Pension Benefits Among the Aged: Conflicting Measures, Unequal Distributions

*by John R. Woods**

Estimates of total benefits paid by employer sponsored pension plans seem to vary widely between different data sources and measures. Such discrepancies have been used to support differing conclusions about the effectiveness of the pension system. This article examines several measures of aggregate pension benefits in 1990, a year particularly rich in available data. Exploratory analysis suggests that the greatest source of discrepancy lies in differing treatments of lump-sum distributions, although the study also identifies several other types of payments that are variously, and erroneously, counted as pension income. Age of recipients is an important factor in analyzing different measures of aggregate pension benefits; discrepancies are much smaller among the aged than in the population as a whole. The analysis also provides new evidence about the unequal distribution of pension benefits among the aged, confirming from two data sources that benefits are heavily concentrated among higher income groups.

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The metaphor of the 3-legged stool is often used to describe America's system of retirement income security, suggesting that economic well-being among the elderly is based on Social Security, employer provided pensions, and individually accumulated assets. Although the description implies equal levels of support from these three sources, it is not actually expected that the three legs will be equal, nor is the metaphor expected to be universally applicable. Elderly persons vary in their dependence on one or more of the three legs of the stool; some continue to depend on a fourth leg, earnings, well into their "retirement" years; and others, without a sustained history of paid employment, must depend on a fifth leg comprised largely of public assistance payments such as Supplemental Security Income (SSI). However, despite its limitations, the concept of the 3-legged stool provides a useful benchmark against which the actual operation of the retirement income security system may be evaluated.

The focus of this article is on the second leg of the stool—benefits from employer provided pensions—and the overriding question is this: How well is our system of employer provided pensions serving America's elderly, both in the context of other components of retirement income security, and by itself?

The study of employer provided pensions is important to the Social Security Administration (SSA) for several reasons. As part of its legislative mandate, the agency is broadly concerned with understanding issues of economic security as they relate to the aged and other client populations. In addition, the effectiveness of Social Security can best be evaluated in relation to other components of economic security, and it is only in this ever shifting context that we can anticipate the role Social Security may be expected to play. The Social Security program remains the primary expression of public policy on economic security among the aged. To the extent that the system of employer provided pensions is not serving the aged as a whole—or is not serving particular subgroups among the aged—SSA can expect additional public concern about maintaining or strengthening particular aspects of its programs.

Because of these kinds of issues, SSA's Office of Research, Evaluation and Statistics has for years been publishing data on income sources among the aged, including income from employer pensions. One publication that has been widely used in studies of the aged is a biennial statistical series, "Income of the Population 55 or Older."[1] Authored by Susan Grad, SSA, the series is based on data collected by the Bureau of the Census through its Current Population Survey (CPS).[2]

These data provide a variety of perspectives on the role of employer provided pensions in the 3-legged stool. For example, the CPS/SSA data for 1990 show that only 44 percent of married couples and individuals aged 65 or older[3] were receiving benefits from pensions or annuities, compared with a 92-percent receipt rate for Social Security benefits and a 69-percent receipt rate for asset income (interest, dividends, rents, royalties, and so forth). While the data also show that pension receipt increased significantly between 1976 and 1990, pensions remained the least widely available of the three primary sources of retirement income (table 1).

Given the fact that less than half of the elderly report pension income, it is useful to raise questions about the distinguishing characteristics of pension recipients—that is, who among the aged are or are not receiving these benefits? One characteristic particularly important in this study is overall economic status. When aged units are divided into five groups of equal number (or quintiles) based on their total incomes, we find that pension receipt is largely a middle and upper income phenomenon. Among the poorest fifth of the aged population in 1990, only 8 percent were receiving pension benefits; among the upper two quintiles, in contrast, 67 percent were receiving benefits (table 2). On the other hand, income from assets and particularly from Social Security was more widely available across income classes in the 1990 CPS/SSA data.

Another perspective on the role of employer provided pensions—and the primary focus of this article—concerns benefit

Table 1.—Percent of aged units[1] receiving four main sources of income, 1976-90

Source of income	1976	1980	1984	1988	1990
Social Security.....	89	90	91	92	92
Pensions [2]...........	31	34	38	42	44
Asset income........	56	66	68	68	69
Earnings..............	25	23	21	22	22

[1] Married couples and nonmarried individuals aged 65 or older.

[2] Includes private pensions and annuities, regular distributions from Individual Retirement Accounts, government employee pensions, and Railroad Retirement benefits.

Source: Annual supplements to the Current Population Survey, analyzed by Susan Grad, Office of Research, Evaluation and Statistics, Social Security Administration, and reported in Virginia P. Reno, "The Role of Pensions in Retirement Income," Richard V. Burkhauser and Dallas L. Salisbury (eds.), *Pensions in a Changing Economy*, Washington, DC: Employee Benefit Research Institute, 1993, p. 20.

Acronyms Used In Article

ACLI	-	American Council of Life Insurance
BEA	-	Bureau of Economic Analysis (Department of Commerce)
CPS	-	Current Population Survey
DB	-	Defined benefit
DC	-	Defined contribution
DOL	-	Department of Labor
EBRI	-	Employee Benefit Research Institute
IRA	-	Individual Retirement Account
IRS	-	Internal Revenue Service
LSD	-	Lump-sum distribution
NIPA	-	National income and products accounts
SEP	-	Simplified employee pension
SIPP	-	Survey of Income and Program Participation
SOI	-	Statistics of Income Program
SSA	-	Social Security Administration
SSI	-	Supplemental Security Income

amounts. As we shall see, not only is pension receipt highly skewed toward upper income persons, the average benefit amount is also highly skewed. Among the relatively small number of units in the poorest quintile who were receiving a pension in 1990, average benefits were only about $150 per month; among the much larger number of recipients in the highest quintile, average benefits were almost $1,350 per month. The combination of varying receipt rates and average benefit amounts can be seen more clearly in the percentage distribution of aggregate pension benefits across income quintiles, as shown in table 3. In 1990, aged units 65 or older received a total of $87.6 billion in pension benefits. Of this aggregate, only 1 percent went to persons in the poorest quintile, while 57 percent was distributed to those in the highest quintile. Asset income and earnings were even more skewed than pensions. In contrast, the $171.1 billion in Social Security benefits reported by aged units was much more evenly distributed across income classes.

These kinds of statistics provide the context for a provocative article published recently by Sylvester Schieber,[4] Director of Research at Watson Wyatt Worldwide, a private benefits consulting firm. Schieber is critical of the CPS as a source of data on pension benefits, citing, in particular, some of the pension statistics from SSA's series on the income of the aged. He advocates, instead, the use of pension data collected by the Internal Revenue Service (IRS), data that are made available for research purposes through the IRS' Statistics of Income (SOI) program.[5] The core of Schieber's analysis involves a comparison of 1990 pension benefit data from the CPS and the SOI data files. He concludes that the system of employer provided pensions is serving the aged population more effectively than is commonly thought—specifically, that pension receipt is more widespread, that benefit payments are higher, and that benefits are spread more evenly across income classes than CPS data would indicate.

It may be noted that Schieber is concerned not just with the validity of different data sources on pensions, but also with their implications for public policy. He argues that analyses based on data sources such as the CPS have, over the past 15 years, led policymakers to curtail the generosity of tax preferences for employer sponsored pension plans and to increase the regulatory burden on plans—changes intended, in part, to address public concerns about the adequacy and equity of the pension system.[6] Maintaining that these data sources are flawed, he implies that recent policy changes have been correspondingly misguided.[7]

The purpose of this article is not to address these policy issues per se but to examine further the underlying empirical issues raised by Schieber's article—that is, to examine measures of pension benefits derived from the CPS and SOI data files and from other data sources cited in his argument, and to present an alternative analysis of the data as they pertain to pension receipt, benefit amounts, and the equitable distribution of benefits.

A critical point in Schieber's analysis involves comparisons with a third measure of pension benefits—an estimate of aggregate pension benefits prepared annually by the Department of Commerce, Bureau of Economic Analysis (BEA), as part of the national income and product accounts (NIPA). Apparently because it is based in large part on administrative data collected in the enforcement of pension law, Schieber accepts the NIPA estimate as a valid benchmark against which other measures can be evaluated, and he compares the three data sources on the only statistic they appear to share in common: total pension benefits (with no breakdown for aged and nonaged recipients) in a given year—in this case, in 1990. As presented by Schieber, the 1990 total pension benefit payment estimates are $243.3 billion from the NIPA, a close and impressive $231.9 billion from the IRS/SOI data, and a distant $154.5 billion from the CPS.[8] Clearly, these statistics bolster his central argument—that the CPS is seriously underestimating the amount of benefits paid by the pension system, and that the IRS/SOI data are a much more valid alternative.

The data, however, deserve further scrutiny. The validity of Schieber's analysis depends in large part on the extent to which these measures of pension benefits are truly comparable—that is, measuring the same thing for similar populations—but he devotes very little attention to the issue of comparability.

These observations set the stage for the analysis presented here. We begin with a more detailed examination of estimates of aggregate pension benefits in 1990 from the NIPA, the CPS, and the SOI data, identifying complexities and limitations in each. In the second part of the article, data are presented to estimate the magnitude of some of the important differences between the three measures—a preliminary attempt to reconcile these differences and arrive at the "true" level of aggregate pension benefits in the population as a whole. The third part focuses on pension benefits among the aged, presenting new, more comparable estimates of pension benefits from the CPS and the SOI data files. Finally, we examine the distribution of pension benefits across income classes among the aged, again generating new estimates from the CPS and the SOI data.

The conclusions reached in this article are quite different than Schieber's. While recognizing limitations in the CPS pension data, this study concludes that the IRS/SOI data do not appreciably alter our understanding of pension benefits among the aged, and that, as a data source, the SOI files cannot serve as a viable alternative in studies on this subject.

I. Measures of Aggregate Pension Benefits

The system of employer sponsored pensions in the United States is large and complex, and there is no single data source that perfectly captures the nature and extent of benefits paid by the system. Measurement difficulties have become even more pronounced over the past couple of decades, as the system itself has become more complex. Recent years have witnessed the proliferation of plan types in the employer sponsored system, and increasing complexity, too, among tax-favored retirement plans that can be established by individuals. One

Table 2.—Percent of aged units[1] receiving four main sources of income, by quintiles of total income, 1990

| Income quintile | Number of units (in millions) | Percent receiving — | | | |
		Social Security	Pensions[2]	Asset income	Earnings
I Less than $6,570....................	4.6	85	8	31	5
II $6,570-$10,751.......................	4.6	96	26	56	9
III $10,752-$17,207....................	4.6	95	50	75	19
IV $17,208-$28,713....................	4.6	95	67	87	29
V $28,714 or more....................	4.6	88	67	96	46

[1]Married couples and nonmarried individuals aged 65 or older.

[2]Includes private pensions and annuities, regular distributions from Individual Retirement Accounts, government employee pensions, and Railroad Retirement benefits.

Source: March 1991 supplement to the Current Population Survey, analyzed by Susan Grad, Office of Research, Evaluation and Statistics, Social Security Administration, and reported in Virginia P. Reno, "The Role of Pensions in Retirement Income," Richard V. Burkhauser and Dallas L. Salisbury (eds.), Pensions in a Changing Economy, Washington, DC: Employee Benefit Research Institute,1993, p. 21.

particularly important development has involved the ways in which benefits are paid. Compared to earlier periods dominated by traditional "defined benefit" pension plans that almost always paid benefits in the form of monthly annuities, benefits are increasingly available in the form of lump-sum distributions and other arrangements, not only among the newer "defined contribution" types of plans but to some degree among traditional pension plans also.[9]

The focus here is on a particular year, 1990, the year referenced in Sylvester Schieber's recent (1995) study, and a year for which some other important pension data are available. This section provides a brief description of the three data sources in Schieber's study: estimates of aggregate pension benefits as measured in the NIPA, the CPS, and the SOI data.

Pension Benefits in the NIPA

Estimates of total pension benefit payments are published annually by the Bureau of Economic Analysis (BEA), Department of Commerce. These estimates are part of the national income and product accounts (NIPA), a series of key economic indicators that includes measures such as gross domestic product and personal income. The data on pension benefits are embedded in two NIPA tables, one including payments from private sector plans, and the other including government employee benefits.[10]

Estimates of pension benefits from government employment are fairly straightforward. Federal benefits include two large plans—civil service and military pensions—and several small plans, and data are derived from the plans' administrative records. Pension benefits paid by State and local governments, on the other hand, are estimated from the Census Bureau's annual Survey of Government Finances.[11] For 1990, the BEA reported a total of $53.9 billion from Federal employee plans and $40.6 billion from pension plans of State and local governments.[12]

The NIPA estimate of private pension benefits is more complex, derived from two data sources that are adjusted and combined by the BEA. The primary data base is provided by the Department of Labor (DOL), using information from Form 5500 annual reports that private pension plans are required to file with the IRS.[13] Since all tax-qualified and most nonqualified plans must submit these reports, the 5500 data series is a rich source of information on selected characteristics of the private pension system, including plan type, number of participants, and financial characteristics.

Not all plans, however, are required to complete all parts of the 5500 forms. When it comes to benefit payments, the most notable exception is accorded to the subset of pension plans that are administered by life insurance companies. As a result, the BEA must turn to a second data source to complete its estimate of private benefit payments—data collected by the American Council of Life Insurance (ACLI) through an annual survey of a sample of insurance companies.[14]

The BEA makes a series of statistical adjustments to both the DOL and the ACLI data before combining the two into a single measure.[15] For 1990, after all adjustments, the BEA's estimates were $118.7 billion from the DOL data and $21.2 billion from the ACLI data, or a total of $139.9 billion in benefit payments from private sector pension plans.[16]

Users of the NIPA data on pension benefit payments should be aware of some important characteristics of the data. Estimates published for most recent years (for example, 1991-94 in the January/February 1996 issue of Survey of Current Business) are based on preliminary data, a fact that is not indicated in the publication itself. In addition, the BEA engages in periodic "benchmarking" of the entire time series, based on new information or improved methodology. As a result, the NIPA estimates of pension benefits are something of a moving target and should be used with some caution. The recent analysis by Schieber (1995), for example, cites the figure of $243.3 billion for total pension benefit payments in 1990, a statistic that he uses as the standard against which to evaluate CPS and SOI estimates. According to the most recent revision of the NIPA estimates, however, the total was nearly $9 billion less, or $234.4 billion.[17]

Another characteristic of the NIPA data is their limited utility for analytical purposes. While the NIPA estimates provide one important detail on pension benefits—the distinction between private sector benefits and two sources of government employee benefits—the underlying data provide no information about the recipients of benefits (for example, the recipient's age), unlike the CPS and the SOI.

Finally, it is important to note some of the components of pension benefits that are and are not included in the NIPA data, particularly because this has been the source of some confusion in several recent research and policy analyses on pensions. As shown in chart 1, the NIPA estimate does include lump-sum

Table 3.—Aggregate income from four main sources, and percentage distribution of aggregates across quintiles of total income: Aged units,[1] 1990

Income quintile	Social Security	Pensions[2]	Asset income	Earnings
Aggregate income (in billions)........	$171.1	$87.6	$117.4	$82.1
Total percent[3]......	100	100	100	100
I Less than $6,570......	10	1	1	(4)
II $6,570-$10,751........	18	3	3	1
III $10,752-$17,207......	22	12	8	5
IV $17,208-$28,713......	25	27	18	15
V $28,714 or more.......	26	57	70	78

[1]Married couples and nonmarried individuals aged 65 or older.

[2]Includes private pensions and annuities, regular distributions from Individual Retirement Accounts, government employee pensions, and Railroad Retirement benefits.

[3]Parts may not sum to totals due to rounding.

[4]Less than 1 percent.

Source: Author's tabulations of March 1991 Current Population Survey data, using definitions and measures employed in Susan Grad, Income of the Population 55 or Older, 1990, Office of Research, Evaluation and Statistics, Social Security Administration, April 1992.

distributions from pension plans, including distributions that are rolled over to other tax-qualified plans, and probably some direct rollovers (that is, when the money is transferred directly to another plan without first being distributed to the recipient).[18] This is a source of some concern to the BEA, which argues that rollovers should not be defined as pension income. While the BEA would prefer to exclude them from its estimates, it is unable to do so because they cannot be separately identified in the data. The NIPA estimate also includes other components that the BEA would like to exclude: benefits from stand-alone 401(k) plans (which are funded entirely by employees), and benefits paid to persons living outside the United States.

On the other hand, the NIPA estimate does *not* include payments from Section 408 plans—Individual Retirement Accounts (IRAs) and Simplified Employee Plans (SEPs); nor does it include benefits from Keogh plans to owners/employers, payments from annuity contracts purchased by individuals, or Railroad Retirement benefits (chart 1).[19]

Pension Benefits in the CPS

For more than 50 years, the Census Bureau has conducted a monthly survey of households in the United States, using a large sample which is selected and weighted to be representative of the Nation's civilian, noninstitutional population. The primary purpose of this survey, the Current Population Survey (CPS), is to collect data on employment and unemployment. However, it also collects a broad range of demographic data, and supplementary questions are added periodically to collect information on other subjects of concern.[20]

Since 1947, a supplementary questionnaire has been added each year to the March CPS, focusing on income received by household members in the preceding year, including income from employer provided pensions. Over the years, concerns have been raised about the quality of the CPS income data, and numerous studies have been devoted to identifying and understanding these data problems. We have long known that there is some degree of underreporting in the CPS, more

Chart 1.—Worksheet[1] comparing sources and nature of "pension benefit payments" in the NIPA, CPS, and SOI data, 1990[2]

Source and nature of payments[3]	NIPA data	CPS data[4]	SOI data
	Whether or not included, or extent of inclusion[5]		
Source of payments			
Private sector —			
Defined benefit plans......................................	Yes	Yes	Yes
Defined contribution plans.............................	Yes	Probably some	Yes
Keogh plans, to owners....................................	No	Yes	Yes
Keogh plans, to employees...............................	Yes	Yes	Yes
Railroad Retirement...	No	Yes	Tier II benefits only
IRAs and SEPs...	No	Some	Taxable part only[6]
Nonqualified employer plans...........................	Most	Yes	Yes
Individual annuity contracts............................	No	Some	Yes
Cash surrender value, life insurance................	No	No	Most
Public sector —			
Government employee pension plans...............	Yes	Yes	Yes
Other employee plans (403b, 457 plans).........	Yes	Probably some	Yes
Nature of payments			
Periodic payments/annuities............................	Yes	Yes	Yes
Lump-sum distributions....................................	Yes	Probably some	Most
Rollovers, including direct rollovers.................	Some	Probably some	Most
Loans from plans if $50,000 or more................	No	No	Yes
Section 1035 exchanges...................................	No	No	Most

[1]The term "worksheet" is intended to emphasize the provisional nature of this chart. Further research is needed to solidify the kinds of classifications and conclusions represented here.

[2]See text for discussion of data sources and types of payments.

[3]Categories are not exhaustive or mutually exclusive. For example, rollovers are a subset of lump-sum distributions.

[4]As used in Grad (1992) and in much of this study.

[5]Assessments based on intent of data source and on verified or probable outcomes. See text for further discussion.

[6]Reported in SOI data file as "IRA distributions," not as "pensions and annuities."

serious for some types of income than for others. The Census Bureau itself periodically evaluates the quality of these data—most recently, the income data for 1990.[21] Although these data are the object of Sylvester Schieber's criticism in his 1995 article, he makes no mention of previous efforts and findings on data quality in the CPS.

Undoubtedly, the biggest problem in estimating pension benefits based on the CPS is its conceptual orientation to measuring income as regular, periodic payments. The questionnaire does not ask about lump-sum payments, which we know from other data sources constitute a large and growing component of payouts from pension plans.[22] While some indeterminate number of survey respondents may in fact report their lump-sum payments in the CPS, it is widely assumed that most of them do not and that this may fully account for the lower estimates of pension benefits in the CPS, compared to the NIPA estimates described earlier.[23] This issue deserves further attention, and we will return to it later in the analysis.

In the March 1991 supplement questionnaire, there were four sections where pension benefits could be identified. After a series of questions about income from Social Security, public assistance, and veterans' benefits, respondents were asked if they had received any (other) income in 1990 from survivor pensions or any other survivor benefits. For those who answered in the affirmative, a followup question asked about the source of this income, and additional followups determined the amount(s) received. A similar sequence of questions (receipt-source-amounts) was asked about disability benefits and about "pension or retirement" income. Finally, at the end of the questionnaire (after questions about other specific types of income), a "catch-all" question was asked about "any other money income not already covered," and, as applicable, the source and amount of that income was determined.

The important step in identifying pension income in these four sections has to do with the "source" categories used to code respondents' answers. For example, for those who said they had received some kind of "pension or retirement income" in 1990, there were eight categories into which they could be coded in response to the question about the source of that income. For survivor benefits, there were 10 such categories; and for disability benefits, 10 slightly different categories.

Of these 28 categories, 18 are used by Grad (1992) to identify "pensions or annuities" in her income of the aged series, along with two source categories from the catch-all question about other income.[24] This operational definition of pension benefits is also used in much of the present study. While the source categories may be grouped in various ways, the analysis here groups them as follows, with aggregate 1990 benefit amounts shown for each:

	[In billions of dollars]
Private sector pensions...	$76.6
Company or union pensions................................	66.9
Regular payments from IRA or Keogh accounts..	2.1
Regular payments from annuities or paid up insurance policies..............................	3.1
Railroad Retirement benefits................................	4.6
Government employee pensions............................	72.2

The total derived in this analysis of the CPS, $148.8 billion, is slightly lower than that reported by Schieber ($154.5 billion, noted earlier). Although he gives no details about the derivation of his measure, Schieber's higher estimate very likely results from a slightly different use of the "source" categories than Grad's. More important, the CPS aggregate is substantially lower than the $234.4 billion NIPA estimate described earlier. An effort to reconcile these differences will be described later in the article.

As a preliminary step toward reconciling the CPS with other estimates of pension benefits, it is important to understand the likely kinds of responses elicited by the CPS questions on retirement, disability, and survivor benefits, as suggested in chart 1. The key point is a well-known principle of survey research: that "frames of reference" vary between survey respondents and may not always correspond to those being presented to them by an interviewer.

For example, the fact that the CPS questionnaire does not specifically ask about payments from particular types of defined contribution (DC) plans or about lump-sum benefits means that it is up to the respondents to answer according to their own understanding of the nature of these benefits and the nature of the question they are being asked. We know from other research that people sometimes think of their 401(k) plans (an important subset of DC plans) as individual savings plans rather than "retirement" plans; in addition, the orientation of the questionnaire toward regular, periodic payments may already have been established in their frames of reference by the time they are asked about retirement benefits. Furthermore, perspectives may vary according to factors such as the respondent's age. A worker at age 25 who took a lump-sum distribution from his 401(k) plan when switching jobs may be less likely to think of this distribution as a "retirement" benefit than a similar worker at age 60. Thus, in describing the kinds of pension benefits being measured in the CPS, as in chart 1, we may only assume that "some" lump-sum distributions and "some" payouts from DC plans (which are typically made in the form of lump sums) are probably being picked up in the CPS.

Finally, the pre-coded "source" categories utilized by interviewers in the CPS enable us to categorize and evaluate the quality of some types of payments but not others. For example, respondents are not specifically asked about regular payments from IRAs or individual annuities, making it less likely that they will report the receipt of these kinds of benefits. On the other hand, when they do, these benefit types will be identified in the followup "source" questions, since interviewers have pre-coded response categories for both IRAs and annuity payments. The resulting estimates for 1990 ($2.1 and $3.1 billion, respectively) may be compared with independent estimates for IRAs and annuity payments (described later in this article); and based on this comparison, we can conclude that only "some" of the payments from IRAs and individual annuities are being measured by the CPS, as suggested in chart 1.

Pension Benefits in the SOI Data

As part of its Statistics of Income (SOI) research program, the Internal Revenue Service (IRS) produces an annual data file consisting of detailed information taken from a sample of individual tax returns and statistically weighted to represent all individual returns. The data do not include any identifying information on individual tax filers and are intended for research purposes, primarily to study issues relating to the operation of the Federal tax system.[25]

Compared to the NIPA and CPS estimates described above, it is difficult to specify the population represented in the SOI file. Some people who are supposed to file income tax returns do not; and others who are not required to file returns do. Furthermore, it is impossible to classify in any meaningful way the kinds of payments that get reported as "pension and annuity" income in the SOI data, even along basic dimensions such as private and public sector benefits. This much, however, is clear: Data from the SOI files are not representative of the population as a whole, and the "pension and annuity" data include a substantial amount of money that is not, in fact, from employer sponsored pensions.

We will return to the population issue later in the analysis, when we examine pension benefits among the aged. In this section, the focus is on the measure of pension benefit payments in the SOI—in particular, the kinds of payments included in the data.

In attempting to understand Sylvester Schieber's recent analysis, and to provide an alternative based on our own tabulations of the SOI data, a critical issue centers on the IRS forms used in 1990 to document the income reported by individual taxpayers on lines 17a of Form 1040 or 11a of Form 1040A, income that was subsequently coded as "total pensions and annuities received" in the SOI data file. According to IRS regulations in 1990, *payers* of "total distributions" from "profit-sharing, retirement plans, individual retirement arrangements, insurance contracts, etc." were required to report these distributions to individual recipients on IRS Form 1099-R; Form W-2P was used to report payments other than total distributions (typically, periodic payments) from "annuities, pensions, retired pay, or IRA payments."

Our study suggests that Schieber's description of these documents and the derivation of his measure of pension benefit payments reflect a misunderstanding of the nature of the data in the SOI file. According to his description, his measure includes "pension and annuity income that would have been reported on a Form W-2P..." but "does not include any lump-sum distributions...that would have been reported on a Form 1099-R...."[26] In fact, our examination of IRS materials[27] and communications with SOI staff members confirm that many of the distributions reported to individual taxpayers on Form 1099-R, including lump-sum distributions, were then reported by these taxpayers, as instructed, on Forms 1040 or 1040A. Contrary to Schieber's assertion, they are included in the SOI files as pension and annuity income.[28]

As described in a later section of this article, part of our concern with Schieber's measure of pension benefits has to do with his treatment of periodic withdrawals from IRAs and periodic payments from individually purchased annuity contracts, both of which would be included in the W-2P data. Here, however, the focus is on the kinds and amounts of nonperiodic payments originating from Form 1099-R.

The 1099-R data for 1990.—As should be clear, Forms 1099-R were not only sent to individual recipients; copies were also filed with the IRS. Data from these forms were not normally tabulated and published by the SOI program for 1990 and earlier years. However, under a contractual agreement with the Employee Benefit Research Institute (EBRI), the IRS prepared a set of special tabulations of the 1099-R data for the years 1987-90. These tabulations provided the basis for an important study by Paul Yakoboski (1994), a researcher at EBRI.[29] By fortunate coincidence, much of the data presented in Yakoboski's study is for the year 1990, the same year as in Schieber's analysis of the IRS/SOI data, and the focus of our discussion here.

In 1990, as noted earlier, the 1099-R data represented "total distributions" from various types of retirement plans and insurance contracts.[30] "Lump-sum distributions," as defined by the IRS, are a subset of total distributions, consisting of those distributions that are from tax-qualified, employer sponsored pension plans and that are paid only in certain circumstances (for example, when the employee separates from the job, or after the employee reaches age 59½). This is an important distinction for tax purposes since distributions defined as lump sums are eligible for special tax treatment (tax-free rollovers to another qualified plan or, if additional requirements are met, reduction of the tax liability through 5- or 10-year averaging of the amount or treating part of it as capital gains).[31] It is also an important distinction for purposes of this analysis, as we attempt to estimate the type and amounts of 1099-R distributions that were included in Schieber's data on pension benefits.

It is impossible to completely sort out the various types of payments included in the 1099-R data and to identify those that would subsequently be reported by taxpayers as "total pensions and annuities" on the appropriate lines of their individual (Form 1040 or 1040A) tax returns. However, a preliminary effort is made in table 4, based largely on Yakoboski's data and an examination of IRS documents.

An important first distinction is included in the 1099-R data tabulated for EBRI: the distinction between IRA/SEP distributions and distributions other than IRAs or SEPs. As reported by Yakoboski, the aggregate amount of "total distributions" in 1990 was $125.8 billion (table 4); however, $18.6 billion of this amount was from IRAs and SEPs, distributions that would not be considered employer provided benefits. The remaining $107.2 billion is correctly identified by Yakoboski at some points in his presentation as "non-IRA/SEP" distributions; unfortunately, at other times he erroneously describes this aggregate as the amount of "lump-sum distributions" from "pension plans" or from "defined benefit and defined contribution plans."

In fact, the non-IRA/SEP total, $107.2 billion, includes at least five types of distributions that *cannot* be classified as

lump-sum payments from employer sponsored plans (table 4). Two of the five types were identified by code on the 1099-R forms and are reported by Yakoboski: Section 1035 exchanges (a tax-free exchange of one annuity contract for another) and excess contributions to tax-qualified plans (that is, amounts that exceeded the limits established in pension law). Together, these two types accounted for $25.8 billion in non-IRA/SEP distributions (table 4).[32]

Three other types in the "non-IRA/SEP" category were not separately identified on the 1099-R forms, but are, according to IRS documents, clearly included in the data: total distributions from privately purchased individual annuity contracts; the value of some loans (those in excess of $50,000) from qualified employer plans or tax-sheltered annuities; and the cash surrender value of life insurance policies when they included any portion that was taxable. Since these distributions are not separately identified in the 1099-R data, the amounts originating from them cannot be estimated with any certainty, and this is clearly an area where further research is needed.

Nonetheless, for purposes of this analysis, rough estimates have been derived from two other data sources. According to data from the ACLI for the year 1990, about $10.0 billion was distributed from nonqualified individual annuity contracts, and the value of life insurance policies surrendered for cash was $18.0 billion.[33] Contacts with insurance industry sources suggest that "most" nonqualified individual annuity payments are made as lump sums, and that "most" of the aggregate in life insurance policy cashouts would represent distributions that

included at least some taxable portion. If we assume, conservatively, that as much as half of the amounts cited above were included in the 1099-R data, these two types of distributions would account for roughly $14.0 billion of the total in non-IRA/SEP distributions, as shown in table 4.[34] As for the third type of unidentified distributions, Form 5500 data compiled by the DOL indicates that $9.8 billion was taken in loans in 1990 by participants in qualified employer plans.[35] More specific data are not available on loans that were in excess of $50,000 (amounts that should have been reported on Form 1099-R). However, if we assume, arbitrarily, that as much as one-fourth of the total consisted of these large loans, this type of distribution would account for an additional $2.5 billion in non-IRA/SEP distributions (table 4).

One important conclusion from this exercise is reflected in the remaining category in table 4: The total amount of lump-sum payments actually distributed from employer sponsored pension plans in 1990 was considerably less than the $107.2 billion for all non-IRA/SEP distributions that is emphasized in Yakoboski's study. Deducting known amounts from Section 1035 exchanges and from excess contributions would put the lump-sum total at $81.4 billion; deducting additional amounts for distributions from individual annuity contracts, the cash surrender value of life insurance policies, and the value of large loans from employer plans (amounts not separately identified in the 1099-R data, but roughly estimated above) would result in an actual value of lump-sum distributions somewhere around $65.0 billion. Unfortunately, the much higher figure

Table 4.—Types and amounts of "total distributions" from retirement plans or insurance contracts reported by payers on IRS Form 1099-R, and income reporting requirements for recipients filing individual tax returns, 1990

Type of total distribution	Amount reported by payers on Form 1099-R (in billions)	Type of income reported by recipients on Forms 1040 or 1040A
Total	$125.8	...
IRA/SEP distributions	18.6	IRA distributions
Non-IRA/SEP distributions	107.2	Most as pensions and annuities
Not lump-sum distributions—		
Section 1035 exchanges	[1] 8.6	Pensions and annuities
Excess contributions	[1] 17.2	Wages, salaries
Individual annuity distributions[2]	[3] 5.0	Pensions and annuities
Loans in excess of $50,000 from plans[2]	[4] 2.5	Pensions and annuities
Cash surrender value, insurance policies[2]	[3] 9.0	Pensions and annuities
Lump-sum distributions[2]	[5] 64.9	Most as pensions and annuities[6]

[1] Author's calculations based on Yakoboski, 1994, table 1 and chart 2d.

[2] Not coded separately on Form 1099-R.

[3] Rough estimate based on data from American Council of Life Insurance; see text for details.

[4] Rough estimate based on Form 5500 data from Department of Labor; see text for details.

[5] A rough estimate—the remainder of $107.2 billion less the sum of the five types of distributions that were not lump-sum distributions ($42.3 billion), three of which were estimated.

[6] A limited number of lump-sum distributions would have qualified for special tax treatment if they met a series of restrictive requirements, and would then have been reported elsewhere on individual tax returns. Rough calculations suggest that these distributions may have totaled $8.6 billion or less. For further details, see text note number 37.

Sources: Yakoboski, 1994, American Council of Life Insurance, 1991, U.S. Department of Labor, 1993, and IRS documents for 1990.

sometimes incorrectly described by Yakoboski—$107.2 billion in "lump-sum distributions" from "pension plans"—is already being repeated in the pension literature.[36]

Pension and annuity income in the SOI.—While attempting a realistic assessment of lump-sum distributions is an important issue for this analysis, the more important issue is understanding the measure of "pension benefits" in the SOI data and in Schieber's (1995) analysis of that data. As noted earlier, the 1990 SOI data contained not only the periodic payments from pension and annuity plans reported to recipients on Forms W-2P, but also a large amount from nonperiodic payments reported on 1099-R forms. The final column of table 4 shows how different types of 1099-R distributions were supposed to be reported on individuals' tax returns in 1990; it thus gives some indication of the kinds and amounts of income included as "pensions and annuities" in the SOI data file.

According to IRS documents, there are three types of 1099-R distributions that would *not* have been reported as pension and annuity income. First, IRA and SEP distributions ($18.6 billion) would have been reported on a separate line with "total IRA distributions." Second, excess contributions to qualified plans ($17.2 billion) would have been reported as wages/salaries. And third, some portion of the total in lump-sum distributions would have met the restrictive requirements for treatment as capital gains or 5- or 10-year averaging, and thus would have been reported elsewhere on individual returns. According to our rough calculations, the amount in this third category was perhaps $8.6 billion or less (table 4).[37]

The remainder from the 1099-R data—about $81.4 billion—could have been reported as pension or annuity income on individual returns and coded as such in the SOI data; and as much as $22.6 billion or more of that amount could represent "payments" from sources other than employer sponsored pension plans (the sum of individual annuity distributions, Section 1035 exchanges, and the cash surrender value of life insurance policies, table 4).

The word "could" in the preceding paragraph is a necessary qualifier for two reasons: First, not everyone who received a 1099-R distribution would actually have filed an individual tax return in 1990; this group of nonfilers would be composed primarily of low-income persons or persons who received only small distributions. Second, despite IRS instructions to report even nontaxable 1099-R distributions on individual returns (Forms 1040 or 1040A), analysts in the IRS/SOI program have found that individuals who receive nontaxable distributions (for example, when the entire amount is rolled over to another qualified retirement plan) sometimes do not enter anything in the "total" and "taxable" pension and annuities fields of their tax returns. Estimates of the amounts involved in this kind of nonreporting are, unfortunately, not available. It is the basis, however, for our assumptions in chart 1 that most but not all rollovers and Section 1035 exchanges are included in the SOI data.

Aggregate "pension benefits" in the SOI.—According to our tabulations of the SOI public use file, a total of $214.9 billion was reported as pension and annuity income in 1990,[38]

a measure confirmed as correct by SOI analysts at the IRS. The bulk of this would have been periodic payments originating from Form W-2P. However, as we have just demonstrated, as much as $81.4 billion could have been lump-sum payments and other distributions from the 1099-Rs, including a substantial amount that was not, in fact, pension and annuity income as normally defined, and was not from employer sponsored plans (table 4).

The amount and nature of our aggregate measure can be contrasted with the description of aggregate benefits in the SOI provided by Schieber. As noted earlier in our discussion, Schieber reports a total of $231.9 billion in pension and annuity income from, implicitly, employer sponsored plans; and, at a different point in his presentation, he asserts—incorrectly, as it turns out—that his measure of pension benefits does not include any lump-sum distributions.[39]

The next section in this article will attempt to reconcile these conflicting measures, and to at least partly reconcile estimates of aggregate pension benefits from the SOI data with those described earlier from the NIPA and the CPS.

II. Toward the Reconciliation of Differences

The discussion thus far has identified two sets of discrepancies between measures of aggregate pension benefits in 1990: (1) differences between Schieber's (1995) numbers and the numbers in this analysis on the amount of aggregate benefits in, respectively, the NIPA, the CPS, and the SOI data, and (2) differences between the three data sources themselves. The following tabulation recapitulates these measures:

	[In billions of dollars]		
	NIPA	CPS	SOI
Schieber's analysis...........	$243.3	$154.5	$231.9
This analysis...................	234.4	148.8	214.9

The first set of differences, those between the two studies, can be dealt with fairly easily. As noted earlier, the discrepancy in the NIPA estimates is due to the sometimes preliminary, sometimes recalibrated nature of those estimates. While Schieber cited an earlier published figure from the NIPA series ($243.3 billion), the number cited in this study ($234.4 billion) is the more recent NIPA estimate for 1990, derived in a 1995 benchmarking of the series by the Bureau of Economic Analysis.

The discrepancy between the two CPS estimates ($154.5 versus $148.8 billion) can undoubtedly be attributed to slight differences in coding the "source of benefits" data in the CPS file, described earlier. Whatever the reason for the discrepancy, however, the conflicting CPS estimates do not require reconciliation for purposes of this analysis. With one modification, described later, ours is the one that will be used. It is the same measure used for years by Susan Grad in SSA's income of the aged series; and it is, in fact, the more conservative estimate of the two, in the sense that it lends greater support to Schieber's argument about the inadequacies of the CPS.

The discrepancy in SOI estimates between the two studies can be accounted for by their different treatments of IRAs. The casual reader of Schieber's article will not realize that his measure of "pension and annuity income" ($231.9 billion) actually includes $17.5 billion in distributions from IRAs and similar instruments. Separate SOI aggregates for pensions/annuities and for IRAs are not presented in his analysis, and it is not made clear that the SOI data he uses in comparisons with NIPA and CPS estimates include IRAs.[40] (Nor, for that matter, is the IRA data identified as a partial measure, consisting only of *taxable* IRA income, the only measure available in the SOI public use data file.)[41] This comparison with the NIPA measure is particularly inappropriate, since the BEA expressly excludes IRAs and SEPs in its estimates of pension income (as shown earlier in this study, chart 1).[42]

Because IRA income is not included in the NIPA estimates and because the focus here is on employer provided benefits, the measure of "pension and annuity" income used in this study is exactly as reported in the SOI public use data file: $214.9 billion. This aggregate is almost identical to the one Schieber would have reported had he excluded the amount identified here as taxable IRA income (that is, $231.9 billion minus $17.5 billion).

With IRA income excluded from the NIPA and SOI estimates in this analysis, a modification is required in our CPS estimate as a first step toward making the three measures more comparable. As noted earlier, Grad's coding of the CPS data has traditionally included a small amount identified as "regular payments from IRA and Keogh accounts." This amount, $2.1

billion in 1990, presumed to be primarily IRA rather than Keogh payments, will be excluded in our CPS estimates for the remainder of this article. At the aggregate level, the resulting CPS estimate is $146.7 billion.

The analysis in the remainder of this section will deal with the second set of conflicting measures as we have estimated them to this point: $234.4 billion in aggregate "pension benefits" in the NIPA, $146.7 billion from the CPS, and $214.9 billion from the SOI data (chart 2).

Before proceeding, it should be emphasized that, as suggested in chart 1, all three measures probably capture a common core of pension benefits—in general, periodic payments or annuities from employer sponsored pension plans—although perhaps to varying degrees. Some of the differences between the three measures were also reflected in chart 1 and were noted in separate discussions of each in the preceding section of this article. The effort in this part of the analysis is more comparative and quantitative, presenting data on some of the more important differences in the three measures and moving toward some degree of reconciliation between them. In particular, the following discussion briefly examines the role of lump-sum distributions, including rollovers, and the role of several smaller components in accounting for different estimates from the three sources.

Lump-Sum Distributions in the Three Measures

The substantial growth in private defined contribution (DC) plans over the past 2 decades has been accompanied by grow-

Chart 2.—Worksheet[1] reconciling aggregate measures of "pension benefit payments" in the NIPA, CPS, and SOI data, 1990[2]

[Amounts in billions of dollars]

Reconciliation adjustments[2]	NIPA data	CPS data	SOI data	CPS as percent of —	
				NIPA	SOI
Total benefits, excluding IRAs.....................	$234.4	$146.7	$214.9	62.6	68.3
Addition of estimated lump-sum distributions........	...	+ 48.8	+ 14.8		
Subtotal...	234.4	195.5	229.7	83.4	85.1
Deduction of estimated rollovers...........................	-24.7	-24.7	-24.7		
Subtotal...	209.7	170.8	205.0	81.4	83.3
Deduction of individual annuity distributions........	...	- 3.1	- 13.3		
Subtotal...	209.7	167.7	191.7	80.0	87.5
Addition of Railroad Retirement benefits...............	+ 7.2	+ 2.6	+ 5.4		
Subtotal...	216.9	170.3	197.1	78.5	86.4
Deduction of estimated nonpension payments exclusive to the SOI[3]...........................	...	...	- 17.9	...	...
Total, standardized estimates of employer sponsored benefits.........................	216.9	170.3	179.2	78.5	95.0

[1]The term "worksheet" is intended to emphasize the provisional nature of this chart and the need for additional research.
[2]See text for description of data sources and estimates.
[3]Section 1035 exchanges, the value of loans in excess of $50,000 from qualified plans, and the cash surrender value of life insurance policies.

ing policy concerns about lump-sum distributions (LSDs), the typical form of payouts from these kinds of plans. In particular, policymakers have been concerned about the incidence of preretirement LSDs (often taken when workers change jobs) and the extent to which these payments are "preserved" for retirement rather than being used in other ways. Several changes in the tax code regulating pensions have been enacted in recent years to encourage workers to reinvest (or "roll over") their preretirement lump sums in other employer sponsored plans or in IRAs.[43]

The increase in LSDs has also created problems for analysts concerned with accurately measuring and tracking changes in pension benefit payments. Good data on LSDs are simply not available. Several surveys have collected data on preretirement LSDs among current workers,[44] but there are no comprehensive survey data for all lump sums and in the population as a whole. We know that lump-sum payments are included in the NIPA estimates of pension benefits, but they cannot be separately identified as such, and thus cannot be quantified. The CPS income supplements do not specifically ask about LSDs, although it is likely, as noted earlier, that some lump sums are reported in these surveys along with regular pension payments. Finally, we know that lump sums are generally included in the "pensions and annuities" data in the SOI files, but, again, they cannot be separately identified. In sum, there are no hard estimates of the magnitude of LSDs in a given year, and thus of the role they play in measures of aggregate pension benefits.

Estimating aggregate lump-sum distributions for 1990.—It is in this context that Yakoboski's (1994) analysis of the IRS Form 1099-R data seemed such an important contribution. However, as noted earlier, it appears that the numbers typically quoted from that study—$125.8 or $107.2 billion—are seriously overstated and that the magnitude of LSDs from employer sponsored plans in 1990 was more likely in the neighborhood of $65.0 billion. This estimate seems reasonable in light of other data we have on pensions. Based on a combination of hard data and plausible assumptions about (1) the aggregate amount of private defined contribution (DC) and defined benefit (DB) payments in 1990, (2) the proportion of these benefits paid in the form of LSDs, and (3) the amount of lump-sum payments from government employee plans, this author has estimated a total of $67.6 billion in LSDs in 1990.[45] A similar exercise by analysts at the Bureau of the Census yielded an estimated total of $69.8 billion for the same year.[46]

Lump sums in the three measures.—Given our tentative conclusion that aggregate lump-sum distributions in 1990 were in the $65-$70 billion range, the issue now is the varying degree to which this amount was included in the NIPA, CPS, and SOI measures of pension benefits, and thus the extent to which LSDs may help to account for differences between the three estimates.

For purposes of this exercise, we will work with the most conservative of the lump-sum estimates described above, $65.0 billion. The data bases used in the NIPA estimate ($234.4 billion) would ostensibly have included all of this amount. We will assume that the SOI estimate ($214.9 billion) included all LSDs except those eligible for capital gains or multiyear averaging (estimated earlier at $8.6 billion) and some portion of rollovers that were not reported on individual returns because they were not taxable (estimated here at $6.2 billion).[47] Finally, consistent with the description in chart 1, we will assume that the CPS estimate ($146.7 billion) included "some" lump sums, which we will quantify for purposes of this analysis, arbitrarily, as one-fourth (or $16.2 billion). If the missing lump-sum amounts are added to the CPS and SOI aggregates—in effect, standardizing the measures against the NIPA, as shown in chart 2—the original gap between the three measures is considerably reduced. For example, the standardized CPS estimate—with all lump sums included—would be 83.4 percent of the NIPA, compared with only 62.6 percent captured in the actual CPS measure; and the CPS aggregate as a percentage of the SOI would be increased from 68.3 percent (unstandardized measures) to 85.1 percent (standardized).

Other assumptions and outcomes are, of course, possible; and further research is needed to solidify these kinds of estimates. The point, however, is that in our "best guess" scenario, it is clear that the different treatment of LSDs in the three measures could account for a large part of the discrepancy between them.

The issue of rollovers.— As noted earlier, the NIPA estimate includes even lump sums that are rolled over to other employer plans or to IRAs, although the BEA would prefer to exclude them. The rationale for excluding rollovers is twofold: first, they do not meet the standard of "constructive receipt" of income in the year in which they occur; and second, rollover amounts invested in other employer plans will eventually be counted a second time when they are actually distributed and used by recipients. Indeed, it may be assumed that in any given year the NIPA estimate is inflated to some degree by payments that had already been counted in previous years as rollovers.

Unfortunately, like LSDs in general, there are no hard estimates of the amount of rollovers in a given year. One estimate, 57 percent of total distributions in Yakoboski's study, is untenable. That figure represents the aggregate amount of rollover contributions to IRAs in 1990, money that could have originated not just from employer plans but from other IRAs as well. A more plausible estimate, restricted to LSDs from employer sponsored plans, is based on Piacentini's (1990) analysis of preretirement distributions in 1988. Thirty-six percent of the aggregate amount of those distributions was rolled over to other tax-qualified retirement plans.[48] If rollover activity increased from 1988 to 1990 at the rate suggested by Yakoboski's IRA data, the proportion of lump-sum money rolled over in 1990 would be 38 percent, or a total of $24.7 billion in our analysis (that is, 38 percent of $65 billion). Deducting this amount from the NIPA and the standardized CPS and SOI estimates suggests a more realistic range for actual pension and annuity income in 1990, ranging from a low of about $171 billion based on the CPS to a high of about $210 billion in the NIPA (chart 2).

Lump sums and rollovers as pension income.— The problems with LSDs and rollovers are not just data problems, but also conceptual: defining what is and is not to be counted as "pension income." On the one hand, we have the CPS perspective on income as a stream of regular payments; on the other hand, there are legitimate concerns—voiced by Schieber (1995) and others—that if LSDs and rollovers are not counted, the pension system is not getting the full "credit" it deserves for its contributions to economic well-being.

The problem is not just in measuring aggregate pension payouts in a given year; it is also an issue of measuring the contribution of the pension system to individuals over time. Schieber, for example, is justifiably concerned that some of the IRA income reported by the aged undoubtedly originated as rollovers from employer sponsored plans and thus should be counted as "pension" income; he is further justified in pointing out that some of the money classified as asset income among the aged probably had its origins in the pension system. Again, there are no data available to help us untangle these complex issues. However, Piacentini's analysis of the uses of pre-retirement LSDs sheds a little light. In addition to the 36 percent of aggregate preretirement LSDs rolled over to other tax-qualified plans in 1988, described above, another 35 percent was used for other types of savings (broadly defined). This included income-producing assets such as savings accounts, certificates of deposit, and stocks and bonds; it also included investments in homes and the payment of mortgages and other debts.

A real weakness of the CPS pension data, then, must be acknowledged: While the CPS may do a credible job of identifying periodic payments from the pension system—in terms of our ultimate concern, among the aged—it does not do a good job of identifying LSDs in a given year, nor the contributions that pensions may have made over time to income-producing assets among the aged or to other aspects of their economic well-being, such as home ownership and the lack of indebtedness. At the same time, we should emphasize that these weaknesses are not confined to the CPS. The SOI data, while including most LSDs, do not provide information about the contribution of the pension system to other individual assets; nor does any other data set known to this author.

Other Components in the Three Measures

Although lump-sum distributions are undoubtedly the largest component in accounting for differences between the NIPA, the CPS, and the SOI estimates of aggregate pension benefits, there are several other components that may also help to explain those differences. The discussion here briefly explores five of them: distributions from individual annuity contracts, benefits from the Railroad Retirement program, and three types of distributions unique to the SOI data file.

Distributions from individual annuity contracts.—Traditionally, individual annuities have been thought of as another vehicle for retirement income security. In this form, annuity contracts are purchased by individuals from life insurance companies (either prior to or at retirement), and the contract then yields a steady stream of income for a fixed number of years or for life. As a source of retirement income, these annuities have played a fairly minor role. In contrast, deferred annuity contracts have emerged over the past 2 decades as an important investment vehicle, although not necessarily one intended to yield annuity payments in retirement. Often marketed by mutual funds and other brokers in cooperation with life insurance companies, many of these contracts are "nonqualified" annuities—that is, not part of a tax-qualified retirement plan. As such, they are not subject to some of the restrictions that are placed on qualified plans. At the same time, like other types of life insurance products, they do enjoy tax deferred treatment of the earnings on their investments.[49]

While the amounts invested in individual annuity contracts increased dramatically during the 1980's,[50] those increases were not fully reflected in the amount of payouts in 1990. According to the ACLI, about $3.3 billion in qualified individual annuity payments was disbursed in 1990, and about $10.0 billion was paid from nonqualified individual annuities, primarily in the form of lump sums.[51]

Again, our purpose in this part of the analysis is twofold—to account for differences in the three estimates of aggregate pension benefits in 1990, and to arrive at a more realistic estimate of total benefits from employer sponsored plans. Individually purchased annuities, like IRAs, should not be counted. Since these payments were ostensibly not included in the NIPA estimate, no adjustment is required in that estimate. On the other hand, the 1990 CPS data identified $3.1 billion in regular annuity payments, and the SOI data, based on IRS requirements, should have included the entire $13.3 billion (estimated above), whether the payments were made periodically or as lump sums. Excluding these payments, as in chart 2, yields revised estimates of total benefits from employer sponsored pension plans in 1990; it also narrows the gap between the CPS and the SOI measures by about $10 billion.

Railroad Retirement benefits.—As part of the United States pension system, the Railroad Retirement program is something of a hybrid, with characteristics of both Social Security and private employer pensions. The program has functioned as an alternative to Social Security for workers in the railroad industry, and is similar in this respect to some government employee pension systems that are also considered alternatives (rather than supplements) to Social Security. Financed primarily by payroll taxes levied on railroad employers and workers, the program is administered by an independent Federal agency and is closely coordinated with the Social Security program. Railroad Retirement benefits can be divided into two main components: Tier I benefits are more or less equivalent to Social Security benefits; Tier II benefits, on the other hand, are analogous to benefits from private sector employer sponsored pensions.

Depending on the data source, Railroad Retirement benefits are variously classified. In the NIPA tables, these payments appear as a discrete category, separate from both Social Security and employer pensions; in Grad's analysis of the CPS

income data, Railroad Retirement benefits are categorized as public sector pensions, along with government employee plans; and in the SOI data files, Tier I benefits are reported as Social Security benefits, while Tier II benefits are included with pension and annuity income.

For this analysis, the practical implications of varying classifications are not great, since benefits paid by the Railroad Retirement system in 1990 totaled only $7.2 billion. On the other hand, they constitute one more component that can help account for differences in the three estimates of aggregate pension benefits, and should be included, we maintain, in estimates of employer sponsored benefits. As noted earlier, our CPS measure identified $4.6 billion in Railroad Retirement benefits in 1990. The SOI data, in contrast, included an estimated $1.8 billion in Tier II benefits.[52] Adding the missing amounts to all three measures, as in chart 2, provides slightly revised estimates of total benefits from employer sponsored plans; it also widens the gap between the CPS and SOI measures by about $3 billion.

Three "payments" only in the SOI.—From our perspective, one of the more surprising insights gained in conducting this study was the realization—confirmed by IRS/SOI analysts—that the SOI data actually includes an unknown but probably substantial amount of money that pension researchers would not consider pension or annuity income. These payments—Section 1035 exchanges, the value of loans in excess of $50,000 from qualified plans, and the cash surrender value of life insurance policies—were described earlier in this analysis, and estimates of the amounts reported on IRS Form 1099-R were given in table 4. Two of these were conservative estimates ($2.45 billion in loans and $9.0 billion in surrender values from insurance policies), so we will assume here that at least these amounts would have been reported by individual taxpayers, as instructed by the IRS, as "total pension and annuity income" on their tax returns, and therefore are included in the SOI data. The third payment, $8.6 billion in Section 1035 exchanges, was the actual amount reported on 1099-R forms.[53] However, because these exchanges are not taxable, it is likely that some of this amount was not reported, contrary to IRS instructions, on individual returns. Assuming for this analysis—again, somewhat arbitrarily—that as much as three-fourths of it was reported by taxpayers ($6.45 billion), the total from these three SOI sources would be an estimated $17.9 billion. Again, this was not by any reasonable definition "pension income;" it was not included in the NIPA or CPS estimates; and it should be deducted, as in chart 2, from the SOI-based estimate of pension benefit payments in 1990.

With this final adjustment, the standardized estimates of total income from employer sponsored pensions in 1990 range from $170.3 billion (CPS) to $179.2 billion (SOI) to $216.9 billion (NIPA), a much narrower range than suggested by the unadjusted measures (chart 2).

Reconciling Differences: A Final Note

This exercise has not only suggested a more likely range for the "true" level of aggregate pension benefits in 1990—

roughly, $170 to $215 billion—it also clarifies the kinds of components that primarily account for the discrepancy between the unadjusted CPS and SOI estimates of pension benefits (the two measures with which we are most concerned): estimated differences of $34.4 billion in lump-sum payments not rolled over to other plans, $17.9 billion in nonpension income included in the SOI, and $10.2 billion in payments from individual annuity contracts (chart 2).

Better data could, of course, lead to different estimates than the ones reported here, and additional adjustments could be made if any data at all were available on such things as the amount distributed from free-standing 401(k) plans and payments made to persons living outside the United States (adjustments that would lower NIPA and SOI estimates relative to the CPS). For now, however, the numbers generated in this exercise—particularly given their provisional nature—should not be allowed to obscure a larger, nonprovisional conclusion: While the CPS data are undoubtedly missing a substantial amount of lump-sum payments, the SOI data files—developed for purposes of tax research but recommended by Schieber (1995) as a suitable alternative for pension research—include a probably greater sum from rollovers, individual annuity contracts, and such nonpension distributions as the cash surrender value of life insurance policies. These SOI components, which, again, should not be counted as income from employer sponsored pension plans, cannot be separately identified or excluded in the process of data analysis.[54]

III. Aggregate Pension and Annuity Benefits Among the Aged

Having examined measures of aggregate pension benefits for the population as a whole, the remainder of this article returns to our original focus: pension benefits among the aged. In addition, the analysis is narrowed to two measures of pension benefits—those derived from the CPS and the SOI. The NIPA data, as noted earlier, contain no information about the age of pension recipients.

The basic approach in this analysis, comparing pension and annuity income among aged units in the CPS and the SOI, is identical to that used by Sylvester Schieber in his 1995 article on pension benefits. However, this analysis offers an alternative to Schieber's—in part, by refining measures to make them more comparable; and our respective conclusions about the role of pension benefits among the aged and about the utility of the CPS and SOI data sets are quite different.

This section begins with the measures of aggregate pension and annuity income described in the previous section—$146.7 billion in the 1990 CPS data and $214.9 billion in the SOI—and determines what portions were received by aged units and by the nonaged. The final section of the article will then be devoted to an examination of inequalities in the distribution of pension and annuity income among the aged.

Identifying Aged Units and Comparable Populations

An important first step, analytically, is the proper identification of "aged units," a concept that treats nonmarried

individuals and married couples as discrete economic units. Not only is this the unit of analysis traditionally used in Grad's CPS-based biennial series on the income of the aged, it is, for the most part, the only unit of analysis available in the SOI data, since almost all married couples file joint tax returns.

The identification of aged units in the CPS is fairly straightforward. The survey collects income data for each individual household member. Records of husbands and wives can then be linked and combined in data processing, and nonmarried individuals and married couples can be classified according to their reported ages. Grad's classification of couples according to age is slightly more complex than some other treatments of the data, since she uses the husband's age, primarily, as the basis for classification (for further detail, see note no. 3). In her analysis of the 1990 CPS data, Grad identified a total of 23.1 million units aged 65 or older—9.3 million married couples and 13.8 million nonmarried persons.[55]

The basic identifier for aged units in the SOI data file is the tax deduction that can be claimed by filing units if the individual filer or one or both spouses in a married couple filing jointly is aged 65 or older. There are two complications, however. First, the age deduction, if claimed, is removed from the data records of filing units who also claimed a deduction for blindness (a procedure intended to further protect the confidentiality of taxpayers). In the 1990 data, there were 345,975 of these filing units—that is, units identifiable by blindness but not by age. A second complication is the relatively small number of aged married persons who filed separate returns (111,665 in 1990); the SOI data file provides no way to link these persons and identify them as married "units."

Schieber's aged units.— In his analysis of the 1990 SOI data, Schieber (1995) identified 13.5 million aged units. He acknowledges the first complication just described, but does not mention the second.

More important, he identifies 21.3 million aged units in his comparison group from the CPS. This count is 1.8 million units lower than Grad's published CPS number (23.1 million, cited above), but Schieber does not mention this difference nor try to resolve it. Because he gives no details about his methodology, the reasons for the discrepancy remain unclear. The difference, however, is worth noting, not only because of its potential impact on measures of aggregate pension benefits in the CPS, but also because of what it suggests about the SOI population. While he acknowledges that the SOI does not include a significant portion of the aged population, the strength of his argument for the utility of the SOI is directly related to the proportion of the aged population that is being picked up in that data set. And the numbers are not impressive. According to Schieber's tabulations, the 1990 SOI included only 63.4 percent of the number of aged units he identified in the CPS, or, as he puts it, "roughly 63 percent of the potential tax filing units with a person over age 65 filed a tax return in 1990."[56] In fact, if the comparison is made to Grad's well-established measure of CPS units, the proportion of aged units in the SOI is an even less impressive 58.4 percent.

Aged units in this analysis.—In an effort to make the CPS measure of aged units comparable to that available in the SOI, this analysis uses a simpler definition than Grad's. Aged units are defined as nonmarried individuals aged 65 or older and married couples in which at least one spouse is 65 or older. This definition identified an additional 390,626 aged units in the CPS compared to Grad's, or a total of 23.5 million (table 5).

A slight adjustment was also made in the measurement of aged units in the SOI, both to increase comparability with the CPS and to avoid later analytical problems caused by certain kinds of returns. These returns were noted earlier—111,665 aged persons who were married but filed tax returns separately, and thus cannot be identified as aged "units." When we move beyond a simple comparison of aggregate measures of pension benefits among the aged, these records will be excluded in our analysis, resulting in a count of 13.4 million aged units in the SOI (table 5) rather than the 13.5 million used by Schieber (1995). While this is a minor technical adjustment, a more important finding remains: Using comparable measures, the number of aged units in the 1990 SOI was only 57.0 percent of the 23.5 million units in the CPS. Again, it should be emphasized that the CPS is intended to be representative of the entire civilian, noninstitutionalized population of the United States. In contrast, the SOI data files are representative only of those who submit individual Federal income tax returns.

Speculating about comparable populations.—Although the SOI is not representative of the aged population as a whole, it may be fairly representative of those who receive pension and annuity income. As indicated earlier (tables 2 and 3), the CPS data suggest that pension receipt among aged units is largely a middle and upper income phenomenon, heavily concentrated among those in the upper three quintiles of the income distribution. These are generally the kinds of people who would also meet the income requirements for filing Federal tax returns,[57] and thus would likely be represented in the SOI data files.

This is the type of rough assumption also made by Schieber in parts of his analysis. He notes, for example, that aged units in the CPS "with the lowest reported income...are generally the least likely to be required to file a tax return...."; and at several points in his presentation he restricts his CPS data to the 13.5 million aged units with the highest reported incomes to "maximize the likelihood" of having a group "comparable" to his 13.5 million aged units who filed tax returns and were thus in the SOI.[58]

A more precise analysis would go further and attempt to identify specific aged units in the CPS that met income and status requirements for filing tax returns and the probably small number in the SOI who would not have been required to file but did so anyway—that is, to identify two populations that are more strictly comparable.

That exercise, however, is beyond the scope of this study. Instead, we will concur with Schieber's assumptions about the aged populations represented in the CPS and SOI files. As applied to our data, this suggests that the SOI population is essentially a middle to upper income population, roughly com-

parable to the top 57 percent of aged units in the CPS. In contrast, we will assume that the CPS represents the entire range of income classes among the aged. This set of assumptions will be particularly important later in our analysis.

Aggregate Pension and Annuity Benefits by Age

Whatever was being measured as "pension and annuity" income in the 1990 SOI, and whatever population it represented, the majority of the money reported there was *not* going to the aged (table 5). This in itself is a rather interesting finding, and one that was not noted by Schieber (1995). Of the total $214.9 billion in pension and annuity income in the SOI, $104.3 billion was reported on tax returns by aged individuals or couples, $2.1 billion was reported by taxpayers claiming the deduction for blindness (age unknown), and $108.5 billion was reported by taxpayers under age 65. In contrast, out of the $146.7 billion aggregate in the CPS, $88.3 billion was reported by aged units, with the remainder ($58.4 billion) going to nonaged individuals and married couples (table 5).

Clearly, controlling for age is important to any evaluation of the CPS and SOI data files. While the CPS measures only 68.3 percent of aggregate pension and annuity income in the SOI for the population as a whole, it picks up 84.7 percent of the SOI aggregate for the aged—a gap reduced to $16.0

Table 5.—Aggregate pension and annuity income in the CPS and SOI data files,[1] by characteristics of survey respondents or tax filers, and number of aged units in the respective data files, 1990

Characteristic of survey respondent or tax filer	CPS data	SOI data
Total pension benefits (in billions)[2] ..	$146.7	$214.9
Aged units[3]..	88.3	103.5
Aged, but unidentified as "units"[4]..........	...	.8
Nonaged..	58.4	108.5
Blind, age unknown................................	...	2.1
Number of aged units (in thousands)[3]..	23,538	13,427

[1] March 1991 CPS, Bureau of the Census, and 1990 Tax File, SOI program, Internal Revenue Service.

[2] CPS measure includes private pensions or annuities (except regular distributions from IRAs or Keogh plans), government employee pensions, and Railroad Retirement benefits. SOI measure includes all distributions reported as "total pensions and annuities" on IRS Forms 1040 or 1040A; does not include IRAs. Further details on these measures are provided earlier in this article.

[3] Nonmarried individuals aged 65 or older and married couples in which at least one spouse is 65 or older. This definition is slightly different from that used by Susan Grad, Office of Research, Evaluation and Statistics, Social Security Administration, in her biennial publication of CPS data, *Income of the Population 55 or Older,* resulting in the identification of an additional 390,626 aged units in this analysis of the CPS.

[4] Individuals who select the tax filing status "married filing separately" cannot be linked as couples in the SOI data file, and thus cannot be identified as economic units comparable to those in the CPS.

billion—and 85.3 percent among comparable "aged units." Although the remaining gap is still a source for concern, it is not of the magnitude suggested by Schieber. Indeed, contrary to the thrust of his argument, the SOI does not provide a dramatically different perspective than the CPS on aggregate pension benefits among the aged.

Furthermore, in assessing the value of the two data sets for research on the aged, we must once again return to the respective "pension and annuity" measures themselves. As noted earlier, Schieber's conclusions are based in part on his counting IRA distributions as pension income. While he never reports the SOI aggregates for IRAs and pensions separately among the aged, our tabulations indicate that the $112.1 billion he labels as "pension income" in his fourth table—the keystone table in his analysis—actually includes $7.9 billion from IRAs. We are unable to estimate the contribution of IRA amounts to his CPS measure of pension income (a measure confounded, compared to ours, by a higher estimate of pension benefits and a lower count of aged units, described earlier). However, our tabulations of the CPS identified a maximum of only $1.4 billion in IRA payments among the aged. Including IRAs in his analysis, then, serves to widen the apparent gap he finds between the CPS and SOI.

In contrast, the analysis here excludes IRAs, the only component not from employer sponsored plans that can be identified in both the SOI and the CPS. We would like to exclude payments from individual annuity contracts, also, in order to restrict the analysis to employer provided benefits, but cannot identify these in the SOI. Thus, the figures sometimes described here as "pension benefits" are actually pension and annuity income, as measured in the CPS and the SOI, and include individual annuities.

Finally, we are concerned about the other types of payments that are undoubtedly included in the SOI data on the aged, some of which do not represent "income" and some of which are not from employer sponsored pension plans. These SOI payments—including rollovers, Section 1035 exchanges, the value of large loans from qualified plans, and the cash surrender value of life insurance policies—were described at length in preceding sections of this article, and estimates of their possible magnitudes in the population as a whole were presented in chart 2. Unfortunately, there is no way to derive comparable estimates of these payments among the aged. Still, it should be noted that they could account for much of the $16.0 billion discrepancy shown in table 5, the discrepancy between SOI and CPS measures of aggregate pension and annuity income among the aged.[59]

IV. Inequalities in the Distribution of Pension Benefits Among the Aged

Schieber's (1995) critique of the CPS and advocacy of the SOI was based not only on the higher level of aggregate pension and annuity income he found in the SOI, he also argues that the SOI data reveal higher rates of pension receipt among the aged and higher average benefits. Finally, and perhaps

most significantly, he uses the SOI data in an attempt to show that pension benefits are an important source of economic security to all income classes among the aged and are not disproportionately concentrated among upper income groups, as would be suggested by the CPS.

The focus in this section is on the latter proposition, examining inequalities in pension benefits among income classes in the CPS and comparable classes in the SOI. The analysis is presented in four parts: first, presenting receipt rates and average benefits for comparable income classes in the CPS and SOI; second, analyzing the percentage distribution of aggregate pension and annuity income across comparable income classes; third, examining Schieber's analysis on the distribution of pension benefits; and finally, reanalyzing some of his own data, which reveals a substantially different picture of inequality than the one he advances.

The analysis here attempts to use measures from the two data sets that are as comparable as possible. Two of these have already been described: (1) comparable counts of aged units in the CPS and SOI—23.5 million and 13.4 million, respectively, and (2) measures of aggregate pension and annuity income that do not include IRAs—$88.3 billion in the CPS and $103.5 billion in the SOI.

A third measure is required for the identification of income classes in this section: comparable measures of total income reported by individual units in the CPS and the SOI. Many of the income components in the two data sets are theoretically comparable. However, the SOI includes some components not measured in the CPS, and the CPS includes some not measured in the SOI. In his analysis, Schieber took one step toward comparability by excluding capital gains income and State income tax refunds from his SOI data. In this analysis, we take additional steps, excluding Form 4797 income (sale of business property) from the SOI, and excluding public assistance, veterans' benefits, regular contributions from others, and workers' compensation from the CPS data. The result is more comparable measures of total incomes for aged units in the two data sets, which are then used to divide these units into more comparable income classes.

Inequalities in Receipt Rates and Average Pension Benefits

At several points in his analysis, Schieber acknowledges that the SOI data file is missing lower income segments of the aged population. But the way he presents his data in perhaps the most important table in his analysis (table IV) does not reflect this. In his first direct comparison of the CPS and the SOI, he divides the two populations of the aged into deciles based on their total incomes, and then compares pension receipt rates and average benefits of recipients between the two sets of 10 income classes as though they were comparable. For example, in the lowest decile, he shows a 43-percentage point gap in pension receipt, with only 5 percent of the lowest income respondents in the CPS reporting pension income, compared with 48 percent in the lowest SOI decile; at the fifth

decile, the gap is 21 percentage points (72 to 51 percent in favor of the SOI), and at the tenth decile, 10 percentage points (72 to 62 percent for the SOI). Schieber's description of the data is only slightly more to the point:

> In virtually every income decile shown in Table IV, the prevalence of pension or annuity income is significantly higher in the tax files than in the CPS. If it is assumed that most people in the bottom three deciles of the CPS population would not be represented in the tax filing population because of their low incomes, the pension and annuity recipiency rate at the bottom end of the income distributions might be somewhat closer than the table suggests. But at the middle and upper income ranges the income tax filing data suggest that pension and annuity receipt is more widespread than the CPS evidence would lead us to believe. (Schieber 1995, p. 63.)

In fact, if we assume that the aged units in our SOI data are roughly comparable to those in the top three quintiles of the CPS—an assumption discussed earlier, and one almost identical to Schieber's approach elsewhere in his analysis[60]—the more valid comparison would be as presented in table 6, shown here in terms of CPS quintiles rather than deciles. According to these data—which, unlike Schieber's, do not include IRAs—pension receipt rates were fairly close between comparable income groups in the CPS and the SOI, ranging from 2 to 6 percentage points higher in the SOI (table 6). Average benefits among recipients were also fairly close, with CPS benefit amounts in the third and fourth quintiles only about 12 percent lower than comparable benefits in the SOI, although about 20 percent lower in the highest quintile. Considering the likelihood that the SOI data on the aged include several types of nonpension "total distributions," described earlier, the modestly higher receipt rates and average benefit amounts in the SOI might be expected, and are not very impressive.

Again, it should be noted that Schieber's conclusions about receipt rates and average benefits in the CPS and the SOI are based on comparisons of income groups that are not, in fact, comparable. It should also be emphasized that his comparative statistics on "mean pension income" are shown only for those who were receiving pensions or annuities (or IRAs). On the one hand, this comparison favors the SOI, with average pension income in the "poorest" SOI decile, for example, reported as $3,595 in 1990, compared with $1,906 in the lowest CPS decile. On the other hand, it seems to support his argument that even the poorest among the aged are receiving important benefits from pensions. Our statistic on average pension benefits among pension recipients in the poorest CPS quintile, $1,841 (table 6), is actually quite close to Schieber's lowest CPS decile; and our conclusion would be unexceptional: Yes, of course, pensions are a relatively important source of income to those fortunate enough to receive them. The more telling statistic, however, is the average pension benefit among *all* units in the poorest quintile, which we have added in table 6. With only 7 percent in the lowest quintile receiving pension or

Table 6.—Pension receipt and average pension benefits[1] among aged units[2] in the CPS and SOI data files,[3] by quintiles of total income in the CPS,[4] 1990

| | CPS data | | | | | SOI data | | | |
| | Number of units (in millions) | Percent receiving pension benefits | Mean benefits | | | Number of units (in millions) | Percent receiving pension benefits | Mean benefits | |
Income quintile			Recipient units	All units	Income			Recipient units	All units
Total[5].................	23.5	43	$8,710	$3,750	Total[5].................	13.4	65	$11,852	$7,711
I Less than $6,136....	4.7	7	1,841	123	I..............................	...	...	...	...
II $6,136-$10,499......	4.7	25	2,448	616	II.............................	...	...	...	...
III $10,500-$16,968....	4.7	51	4,472	2,264	III Less than $15,807.	4.5	53	5,169	2,753
IV $16,969-$28,589....	4.7	66	7,679	5,097	IV $15,807-$31,422....	4.5	72	8,604	6,170
V $28,590 or more.....	4.7	66	16,038	10,647	V $31,423 or more.....	4.5	70	20,239	14,209

[1] Pensions, as defined here, do not include IRA or Keogh income reported in the CPS, nor IRA income reported in the SOI data.

[2] Nonmarried individuals aged 65 or older and married couples in which at least one spouse is aged 65 or older.

[3] March 1991 CPS, Bureau of the Census, and 1990 Tax File, SOI program, Internal Revenue Service.

[4] To attain comparability with total income measure in the SOI data, the measure of CPS total income used here and in subsequent tables includes income from pensions, Social Security, assets, earnings, IRAs and Keogh plans, unemployment compensation, and alimony. It does not include public assistance, veterans' benefits, workers' compensation, or contributions from others.

[5] Parts may not sum to totals due to rounding.

annuity income, the average benefit in 1990 for this segment of the population as a whole was a rather meager $123.

In the absence of another data source that more adequately measures pension receipt and benefit amounts across the entire economic spectrum of the aged population—standards that the SOI data cannot meet—the CPS, albeit with some known weaknesses, remains the better alternative for studying these kinds of issues. As shown again in table 6, pension receipt among the aged is a middle to upper income phenomenon, with majorities of the aged receiving pensions and substantial average benefits only in the upper three quintiles of the income distribution.

Inequalities in the Distribution of Aggregate Pension Benefits

Another way of looking at inequalities in pension benefits is presented in table 7, which shows how the total "pie" of pension and annuity income was divided among the five income classes in the CPS. These data indicate that pension benefits are disproportionally distributed to aged units in the top two quintiles, with 27 percent going to aged units in the fourth quintile and a sizeable 57 percent going to those in the top 20 percent of the population. In contrast, aged units in the middle income quintile were receiving only 12 percent of total pension income, and, even more striking, those in the bottom 40 percent were receiving only 4 percent. This CPS distribution, it may be noted, is identical to the one shown earlier in table 3 (despite the slight differences between the two tables in the measure of pension benefits and the number of aged units), and this is probably the closest we can come, at present, to the "truth" about overall inequality in pension benefits. Although

the CPS is undoubtedly missing a substantial amount in lump-sum distributions from pension plans, it is not clear that lump sums are a significant factor among the aged, nor that the inclusion of lump-sum distributions in the CPS would significantly alter these findings on the division of pension benefits among income classes.

The data in table 7 also suggest that the greatest discrepancy in aggregate pension benefits between roughly comparable groups in the CPS and SOI is occurring at the highest income levels. Aggregate benefits in the third and fourth quintiles of the CPS were 87 percent of comparable groups in the SOI; in the top quintile, however, the CPS was picking up only 79 percent of the payments identified in the SOI. This discrepancy at the highest income levels could very well be due to large "total distributions" in the SOI in the form of lump sums, rollovers, and cash surrender values of life insurance policies and other nonpension income.

The fact that the SOI does *not* reveal greater equality in the distribution of pension benefits than the CPS—contrary to Schieber's argument—is shown more clearly in table 8. Here, the SOI population is divided into quintiles based on aged units' reported incomes, and the top three quintiles from the CPS are recalculated into a new set of quintiles roughly comparable to those in the SOI. (Again, this procedure is similar to one used by Schieber in selected parts of his analysis.) The percentage distributions of aggregate pension benefits across these roughly comparable quintiles in the two data sets are almost identical: 6 percent of benefits going to the lowest fifth in both data sets; 11 and 10 percent, respectively, going to units in the second quintiles of the CPS and the SOI; 18 and 16 percent in the third quintiles; and 24 and 23 percent in the fourth quintiles. Again, the widest discrepancy between the

CPS and SOI occurs in the top quintile, with pension income even more skewed toward the highest income group in the SOI than in the CPS.

It should be emphasized that the two populations represented in table 8 are essentially middle to upper income populations. It should also be emphasized that even within this segment of the aged population—which is generally favored in terms of pension receipt and benefit amounts—the distribution of aggregate pension and annuity income is, again, highly skewed toward those at the top. Indeed, Schieber's assertion that pensions are not delivering benefits "predominantly to high-income individuals"[61] is contradicted by both data sets.

The top two income quintiles in table 8 probably represent the top 23 to 24 percent of all aged units in the population (that is, 5.4 or 5.6 million out of 23.5 million), and aggregate pension and annuity income was, in fact, being "predominantly delivered" to these two higher income groups—65 percent of it in the CPS and 68 percent of it in the SOI. Perhaps even more impressive, the highest income quintile in both data sets in table 8—probably representing 11 to 12 percent of all aged units—was receiving 41 to 45 percent of all pension and annuity income.

Finally, another point should be emphasized: Whatever unknown types of payments are actually included in the "pen-

Table 7.—Aggregate amount of pension benefits[1] among aged units[2] in the CPS and SOI data files,[3] and percentage distribution of aggregate benefits across quintiles of total income in the CPS,[4] 1990

	CPS data			SOI data		
Income quintile	Number of units (in millions)	Aggregate pension benefits (in billions)	Percentage share of aggregate benefits	Income	Number of units (in millions)	Aggregate pension benefits (in billions)
Total[5]......................	23.5	$88.3	100	Total[5]......................	13.4	$103.5
I Less than $6,136.......	4.7	0.6	1	I...............................	...	...
II $6,136-$10,499........	4.7	2.9	3	II..............................	...	...
III $10,500-$16,968.......	4.7	10.7	12	III Less than $15,807........	4.5	12.3
IV $16,969-$28,589.......	4.7	24.0	27	IV $15,807-$31,422.........	4.5	27.7
V $28,590 or more.......	4.7	50.1	57	V $31,423 or more...........	4.5	63.6

[1] Pensions, as defined here, do not include IRA or Keogh income reported in the CPS, nor IRA income reported in the SOI data.

[2] Nonmarried individuals aged 65 or older and married couples in which at least one spouse is 65 or older.

[3] March 1991 CPS, Bureau of the Census, and 1990 Tax File, SOI program, Internal Revenue Service.

[4] For the measure of total income in the CPS used here, see footnote 4, table 6.

[5] Parts may not sum to totals due to rounding.

Table 8.—Aggregate amount of pension.benefits[1] among aged units,[2] and percentage distribution of aggregate benefits across comparable quintiles[3] of total income in the CPS and SOI data files,[4] 1990

	CPS data			SOI data		
Income quintile	Number of units (in millions)	Aggregate benefits (in billions)	Percentage share of aggregate benefits	Income quintile	Number of units (in millions)	Aggregate benefits (in billions)	Percentage share of aggregate benefits
Total[5]......................	14.1	$84.8	100	Total[5]......................	13.4	$103.5	100
I $10,500-$13,909............	2.8	5.0	6	I Less than $11,744........	2.7	5.9	6
II $13,910-$18,556............	2.8	9.4	11	II $11,744-$18,012..........	2.7	10.6	10
III $18,557-$25,253............	2.8	14.9	18	III $18,013-$27,271..........	2.7	16.4	16
IV $25,254-$37,640............	2.8	20.7	24	IV $27,272-$44,329..........	2.7	23.6	23
V $37,641 or more............	2.8	34.8	41	V $44,330 or more...........	2.7	47.0	45

[1] Pensions, as defined here, do not include IRA or Keogh plan income reported in the CPS, nor IRA income reported in the SOI data.

[2] Nonmarried individuals aged 65 or older and married couples in which at least one spouse is 65 or older.

[3] The top three quintiles of aged units in the CPS and the three income groups in the SOI, as presented in tables 6 and 7, are reclassified here into quintiles.

[4] March 1991 CPS, Bureau of the Census, and 1990 Tax File, SOI program, Internal Revenue Service.

[5] Parts may not sum to totals due to rounding.

sion and annuity" data in the SOI—a source of some uncertainty and concern throughout this analysis—the data in table 8 suggest that these payments are going to much the same kinds of people as the more clearly defined pension and annuity payments in the CPS. The underlying proposition is simple and perhaps self-evident, though, of course, it would need to be confirmed through additional research: Higher income people not only tend to receive larger periodic payments from pensions and annuities, they also tend to receive larger lump-sum distributions, make larger rollovers, engage in larger Section 1035 exchanges, take larger loans from qualified plans, and cash in larger life insurance policies. Repeatedly, the message from research on income of the aged is clear (and will be shown again later in this analysis): The wealthiest among the elderly have multiple bases for their wealth, including employer sponsored pensions; the poorest among the elderly, in contrast, are heavily dependent on Social Security.

Schieber's Perspective on Inequality

As evidenced by the introductory and concluding arguments in his recent article, Schieber (1995) is clearly concerned about the issue of inequality in the distribution of pension benefits among income classes, which he feels has been misrepresented by analyses based on surveys such as the CPS. However, he never deals directly with the issue. Instead, he uses a form of "shares of income" argument at several points in the article, and restricts his analysis to data from the SOI.

A typical "shares" analysis examines sources of income within a given category—for example, within an income quintile—and shows what proportion of total aggregate income in that category (or total mean income, as an alternative) comes from particular sources. Schieber's approach, most clearly stated on pages 67-68 of his article, is a modified shares analysis, examining the importance of pension benefits not to a particular income class as a whole but to recipients of pensions within that class. Furthermore, pension income is generally

examined as a percentage of nonpension income, rather than as a percentage of total income. The resulting analysis not only overstates the importance of pension benefits at all income levels, but also suggests that pensions are a particularly important source of income for lower income groups and not very important for those at the top.

Schieber's discussion of this issue is not directly reflected in a statistical table, making it somewhat difficult for the reader to follow his argument. However, he uses SOI data from two of his tables (tables IX and III) as a base, and these data are reconstructed here in table 9. His argument, presented below, can generally be followed by referring to columns three and six of this table:

> The relative value of pension income for those receiving such income at various levels is shown in Table IX. Aggregating the bottom three deciles, mean pension income is roughly equal to the mean nonpension income. From Table III we can calculate that 55% of the tax filing units in the bottom three deciles are reporting pension income. In other words, in the bottom three deciles, pension income is about half of the reported income in more than half of the tax filing units. While we know that Social Security is underreported in these income classes, the amount of pension income being delivered in this portion of the income distribution is significant and would be a major loss for the households receiving it if they were to lose it. In the next three deciles, deciles 4 through 6, nearly three-quarters of the elderly tax filing units reported receiving pension income. In this income range, mean pension and annuity income was the equivalent of about two-thirds the value of nonpension income being received in these households. Through the middle-income ranges, pension income is a significant source of total income for the large majority of elderly units. In the next three deciles, 7 through 9, mean pension income is

Table 9.—Schieber's (1995) data on average retirement plan benefits[1] and other income, by deciles of total income: Aged tax filers[2] who reported retirement plan benefits in the SOI data file, 1990

Income decile (1)	Number of filing units (in millions) (2)	Percent with pension or IRA income (3)	Mean retirement plan income (4)	Retirement plan income —		
				Mean, all other income (5)	As percent of other income (6)	As percent of total income (7)
1-3 Less than $14,983.....	4.06	55	$5,095	$5,086	100	50
4-6 $14,983-$27,357.......	4.06	74	8,112	12,275	66	40
7-9 $27,358-$62,080.......	4.06	77	13,654	26,849	51	34
10 $62,081 or more........	1.35	72	34,832	92,884	38	27

[1] In addition to pension and annuity income, includes taxable IRA income.

[2] Includes 111,665 individuals aged 65 or older whose filing status was married filing separately, not classified as "aged units" elsewhere in this analysis.

Source: Author's calculations based on data in tables III and IX of Sylvester J. Schieber, "Why Are Pension Benefits So Small?" *Benefits Quarterly*, Fourth Quarter 1995.

about half of the value of mean nonpension in-come for 77% of the tax filing units reporting such income, again a significant source of retirement security. At the very highest income decile, mean pension and annuity income is only about one-third [sic] the value of nonpension income for the 72% of units reporting receiving a pension at this income level. *These results do not support the conclusion that pensions are not delivering signifi-cant income across the income spectrum or that they are delivering it predominantly to high-in-come individuals.* (Schieber 1995, pp. 67-68.) [Italics added.]

Again, it must be noted that these SOI data do *not* represent "the income spectrum"—a critical issue in interpreting both the discussion and conclusion just cited.

In addition, there are problems with this kind of "shares" analysis, and with Schieber's modified version of it. A typical shares analysis would focus on the lower percentages given in column seven, rather than those in column six, and would present data based on all persons in the grouped deciles, not just on pension recipients. However, a more fundamental weakness is suggested by his reference to the underreporting of Social Security income in the lower deciles of the SOI data: the fact that the relative importance of pensions to different income classes is directly affected by variations in their other sources of income.

Data to illustrate this problem are presented in table 10. The table shows aggregate amounts from the four main sources of income among the aged—Social Security, pensions, asset income, and earnings—by quintiles in the CPS and roughly comparable groups in the SOI. While table 10 is rich in detail, our discussion will focus on only a few of the important points relevant to Schieber's argument about inequality in pension benefits.

In the lowest income group in the SOI—roughly compa-rable to the third quintile in the CPS—only $7.6 billion was reported in Social Security benefits. This is not surprising, given the tax treatment and reporting requirements by the IRS for Social Security income. According to IRS instructions in 1990, tax filers were asked to report their Social Security ben-efits on their returns *only* if any part of those benefits was taxable. As is sometimes the case in the SOI data, the amounts actually reported by individuals may not be consistent with IRS instructions; those amounts, nonetheless, are picked up in the SOI data files. On the one hand, then, it is surprising that even $7.6 billion in Social Security benefits was reported by the lowest SOI income group in table 10, since their gross incomes were below the threshholds for taxation of Social Security benefits. More important for our purposes, the $7.6 billion reported was only a fraction of the amount being re-ceived—only one-fifth of the Social Security benefits reported by the comparable income group in the CPS, for example (table 10). The effect is that the real contribution of Social Security to the total aggregate income of this SOI group is significantly understated, and the share accorded to pensions (an absolute amount fairly close to that reported in the compa-

rable CPS group) is correspondingly overstated, making pen-sions appear more important to this lower income group than they really are.

The opposite dynamic is revealed in the highest SOI in-come group, but in this case is due to the large amounts re-ported as asset income. Here, the sizeable pension aggregate ($63.6 billion) is overwhelmed by the massive amount of in-come from assets ($143.8 billion), an income source even more skewed than pensions. The effect is to make pensions appear less important to this higher income group than they really are, both in absolute terms and relative to other income classes.

In sum, Schieber's analysis of the relative importance of pensions within different income classes in the SOI is heavily dependent on variations in *other* income sources being re-ported by those classes. If we want to answer the question, "Which income groups among the aged are receiving the bulk of pension payments?" a more straightforward approach is to examine the distribution of aggregate pension benefits *across* income classes—without the confounding effects of other income sources—as was done in tables 7 and 8.

Taking Another Look at the SOI Data

This more straightforward approach can be undertaken based on Schieber's own data from the SOI, recalculated and presented here in table 11. Using the same decile groupings he described in his analysis of inequality, using his measure of pension benefits (which, again, includes IRAs), and using his definition of aged units—treatments parallel to the reconstruc-tion of his argument in table 9—aggregate "pension" benefits for income groups in the SOI can be calculated from data in two of his tables (tables III and IV). Contrary to Schieber's emphasis on the relative importance of pensions to lower and higher income groups, this recalculation shows that only 10 percent of aggregate pension income in the SOI was going to those in the bottom 30 percent of his income distribution, while 30 percent was going to those in his top 10 percent (table 11)—a finding all the more remarkable for its clean asymmetry.

Also remarkable is the share of aggregate benefits being received by those in the top 40 percent of his income distribu-tion—68 percent (table 11)—since this result is precisely what we found, using slightly different measures, in our earlier re-ported analysis of the SOI data (table 8). Once again, it should be emphasized that the number of aged units in this group actually represents less than one-fourth of all aged units in the population. The fact that Schieber's own data can be used to show that this group was receiving almost seven-tenths of all pension and annuity income among the aged stands in stark contrast to his conclusion, cited earlier, that "pensions are not delivering" income "predominantly to high-income indi-viduals." Indeed, whether the distribution of aggregate pen-sion and annuity income is examined across all CPS quintiles (table 7), across comparable quintiles in the CPS and SOI (table 8), or across decile groups using Schieber's own SOI data (table 11), the conclusion in this analysis is quite the contrary.

V. Conclusions

In general terms, one of the most important conclusions to be drawn from this analysis is that, given current data limitations, "conclusions" about the level of aggregate pension benefits should not be proffered with too much certainty or precision. Future research should be held to high standards of definitional clarity, and measures of pensions and related benefits must be further refined. The discussion here briefly elaborates on these kinds of issues and offers some final evaluative comments about data sources and the pension system itself.

Measurement Issues

Among both the producers and consumers of empirical research, there is too often a tendency to accept statistics at face value, without questioning underlying issues of measurement validity and reliability. A given measure of a particular phenomenon—for example, the measurement of pension income in any one of the three data sets examined in this article—may reflect an intricate set of assumptions and methodological issues concerning definition, data collection, and data processing, and may be valid and reliable only to a degree.

The more complex the phenomenon, the more difficult it is

Table 10.—Aggregate income from four main sources and shares of aggregate income, by quintiles of total income in the CPS and comparable groups in the SOI data file,[1] 1990

| Income quintile | Unit of measure | Aggregate income and percentage share from four main sources | | | | |
		Total[2]	Pensions	Social Security	Asset income	Earnings
		CPS data				
Total[2]	Dollars (in billions)	$469.5	$88.3	$173.3	$118.7	$89.2
	Percent share	100	19	37	25	19
I Less than $6,136	Dollars (in billions)	$17.2	$0.6	$15.7	$0.7	$0.2
	Percent share	100	3	91	4	1
II $6,136-$10,499	Dollars (in billions)	$38.6	$2.9	$31.1	$3.4	$1.2
	Percent share	100	8	81	9	3
III $10,500-$16,968	Dollars (in billions)	$63.2	$10.7	$38.3	$9.7	$4.5
	Percent share	100	17	61	15	7
IV $16,969-$28,589	Dollars (in billions)	$102.9	$24.0	$43.3	$22.0	$13.6
	Percent share	100	23	42	21	13
V $28,950 or more	Dollars (in billions)	$247.5	$50.1	$44.9	$82.9	$69.6
	Percent share	100	20	18	34	28
		SOI data				
Total[2]	Dollars (in billions)	$453.4	$103.5	$80.5	$190.5	$78.9
	Percent share	100	23	18	42	17
	Ratio, SOI:CPS	0.966	1.172	0.465	1.605	0.885
I		...	...	...	...	...
II		...	...	...	...	...
III Less than $15,807	Dollars (in billions)	$41.6	$12.3	$7.6	$15.8	$5.9
	Percent share	100	30	18	38	14
	Ratio, SOI:CPS	0.658	1.150	0.198	1.629	1.311
IV $15,807-$31,422	Dollars (in billions)	$98.9	$27.7	$27.1	$31.0	$13.2
	Percent share	100	28	27	31	13
	Ratio, SOI:CPS	.961	1.154	.626	1.409	.971
V $31,423 or more	Dollars (in billions)	$312.9	$63.6	$45.8	$143.8	$59.8
	Percent share	100	20	15	46	19
	Ratio, SOI:CPS	1.264	1.269	1.020	1.735	.859

[1] March 1991 CPS, Bureau of the Census, and 1990 Tax File, SOI program, Internal Revenue Service.
[2] Totals are from four sources only. Parts may not sum to totals due to rounding.

Table 11.—New calculations from Schieber's (1995) data: Aggregate retirement plan benefits[1] and percentage distribution of aggregate benefits across deciles of total income among aged tax filers[2] in the SOI data file, 1990

Income decile		Number of filing units (in millions)	Number with pension or IRA income (in millions)	Aggregate retirement plan income (in billions)	Percentage share of aggregate retirement plan income
	Total[3]	13.54	9.32	$112.2	100
1-3	Less than $14,983	4.06	2.23	11.4	10
4-6	$14,983-$27,357	4.06	2.99	24.2	22
7-9	$27,358-$62,080	4.06	3.12	42.6	38
10	$62,081 or more	1.35	.98	34.0	30

[1] In addition to pension and annuity income, includes taxable IRA income.

[2] Includes 111,665 individuals aged 65 or older whose filing status was married filing separately, not classified as "aged units" elsewhere in this analysis.

[3] Parts may not sum to totals due to rounding.

Source: Author's calculations based on data in tables III and IV of Sylvester J. Schieber, "Why Are Pension Benefits So Small?" *Benefits Quarterly*, Fourth Quarter 1995.

to obtain good measures, and the more we should be prepared to question those measures. Anyone who has struggled with the design of survey questions, for example, and then used those questions in actual interviews with survey respondents, develops a healthy degree of cautiousness in reaching hard conclusions based on survey statistics; and this kind of caution should certainly apply to income measures such as those produced through the CPS.

But caution should also be used in approaching nonsurvey data, including those that may result from legal requirements or administrative procedures. In this study, we have paid particular attention to the pension and annuity data in the IRS/SOI files—in part, because they were so strongly recommended in a recent article on pension benefits (Schieber 1995), in part because investigation revealed some obvious problems in using these data for research on employer pensions.

However, the NIPA estimates of pension benefits also deserve more scrutiny than they have been given in this article. The Form 5500 data on private pension benefits, for example, are collected as part of the broader effort to monitor compliance with pension law, not for research purposes per se, and one encounters surprising complexity and numerous unknowns in these data when making an effort to determine the kinds of payments that are or are not being included. This is an issue that has not been systematically studied, nor have the 5500 benefits data been subjected to systematic evaluations of data quality. Other concerns have been raised about the quality of the ACLI data, the second data source used in the NIPA estimates of private pension benefits. Methodological details concerning the ACLI data are neither publicly documented nor readily available on informal inquiry, and concerns expressed by some analysts—that the ACLI estimates may be higher than justified—have not been resolved. Finally, the BEA relies on a series of assumptions and adjustments when combining data from these two sources for its NIPA estimates, assumptions and adjustments that may themselves deserve further scrutiny.

It should be emphasized that the intent here is not to categorically discount the utility of any of the three data sources examined in this article. Far from it, since we believe that each of them contains a large core of "truth" about the level of pension benefits being paid from employer sponsored plans. Instead, the intention is to offer a simple reminder that the truth about pension benefits is not easy to come by, and that each of the measures examined here has its own combination of strengths and weaknesses and unknowns—some undoubtedly more important than others.

The Problem of Lump-Sum Distributions and Rollovers

This study suggests that the real level of aggregate pension benefits lies somewhere below the NIPA estimate and above the CPS estimate—in 1990, between $150 and $235 billion, roughly (or $170 to $215 billion in our "reconciliation" exercise, earlier). The largest unknowns concern the amounts being paid in lump-sum distributions and the amounts subsequently rolled over to other employer plans or to IRAs.

The NIPA estimate ostensibly includes all lump-sum payments and, apparently, most rollovers to other employer sponsored plans. We agree with the BEA that such rollovers should not be counted as pension income in the year in which they occur and that the NIPA estimates are correspondingly inflated. In addition, however, we are concerned that the NIPA estimates are further inflated by the double counting of such rollovers over time—first, when the rollover takes place, and later, when it is eventually taken as income by the recipient. In contrast, the CPS numbers are underestimated to the extent that lump-sum distributions are not being reported by survey respondents.

For now, the issue cannot be resolved, since we do not have satisfactory data on aggregate lump-sum distributions in a given year or aggregate amounts of rollovers. According to

our analysis, the estimate of lump-sum distributions often quoted in recent years—$107.2 billion in 1990—is far too high, and we have argued that the actual amount in 1990 was more likely in the $65-$70 billion range. Again, however, none of these are hard or fully trustworthy measures, and further research on lump sums and rollovers is sorely needed.

The need for further research is likely to become even greater in the future. With the trend toward defined contribution rather than defined benefit plans, the proportion of benefits paid out as lump sums will probably continue to increase, and with recent changes in the tax treatment of preretirement lump-sum distributions, the proportion of rollovers is also likely to be higher than in the past. These changes could bring an ever widening gap between estimates of aggregate pension benefits in the NIPA and those based on surveys such as the CPS. Unless the BEA finds a way to exclude rollovers from its NIPA estimates, these estimates will become increasingly inflated in future years; and unless income surveys begin to do a better job of including lump-sum distributions, their estimates of aggregate pension benefits will become increasingly deflated. Although the CPS has yet to adapt to this important change in the nature of pension payouts, another income survey conducted by the Bureau of the Census— the Survey of Income and Program Participation (SIPP)—has recently added several useful questions on lump sums.[62] We intend to examine these data in future analyses. More immediately, based on the results of the present study, we intend to make recommendations to the Bureau of the Census for possible improvements in the measurement of pension benefits in its income surveys.

Population and Subgroup Issues

While measurement issues in overall estimates of aggregate pension benefits may be a source of concern, they may be more or less important in estimating pension benefits for different subgroups in the population. This analysis has suggested that discrepancies in measures of aggregate pension benefits may be largely accounted for by the types of payments included in the different measures—most importantly, lump-sum distributions. Whatever their source, however, the discrepancies are less important among the target group of pension recipients—the aged—than among the nonaged.

This is an important distinction, and one that is often overlooked in the empirical literature. As noted earlier, the NIPA estimate cannot be broken down by age. However, evidence from the CPS and the SOI data is instructive. Of the total discrepancy of $68.2 billion in aggregate pension benefits between the SOI and the CPS ($214.9 and $146.7 billion, respectively), only $16.0 billion—less than a quarter—could be attributed to differences between the aged, whereas the gap between the two populations of nonaged tax filers or survey respondents was $50.1 billion. (The remaining $2.1 billion could not be classified by age.) Furthermore, the relatively small $16.0 billion gap between the two aged populations may not be of any relevance to "true" pension income, since it could very well be accounted for by some of the nonpension or nonincome distributions reported in the SOI data, including

rollovers, Section 1035 exchanges, the value of large loans from qualified plans, and the cash surrender value of life insurance policies.

In considering Sylvester Schieber's 1995 article on pension benefits, this analysis was critical of his use of noncomparable measures (for example, comparing his SOI estimate, which included taxable IRA income, to a NIPA estimate which expressly excludes IRAs). More important, however, was his treatment of population and subgroup issues in his analysis— first, the implication at times that the SOI population of aged tax filers (which in fact represented only 57 percent of aged units in the CPS, and was predominantly a middle to upper income population) represented the full "income spectrum" among the aged; and second, his use of noncomparable income classes in the CPS and the SOI to draw conclusions about higher pension receipt rates and higher average benefits in the SOI.

When we examined roughly comparable income classes in the two data sets, receipt rates and average benefits were only slightly higher in the SOI (table 6)—differences that might easily be accounted for by some of the nonpension distributions included in the SOI. In addition, the percentage distribution of aggregate pension and annuity income across income classes was almost identical when the analysis was restricted to roughly comparable groups among the aged; and this measure of distributional inequality was remarkably robust, whether between slightly different measures in the CPS (tables 3 and 7), between the CPS and SOI (table 8), or between slightly different measures in the SOI (tables 8 and 11). In all these analyses, pension and annuity income was highly skewed toward upper income units among the aged.

Giving the Pension System the Credit It Deserves

Although this study has, at times, been critical of Schieber's 1995 article, there are several points in his analysis that merit serious consideration.

For one thing, Schieber is concerned that data from surveys such as the CPS do not give the pension system as much "credit" as it deserves for contributing to economic security. At the aggregate level and for the population as a whole, this is undoubtedly correct. The CPS aggregate, as noted repeatedly, is significantly lower than aggregate measures from the NIPA and the SOI, and it is generally thought that the CPS is missing substantial amounts of pension benefits paid out in the form of lump sums.

Again, however, this argument has rather less merit when the analysis is restricted to the aged. Aggregate pension and annuity income among aged units in the CPS was only 15 percent lower than that reported in the SOI, and much of this gap may be due to distributions that cannot reasonably be characterized as employer pensions. It is not clear that lump-sum distributions are a significant source of income among the aged, nor is there any evidence that capturing them in the CPS would have a significant effect on the unequal distribution of pension benefits across income classes. Thus, it is not clear that the pension system deserves much more credit than it has been accorded for payouts to the elderly in any given year.

A second point from Schieber's article concerns the long-term contributions of the pension system in ways that may not be reflected in survey data on pension and annuity income. Schieber is justifiably concerned that some of the IRA income reported by the aged undoubtedly originated as rollovers from employer sponsored pension plans and thus should be considered when evaluating the contributions of the pension system. He is further justified in pointing out that some of the money classified as asset income among the aged probably had its origins in lump-sum distributions from employer sponsored plans. In addition, data on the uses of preretirement lump-sum distributions suggest that the pension system may also be contributing to other aspects of economic well-being among the aged, such as home ownership and the lack of indebtedness. Unfortunately, there are no data available to help us untangle these complex issues, and it is certainly an area where further research is needed. Once again, however, it is far from clear that such data would significantly change our conclusions about the distribution of pension benefits across income classes.

Finally, despite our emphasis on the disproportionate delivery of pension benefits to those in the top two income quintiles among the aged, we acknowledge, of course, that even small pension benefits can be a critically important income source to those in lower income groups who are fortunate enough to receive them. Certainly, average pension benefits of $153 per month in 1990 were important to the 7 percent of aged units in the lowest quintile who were receiving them, as was the average monthly benefit of $204 being received by the 25 percent of aged units in the second quintile in the CPS (table 6). It is only in the context of the much larger aggregate—$88.3 billion in the CPS, $74.1 billion of which was going to the top two quintiles (table 7)—that these benefit amounts for lower income retirees seem relatively insignificant.

A Note About Research and Policy

As indicated earlier, Schieber's article was concerned not just with empirical issues, but with public policy on pensions. In particular, he suggests that the reduction in tax preferences for employer plans and the increase in Federal regulation of these plans over the past 15 years—changes intended to promote the wider distribution of pension coverage among all classes of workers and the wider distribution of benefits among the aged—have been misguided. It is perhaps instructive that his article on pension benefits was published under the rubric of "Public Policy"; clearly, it was intended to impact the ongoing policy debate on pensions.

Although it is not the purpose of this article to take positions on pension policy, we should take a position on the quality of data analyses underlying policy debates. And here, the evidence seems clear: The system of employer sponsored pensions in the United States—indirectly subsidized by one of the largest tax expenditures in the Federal budget—has been doing a poor job of providing widespread retirement income security to lower wage workers and their families; instead, it is serving its intended role in the 3-legged stool only among majorities of the aged at middle and upper income levels. Finally, while

income surveys such as the annual CPS supplements are clearly in need of improvement, this study also concludes that the IRS/SOI data files do not provide a useful alternative for analyzing the extent of pension receipt or the distributional effects of pensions among the aged.

Notes

[1] The first publication in this series reported income data for 1976 and was authored by Susan Grad and Karen Foster. Grad was the sole author of the publication for 1978 and in subsequent years. For the 1990 data cited repeatedly in this article, see Susan Grad, *Income of the Population 55 or Older, 1990*, Office of Research and Statistics, Social Security Administration, April 1992.

[2] Details on the nature of the Current Population Survey are provided later in this article.

[3] This is the rough definition of "aged unit," a term used in the SSA/CPS series on income of the population 55 or older, and often used in other literature on the aged. In the early years in the SSA series, a married couple was classified by age according to the age of the husband, except in instances where the husband was under the age of 55 and the wife was older, in which case the wife's age was used. This operational definition has continued to be used in the SSA series. Once identified as 55 or older, aged units are further classified into groups by age—typically, ages 55-61, 62-64, and 65 or older. In this study "aged units" will refer to the latter group, and, unless otherwise specified, will be used synonymously with terms such as "the aged" or "the elderly."

[4] Sylvester J. Schieber, "Why Do Pension Benefits Seem So Small?" *Benefits Quarterly*, Fourth Quarter 1995, Vol. 11, No. 4, pp. 57-70.

[5] Details on the nature of the IRS/SOI data are provided later in this article.

[6] Private sector pension plans in the United States are established voluntarily and for a variety of reasons. Among the factors encouraging formation of these plans are tax incentives provided through the Federal income tax code. Employer sponsored plans that meet certain standards ("tax-qualified" plans) are not required to pay current income tax on contributions to the plans or on earnings on those contributions, although pension benefits are subject to taxation when they are eventually received by individuals. To achieve and maintain this tax-preferred status, pension plans must meet a variety of requirements

intended, among other things, to ensure widespread coverage of workers and protection of their pension rights.

[7]An important part of the policy debate in recent years has concerned the issue of "tax expenditures" in support of the pension system—in particular, whether the revenue loss resulting from the favorable tax treatment of pensions is justified in light of the system's apparent ineffectiveness in delivering retirement benefits across a broad spectrum of retirees. Prominent critics of the system have included Alicia Munnell, an economist currently serving on the President's Council of Economic Advisors, while defenders have prominently included Sylvester Schieber. For some of the arguments in this debate, see Munnell (1992), and Goodfellow and Schieber (1993).

[8]Schieber (1995), p. 63.

[9]See, for example, Mitchell (1992) and Salisbury (1993).

[10]These estimates are typically published by the U.S. Department of Commerce in the July edition of *Survey of Current Business*, in tables 6.11 and 3.12, respectively.

[11]U.S. Department of Commerce, Bureau of the Census, *Finances of Employee-Retirement Systems of State and Local Governments: 1989-90*, Series GF/90-2, May 1992.

[12]U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, July 1994, table 3.12.

[13]In recent years, these data have been published periodically by the U.S. Department of Labor (DOL). For the 1990 data, see DOL, *Private Pension Plan Bulletin*, No. 2, Summer 1993.

[14]The ACLI publishes this information in a statistical "fact book," issued annually in either a complete or an abbreviated form. For the 1990 data on pension benefit payments, see American Council of Life Insurance, *1991 Life Insurance Fact Book Update*, p. 26. It should be noted that there is some question about the quality of the ACLI data on pensions. Methodological details (such as the nature of the ACLI's sample, response rates achieved, and so forth) are not publicly documented nor readily available. Analysts at the Department of Labor have in the past expressed concerns about the ACLI data on benefit payments and pension plan assets, believing, in light of other data, that the estimates may be higher than justified. Efforts to resolve these concerns, however, have not been successful.

[15]See Park (1992) for details on data and methodology, including a breakdown of DOL and ACLI components through 1988.

[16]These statistics were derived in a new "benchmarking" of the NIPA estimates of private pension benefits, completed by Thae Park of the Bureau of Economic Analysis (BEA) in August 1995. Only the combined total is published in the NIPA tables. It may be noted, incidentally, that the basic methodology used by the BEA—relying on the DOL and ACLI data, then adjusting and combining them—was actually pioneered by Milton Glanz of the Social Security Administration for publication in the annual SSA series, "Private Social Welfare Expenditures in the United States" (see Glanz, Schmulowitz, and Kerns 1987). This methodology has since been carried on by Jack Schmulowitz and Wilmer Kerns of SSA. Although the BEA uses slightly different adjustment procedures, estimates in the BEA and SSA series have been quite close since 1991, when the basic methodology converged. For 1990, for example, the SSA estimate of private pension benefits was $137.2 billion, compared with the $139.9 billion recalibrated by the BEA, as described above. For further details on SSA's estimating procedures, see Kerns (1995).

[17]Based on data for private pension benefits computed by Thae Park of the Bureau of Economic Analysis in August 1995.

[18]It should be emphasized that chart 1 represents a provisional attempt to classify the components of pension benefits included in the NIPA and the two other data sources under review in this article. Payment categories are not exhaustive or mutually exclusive. For additional details on types of payments included in the NIPA estimate, see Park (1992).

[19]The assertions about components included and not included in the NIPA estimates are based on Park (1992), on examination of IRS "Instructions for Form 5500," and on personal communications with analysts at the Department of Labor and the American Council of Life Insurance.

[20]For more detail on the design and purpose of the CPS, see Bureau of the Census, *Current Population Reports*, Series P-23, No. 62, October 1976.

[21]See U.S. Department of Commerce, Bureau of the Census (1993), pp. C-12 to C-14, and Coder and Scoon-Rogers (1994).

[22]See Yakoboski (1994); also U.S. Department of Labor (1993).

[23]Coder and Scoon-Rogers (1994); Park (1992); and Vaughan (1989).

[24]Source categories that are not used consist of various kinds of workers' compensation or Black Lung benefits, payments from accident or disability insurance, temporary sickness benefits, payments from estates or trusts, and "other" (including "don't know" responses).

[25]For more information on the SOI program, see Scheuren and Petska (1993).

[26]Schieber (1995), p. 61.

[27]Including the Internal Revenue Service's "Instructions for Form 1040, 1990," "1990 Tax Guide for Individuals" (Publication 17), "Pension and Annuity Income" 1990 (Publication 575), Form 1099-R, and "1990 Instructions for Forms 1099, 1098, 5498, and W-2G."

[28]An alternative interpretation of Schieber's description might suggest that he was able to exclude the 1099-R payments in his processing of the SOI data, and this question was raised in a written communication to him. In a subsequent telephone conversation, Gordon Goodfellow, Schieber's colleague at Watson Wyatt Worldwide who handled data processing for the 1995 analysis, indicated that this was not the case. Our examination of documentation for the 1990 data file and communications with SOI analysts confirmed that pension and annuity income originating on the 1099-R and the W-2P cannot be separated in processing the SOI data.

[29]Paul Yakoboski, "Retirement Program Lump-Sum Distributions: Hundreds of Billions in Hidden Pension Income," *EBRI Issue Brief*, No. 146, February 1994.

[30]To avoid confusion, it is important to specify 1990 as the year of the 1099-R data being described. The reason is that in more recent years a modified version of Form 1099-R has been used not only to report total distributions, but also the kinds of payments that were previously reported on Form W-2P. The modified form includes a check-off box that would enable analysts to separate total from nontotal distributions.

[31]See IRS Publication 575, "Pension and Annuity Income" (1990), pp. 12-25.

[32]Author's calculations, based on data in Yakoboski (1994), table 1 and chart 2d.

[33]The estimate for nonqualified individual annuity payments is based on the author's calculations, and was confirmed in communications with ACLI staff, using data from the *1991 Life Insurance Fact Book Update*, pp. 17 and 26. According to ACLI staff, the total of $22.1 billion in tax-qualified private pension plan payments (p. 26) is included in total annuity payments, $32.6 billion (p. 17). The remainder ($10.5 billion) is almost entirely composed of distributions from nonqualified individual annuity contracts, distributions that are typically taken as total distributions according to other insurance industry sources. The estimate of cash surrender value of life insurance policies is reported directly in the same publication (p. 17).

[34]It should be emphasized that our concern is not with taxable amounts, but with the total amounts that could have been reported to recipients on Form 1099-R and subsequently reported by those recipients as "total" pension and annuity income on their individual tax returns (on lines 17a or 11a of Forms 1040 and 1040A, respectively).

[35]U.S. Department of Labor, *Private Pension Plan Bulletin*, No. 2, Summer 1993, table A4.

[36]See, for example, Poterba, Venti, and Wise (1995).

[37]The Internal Revenue Service's rules governing the treatment of lump-sum distributions as capital gains or in multiyear averaging were quite complex in 1990, allowing various options according to varying circumstances; and the 1990 SOI data file provides no way to estimate the actual amounts involved. Two pieces of data, however, suggest a possible upper limit: (1) Tabulations of the SOI data indicate that only 122,974 tax filers submitted a Form 4972 with their 1990 tax returns. This form could be used if the lump-sum recipient met the stringent requirements for using 5- or 10-year averaging of their distributions. In addition, it could also be used for some distributions eligible for capital gains treatment. Other capital gains portions could be reported on Schedule D. Yakoboski (1994, table 1) indicates that there were 8.2 million recipients of non-IRA/SEP total distributions in 1990. If we assume for want of a better estimate that the ratio of LSD recipients to total recipients was the same as the ratio of amounts (that is, $64.9 billion/$107.2 billion = .6054), this would suggest a total of 4.964 million lump-sum recipients. If the resulting percentage of recipients who filed Form 4972 (.123/4.964 = 2.48 percent) applied also to lump-sum amounts (.0248 X $64.9 billion), this would yield a total of $1.6 billion that may have been reported on Form 4972 and not with total pension and annuity income on Forms 1040 and 1040A. (2) In addition, Yakoboski (1994, table 4) reports that the 1099-R tabulations indicated a total of $7.0 billion eligible for capital gains treatment in 1990. If we assume that this entire amount was reported on Schedule D, the total in LSDs not reported with pension and annuity income would be, at a maximum, $8.6 billion.

[38]The aggregate measure of pension and annuity income from the SOI public use file may be contrasted with the preliminary estimate of $215.8 billion which was published in the Internal Revenue Service's *SOI Bulletin*, Spring 1992, p. 21, and with a final estimate of $214.4 billion derived from the IRS/SOI internal use file.

[39]Schieber (1995), pp. 63 and 61, respectively.

[40]See treatment of pensions and IRAs in Schieber's (1995) table III and accompanying text, pp. 61-62, and compare with terminology used in his table IV and accompanying text, pp. 62-63, and, subsequently, throughout the rest of his article.

[41]According to IRS/SOI analysts, based on the internal use SOI data file, the total amount of IRA income reported on individual returns for 1990 was $35.4 billion.

[42]See Park (1992) for discussion of the NIPA's treatment of IRAs.

[43]The 1986 Tax Reform Act imposed a 10-percent penalty tax on preretirement lump-sum distributions that are not rolled over to an IRA or other qualified retirement plan. More recently (effective 1993), lump-sum distributions that are not directly rolled over to other qualified plans are subject to 20-percent withholding. The final tax liability in such cases—including the possible 10-percent penalty tax—depends on whether the distribution is subsequently rolled over or not.

[44]Perhaps the most useful data on preretirement lump-sum distributions were collected in special supplements to the Current Population Survey in 1983, 1988, and 1993. Analyses of the 1988 data are included in Piacentini (1990) and Woods (1993); for analyses of the 1993 data, see U.S. Department of Labor (1994) and Woods (1994).

[45]Data from the Department of Labor indicate that payments from defined contribution (DC) plans accounted for 48.7 percent of all distributions from private pension plans reporting 5500 data in 1990, while the remaining 51.3 percent was paid by defined benefit (DB) plans. (Author's calculations based on table E12 in *Private Pension Plan Bulletin*, No. 2, Summer 1993.) Applying these ratios to the aggregate estimate for noninsured plans used in the Bureau of Economic Analysis' (BEA's) recent benchmarking of the NIPA (unpublished data, August 1995) results in an estimate of $57.8 billion from DC plans in 1990 and $60.9 billion from noninsured DB plans. Assuming that benefits from insured pension plans ($21.2 billion in BEA's recent benchmarking) are exclusively DB payments, the total in DB payments in 1990 would be $82.1 billion. If we assume that 90 percent of DC benefits were paid in the form of lump-sum distributions (LSDs) in 1990 (as speculated by several knowledgeable analysts) and that 15 percent of DB benefits were paid as LSDs (an assumption based on U.S. Department of Labor, Bureau of Labor Statistics, 1993, p. 99), the total in LSDs from private sector plans in 1990 would be $64.3 billion. An additional $3.3 billion in LSDs from government employee plans is estimated in Coder and Scoon-Rogers (1994).

[46]Coder and Scoon-Rogers (1994), p. 23 and appendix tables A14, A16, and A17.

[47]Total rollovers in 1990 are estimated at $24.7 billion later in this analysis. For this exercise, we are assuming that roughly one-fourth of this amount was not reported on individual tax returns, an assumption in line with the observation of IRS/SOI analysts that such tax free distributions are sometimes not reported as "total pension and annuity income," despite IRS instructions to the contrary.

[48]Piacentini (1990), table 5.

[49]For more information on individual annuities, see U.S. Department of the Treasury (1990) and Williamson (1993).

[50]See American Council of Life Insurance (1991), p. 36.

[51]The basis for the $10.0 billion estimate from nonqualified individual annuities was described earlier—see note 33. The $3.3 billion in tax-qualified individual annuity payments was estimated by American Council of Life Insurance staff as equivalent to the last four categories in "private pension payments" in 1990—p. 26 in American Council of Life Insurance (1991).

[52]Aggregate benefits are not broken down into Tier I and Tier II amounts in statistics provided by the Railroad Retirement Board. Our estimate of $1.8 billion in Tier II benefits is a rough calculation based

on U.S. Railroad Retirement Board (1991), tables B1, B3, B7, B18, and B22.

[53]As described earlier, this figure is easily derived from Yakoboski (1994), table 1 and chart 2d.

[54]Another difference between the 1990 CPS and SOI data should be noted at this point. Pension amounts reported by individuals in the CPS were topcoded in the public use file at $99,999 (to protect the confidentiality of high income respondents), while the SOI uses other methods for protecting confidentiality—methods that do not affect aggregate income measures. Tabulations of the 1990 SOI data reveal a substantial amount of "pension and annuity" income at or above this level. Out of the total $214.9 billion, $33.9 billion (about 16 percent) was reported on tax returns in amounts of $99,999 or higher; and about one-half of this was in amounts greater than $399,996 (the level of four topcoded sources in the CPS). It is not clear what kinds of payments are represented in these large distributions in the SOI. Some could be periodic payments from employer sponsored plans; however, many more are likely to have been "total distributions" in the form of lump sums, rollovers, payments from individual annuity contracts, or any of the nonpension distributions in the SOI described earlier.

[55]For example, see Grad (1992, table I.1).

[56]Schieber (1995, p. 63).

[57]In 1990, for example, aged individuals whose filing status was "single" were required to file tax returns if their gross incomes were equal to or greater than $6,100; the income threshold for filing as "married, joint return," was $10,200 when one spouse was 65 or older, and $10,850 when both were 65 or older.

[58]Schieber (1995, pp. 63, 68, and 69).

[59]As was true for the population as a whole (note 54), the 1990 SOI data for the aged included a substantial amount of "pension and annuity" income at or above the $99,999 topcode level used in the CPS: $10.1 billion out of the $104.3 billion total. Again, it is not clear whether these large individual amounts represented periodic payments or nonperiodic "total distributions," including non-pension distributions.

[60]See, for example, his comparison of total incomes reported in the CPS and the SOI (Schieber 1995, table IX and p. 69). In restricting his CPS data to the 13.5 million units with the highest incomes and describing this group as more likely "comparable" to his 13.5 million SOI units, Schieber is selecting the top 63.4 percent of CPS units, based on his count of aged units in the two files. In this analysis, we are selecting the top 60 percent of CPS units, or those in the top three quintiles.

[61]Schieber (1995, p. 68).

[62]This enhanced version of the SIPP questionnaire is being implemented with the 1996 SIPP panel. Further details may be obtained from Enrique Lamas or Gordon Lester, Bureau of the Census.

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