social Security program population. By age, for example, the survey and program mean benefit amounts both describe an inverted U-shape: Mean benefit amounts for those aged 62-64 and aged 85 or older are below the amounts for persons aged 65-69 and aged 70-74 (estimates for those aged 62-64 are included to make this point more clearly). However, among men, the group aged 65-69 has the highest mean; among women, mean benefit amounts peak among those aged 70-74 and 75-84.

The basic similarity of the patterns of variation in survey and administrative means is more easily seen by expressing the mean benefit amounts for each age group as a percent of the mean benefit for those aged 65-69 in each data source (see charts 1 and 2). Differences in mean monthly benefit amount by sex are also similar in both data sets. In fact, the overall ratio of female mean amount to male mean amount is the same (0.77) and, as seen in chart 3, the ratios are quite comparable across age groups.

Summary. The comparison of survey information on benefit amounts by type of benefit to SSA program data indicates that the survey estimates provide a reasonably accurate portrayal of the monthly benefit distributions and mean benefit amounts for the major types of aged beneficiaries. This finding contributes significantly to confidence in the general quality of the SIPP data on monthly benefit amounts as well as in the basic integrity of the type of benefit classification. To some significant degree, the remaining differences observed between the survey and program benefit amount size distributions and mean amounts are likely to be attributable to the 8-11 months separating the survey estimates and program data and the current inability to adjust the program data to exclude beneficiaries not included in the survey universe.

Chart 1.—Ratio of the mean monthly benefit amount (MBA) of men of each age group to the mean MBA of men aged 65-69

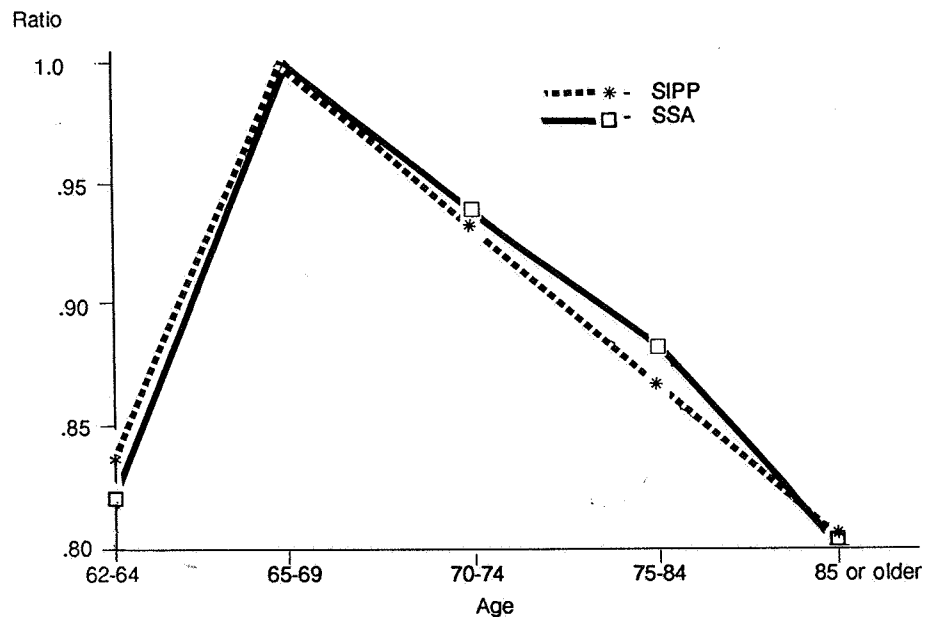


Chart 2.—Ratio of the mean monthly benefit amount (MBA) of women of each age group to the mean MBA of women aged 65-69

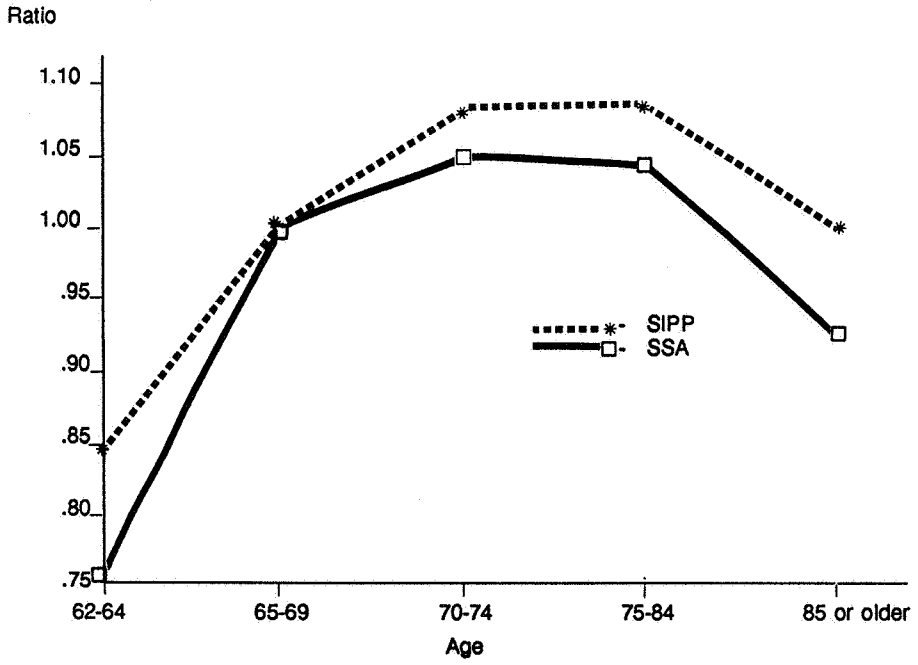
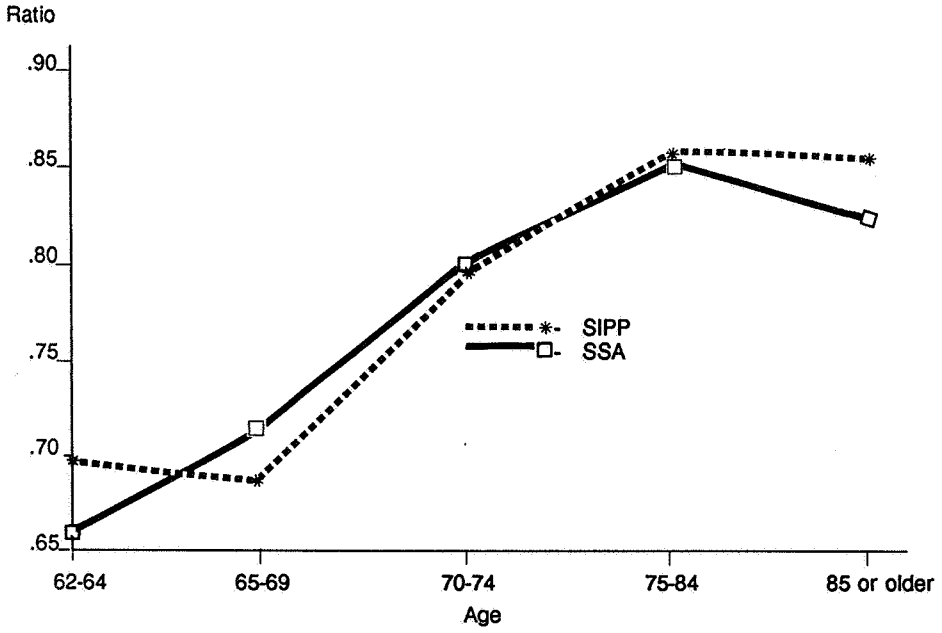


Chart 3.—Ratio of women's mean monthly benefit amount (MBA) to men's MBA, by age



Benefit Classification for Recipients Aged 18-64

Overview of Assignment Procedure

Thirteen basic pieces of information were used to classify type of benefit for recipients aged 18-64. They are:

- Medicare type of benefit code (BIC)
- Reported reasons for receiving Social Security benefit
- Medicare coverage status when the Medicare BIC was not available
- Reported work disability status
- Reported retirement status (ever retired from a job)
- Current marital status
- Previous marital status for currently married persons
- Age
- Sex
- Report of receipt of separate child benefits by an adult recipient
- Postsecondary school enrollment status
- Presence of own children under age 18 in the household
- Age at which disability first prevented work[8]

Medicare type of benefit code and reported reason(s) for receiving Social Security are the two pivotal items. The Medicare code was indispensable for identification of the three types of Disability Insurance benefits received by the nonaged and also played a role in discriminating between receipt of retired- and disabled-worker benefits among those aged 62-64.

All recipients aged 18-64 were asked the reason(s) for Social

[8] This information was obtained by matching the appropriate items from the disability module administered in the third interview and proved useful in distinguishing between disabled workers and adults disabled in childhood in instances when the Medicare BIC was not available.

Security benefit receipt. This information was important for the identification of retired-worker benefits and distinguishing between receipt of retired-worker, dependent, and survivor benefits. The remaining items were useful when the Medicare BIC and/or the items on reason for benefit receipt were unavailable or appeared to be insufficient to make a reliable assignment.

Evaluation of Assignment Procedure

Results of the classification of type of benefit for recipients aged 18-64 are given in table 9, which compares survey estimates of the number of recipients by type of benefit to independent estimates of the number of recipients in the survey population.

Completeness of assignment. The classification scheme assigns benefit type to 6.7 million of the 6.9 million persons aged 18-64 who were identified in the survey as OASDI beneficiaries in the last 4 months of 1983. Only 3 percent of the beneficiaries could not be classified by type of benefit receipt. Thus the algorithm meets the important first test of nearly complete assignment of benefit type to recipients in this age range.

Completeness of estimates. The survey estimate of the total number of OASDI beneficiaries aged 18-64 is 97 percent of the number of beneficiaries believed to belong to the survey universe (7.1 million). Thus the overall estimates for the age group may be judged to be quite complete.

Results for seven different benefit categories are also given in table 9:

(1) Retired worker
(2) Disabled worker
(3) Spouse entitled on basis of age
(4) Widow(er) entitled on basis of age or disability
(5) Spouse entitled on basis of care of retired or disabled worker's child
(6) Widow(er) entitled on basis of care of retired, disabled, or deceased worker's child
(7) Child aged 18 or older.[9]

The extent of agreement between the survey and independent estimates varies somewhat by type of benefit. The survey estimates of the number of persons receiving retired-worker, disabled-worker, aged spouse, and adult children's benefits appear to be complete (at 96, 102, 96, and 98 percent, respectively, of the corresponding independent estimates with none of the differences being statistically significant). Furthermore, among disabled-worker beneficiaries no noteworthy difference is evident in the level of completeness by age (data not shown).

On the other hand, estimates of the number of persons with benefits based on care of entitled children (mothers and fathers of the children of retired or disabled workers and widowed mothers and fathers of the children of deceased workers), and of those receiving benefits as disabled or aged widows are somewhat incomplete (respectively 68, 77, and 83 percent of the corresponding independent estimates). In each case, the shortfall is statistically significant.

Given that the estimates for retired and disabled workers are essentially unbiased, it is likely that the unidentified recipients with a benefit based on the care of a retired or disabled worker's child may be identified by shifting the level of analysis from persons to families. However, a shift to a

[9] Individuals in this group are paid benefits either as students or adults disabled in childhood. Although student benefits were still available to postsecondary students at the time of the 1983 SIPP survey, they are currently payable only to elementary or secondary school students through their 19th birthday and fewer than 100,000 such individuals are currently receiving benefits. At the time of the survey, approximately 490,000 persons were receiving benefits as adults disabled in childhood. Approximately 330,000 are believed to have belonged to the survey universe, and 86 percent of them were identified and classified as such.

Table 9.—SIPP estimates compared with independent estimates of average number of OASDI beneficiaries aged 18-64, by type of benefit, September-December 1983

[Beneficiaries in thousands]

Selected statistics	Total	Type of benefit								
		Subtotal, benefit type assigned	Retired worker	Disabled worker	Aged spouse	Spouse caring for an entitled child	Aged or disabled widow	Widow(er) caring for an entitled child	Child aged 18 or older	Type of benefit unassigned
Independent estimate	7,128	7,128	2,231	2,405	477	346	715	405	549	7,128
SIPP estimate	6,895	6,719	2,132	2,448	460	236	593	310	540	176
As percent of independent estimate	96.7	94.3	95.6	101.8	96.4	68.2	82.9	76.5	98.4	2.5

family level of analysis would not be expected to yield improved estimates for aged and disabled widows because their benefit is not conditioned on the recipiency patterns of coresident family members. Some modest improvement in the completeness of the estimate of widowed mothers and fathers might follow implementation of a family-based approach, however. About 8 percent of widowed parents are entitled solely on the basis of care of an adult child disabled in childhood, and the presence of an adult child cannot be inferred from information on the parent's survey record.

Benefit amount size distributions and mean benefit amounts. As in the case of beneficiaries aged 65 or older, comparison of survey and program benefit amount size distributions and mean benefit amounts sheds additional light on the integrity of the survey estimates in general and the type of benefit classification procedure in particular. This information is presented in tables 4-8 and table 10 for the four largest beneficiary groups in the age 18-64 age class: retired and disabled workers, and wives and widows with entitlement based on age.

The review of these estimates uncovers no substantial anomalies. For retired workers aged 62-64, the index of dissimilarity for the survey and program benefit amount size distributions is 7.3 overall, and 9.7 and 9.8, respectively, for men and women. These values are generally comparable to those observed for the separate age groups among retired workers aged 65 or older. Nominally, the survey estimates of mean benefit amounts for retired workers exceed the program mean amounts, but only to a moderate degree (by 3-8 percent). The index of dissimilarity for wife beneficiaries in this age group is only 5.1. The survey estimate of mean benefit amount is 104 percent of the program mean. For widow beneficiaries, the index of dissimilarity is 10.9 and the survey mean amount ($364) is virtually identical to the program mean ($362). For disabled workers (see table 10), the indices of dissimilarity for the benefit amount size distributions are nominally somewhat higher than for retired workers (12.2 overall and 14.0 and 13.9 for men and women, respectively). Survey estimates of mean benefit amounts are relatively close to those given by program statistics (96 percent overall and 100 and 95 percent, respectively, for men and women).

Table 10.—SSA administrative and SIPP percentage distributions of disabled-worker beneficiaries, by monthly benefit amount and sex in 1983

Monthly benefit amount	Total		Men		Women	
	SSA	SIPP	SSA	SIPP	SSA	SIPP
Total	100.0	100.0	100.0	100.0	100.0	100.0
Less than $180	1.2	6.1	.8	2.5	2.7	11.6
$180-$199	3.7	1.5	2.0	.2	6.2	3.5
$200-$249	5.1	5.5	2.6	2.1	9.0	10.8
$250-$299	10.8	8.0	6.8	3.0	16.7	15.9
$300-$349	12.0	16.0	8.9	13.3	18.3	20.3
$350-$399	10.3	10.1	8.9	9.4	14.5	11.2
$400-$449	10.1	9.7	9.9	9.3	10.6	10.3
$450-$499	9.5	9.6	10.6	11.2	7.8	.1
$500-$549	10.0	10.7	12.2	15.2	5.8	4.0
$550-$599	9.2	6.2	12.1	9.8	3.7	.5
$600-$649	8.6	8.8	11.9	12.8	2.2	2.6
$650-$699	5.9	3.0	8.5	4.3	1.2	.8
$700-$749	2.3	2.6	3.2	3.3	.6	1.5
$750-$799	.7	0	.8	0	.3	0
$800 or over	.5	2.1	.7	3.5	.3	.0
Index of dissimilarity	. . .	12.2	. . .	14.0	. . .	13.9
Mean	$441	$424	$486	$483	$349	$331
SIPP as percent of SSA administrative	. . .	96.2	. . .	99.5	. . .	94.8

Note: . . . denotes not applicable or not available.
Source: Administrative data are from the **Social Security Bulletin, Annual Statistical Supplement, 1983**, table 80, page 155, and pertain to benefits received in January 1983, and have not been adjusted to the survey universe. SIPP data represent an average for the last 4 months of 1983.

Benefit Classification for Children Under Age 18

To overcome major shortcomings in the measurement of minor children's benefits in the Current Population Survey (Vaughan, 1979), considerable attention is devoted in the SIPP to the identification of this type of benefit. In their analysis of Social Security reporting in the CPS, Projector and Bretz used

direct and indirect approaches for identifying benefit receipt for minor children. The direct approach relied on the presence of Social Security income in the child's survey record, and given that income information in the CPS at that time was not obtained for persons under age 14 (the lower age limit is now 15), the direct method was serviceable only for child beneficiaries aged 14-17. (At the present time, this group accounts for just under half of all minor child beneficiaries.) Their indirect method employed the report of Social Security income by a related adult, generally a parent, to identify child beneficiaries. Given program rules, report of Social Security income by a parent nearly always implies benefit receipt by the minor children and therefore provides a means for identifying child beneficiaries. Together, the direct and indirect methods yielded an estimate of slightly more than 3 million minor child beneficiaries (Projector and Bretz, 1975, page 406), about 83 percent of the number believed to be in the CPS universe at that time. However, about 70 percent of the minor child beneficiaries were identified by the indirect method, and the minority identified by the direct approach accounted for less than 20 percent of the minor child beneficiaries in the CPS universe.

When the person-based orientation of the current version of the benefit classification algorithm is augmented by taking family relationships more fully into account, it will be possible to employ indirect as well as direct methods to identify minor child beneficiaries. Consequently, it is noteworthy that by relying only on the direct method, 80 percent of minor child beneficiaries believed to belong to the survey universe (2.1 of 2.7 million recipients) were identified. Also the survey distribution by age is virtually identical to the age distribution given by program data (information not shown), indicating that there is no differential bias by age in the direct measure.

These results indicate a very marked improvement over CPS procedures based on indirect methods. Importantly, the implications of this improvement extend beyond identification of recipiency because the same CPS measurement limitations that necessitate reliance on indirect identification of recipiency have been shown to be associated with an underreport of children's Social Security benefit amounts by 25-30 percent (Vaughan, 1979, page 68).

As the SIPP benefit classification procedure is extended to a family-based approach, further improvement in the estimate of benefits for minor children may be expected. Indeed, early indications suggest the final estimates will exceed 90 percent of the number of minor child beneficiaries in the survey universe.

Summary

This attempt to classify Social Security beneficiaries by type of benefit using the new Survey of Income and Program Participation (SIPP) has yielded promising results. Evaluations of the classification algorithm based on comparison of the estimated number of beneficiaries in each of the several categories to independent estimates of the number of beneficiaries indicate that in most instances a high percentage of each category has been identified. For the most part, age and monthly benefit amount size distributions seem reasonable. Furthermore, very few persons in the sample who were identified as Social Security beneficiaries could not be assigned to one or another of the benefit groups.

The classification procedure also represents a marked improvement over earlier efforts to classify type of beneficiary that relied on data from the March Supplement to the Current Population Survey (CPS). Most importantly, the benefit classification scheme based on SIPP data appears to provide reasonably reliable distinctions between retired-worker and widow benefits for widowed women and permits the identification of retired-worker benefits for those women dually entitled to retired-worker and spouse benefits. In addition, the distinction between disabled- and retired-worker benefits for recipients aged 62-64 appears to be reasonably reliable, and for women under age 65, the classification procedure distinguishes between disabled-worker benefits on the one hand and widow and widowed mother benefits on the other. Finally, SIPP procedures for identifying minor child beneficiaries yield markedly better estimates than those available from the Current Population Survey.

These improvements in the SIPP context are due entirely to the presence of information not collected in the CPS. The enhancement of the SIPP data set in turn resulted directly from an assessment of earlier work carried out by Projector and Bretz in the CPS context and on extensive research into the nature of Social Security reporting errors in the CPS. The superiority of the SIPP data set is linked principally to the presence of three pieces of information: the Medicare BIC, the direct question on reasons for benefit receipt asked of persons under age 65, and the direct

measurement of recipiency and amount of benefits for minor children. Other items of some import include self-reported work disability, retirement status (ever retired from a job), previous marital status for currently married women, age first prevented from working due to a health condition, and Supplemental Security Income misreporting items.

Researchers at the Social Security Administration (SSA) look forward to employing the SIPP as a new source of information about the social and economic circumstances of the major types of Social Security beneficiaries. Staff in SSA have already initiated a new series of SIPP-based tables in the **Annual Statistical Supplement** to the **Social Security Bulletin** (SSA, 1987, pages 85-97), and the first study focusing on the financial resources of the major beneficiary groups appears as a companion article in this issue of the **Social Security Bulletin** (Grad, 1989). Analysts outside of SSA who are interested in using the type of benefit code in their own research should contact the author.

References

Bye, Barry V. and Salvatore J. Gallicchio, "A Note on Sampling Variance Estimates for Social Security Program Participants From the Survey of Income and Program Participation," **Social Security Bulletin**, October 1988, pages 4-21.

Grad, Susan, "Income and Assets of Social Security Beneficiaries by Type of Benefit," **Social Security Bulletin**, January 1989, pages 00-00.

Projector, Dorothy S. and Judith S. Bretz, " Measurement of Transfer Income in the Current Population Survey," in **The Personal Distribution of Income and Wealth** (Studies in Income and Wealth, No. 39), edited by James D. Smith, New York, National Bureau of Economic Research, 1975, pages 377-447.

Social Security Administration, Office of Policy, Office of Research and Statistics, **Annual Statistical Supplement to the Social Security Bulletin**, 1987, Washington, DC, U.S. Government Printing Office.

Vaughan, Denton R., "A Survey-Based Type of Benefit Classification for the Social Security Program," **The 1988 Proceedings of the Social Statistics Section**, American Statistical Association, Alexandria, VA, 1989.

Vaughan, Denton R., **Measurement of OASDI Income in the Current Population Survey (CPS): Results, Speculations and Prospects from Experience with the March-June 1973 CPS Exact Match File**, Social Security Administration, Office of Research and Statistics, Division of Economic Research, 1979.