# PRIVATE PENSIONS: COVERAGE AND BENEFIT TRENDS

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The U.S. retirement income system has often been described as a three-legged stool. The first leg is the public Social Security system, which covers virtually all workers and provides benefits based on lifetime earnings at 65 (gradually increasing to 67 by 2022), and reduced benefits at 62. The second leg consists of employer-provided pensions, which cover roughly half the work force at any point in time. These tax-subsidized plans are sponsored by private employers, by the federal government for its employees, and by state and local governments for their workers. The third leg was said to consist of individual saving, which occurs in tax-subsidized Individual Retirement Accounts (IRAs) or directly in non-subsidized forms. The three-legged-stool concept probably needs to be updated in two ways. First, individuals currently do little saving outside of employer-provided pensions and most of the money in IRAs is the result of rollovers from employment based plans. Second, health insurance has become an important leg of the stool.

Regardless how one describes the retirement income system, employer-provided pensions play an important role in assuring a comfortable retirement. This paper focuses specifically on pensions provided by private, rather than government, employers. It explores who is covered by a private pension plan and who is not, how much retirees receive in pension income, and how pension coverage and pension receipt have changed over time.

By necessity, the focus of this survey is narrow. It does not explore all sources of support in retirement. Specifically, the Supplemental Security Income program that provides benefits to those with very low income and virtually no assets ($2,000 for an individual, $3,000 for a couple) is beyond the scope of the current study. The same is true for the nation's major health programs – Medicare and Medicaid. Changing employment patterns of older workers are also not addressed herein. The focus of this survey is the trends and patterns of coverage under private sector employer-sponsored plans, and in some cases the relationship of these plans to Social Security.

The trends and patterns that emerge from this survey are as follows. After increasing sharply in the post-World War II period, the percentage of the private sector work force covered by an employer-sponsored pension plan at any given point in time has remained around 50 percent since the 1970s. This constancy obscures two major changes, however. First, pension coverage has increased for women and declined for men, primarily reflecting the increased earnings and labor force attachment of women and a decline for men in unionism and employment in large manufacturing firms. Second, a major shift has occurred in the types of plans from defined benefit to defined contribution, reflecting employment trends as well as conversion of plans.

Whereas only about half the work force is covered at a given point, pension coverage is more extensive when considered over workers' lifetimes and on a household basis. In addition, more rapid vesting means that more plan participants are assured of receiving benefits. On the other hand, pensions are more important for high-income than for low-income workers. This would not be a problem if Social Security alone allowed those at the low end of the income scale to maintain their living standards in retirement, but it does not. All workers need more than Social Security for a comfortable retirement.

The primary challenge for those interested in retirement security is to expand coverage so that more workers have enough income in retirement to avoid sharp drops in their living standards. About one quarter of those without coverage are employed in firms where the employer sponsors a plan; here the task is to make sure that employees have the knowledge and information they need to make a fully informed decision on whether or not to participate. The other three-quarters of those without a pension work for employers who do not sponsor a plan. The task here is to encourage more employers – particularly small employers – to provide a pension. The search for new incentives and innovative approaches to expand coverage leads us to today's "Conversation on Coverage."

## I. A Brief History

Private pension plans in the United States date from 1875, but the early plans were financially vulnerable and most were bankrupted in the 1930s by the Great Depression. Contemporary U.S. pension plans, both private and public, are rooted in the search for greater financial security that became part of the national psychology after the onset of the Depression. Although World War II initially consumed much of the nation's resources that might have been directed toward improved provisions for old age, wartime wage controls greatly stimulated the expansion of private plans. Since legal limitations on cash wages impeded the ability of employers to attract and hold workers in the tight civilian labor markets, the War Labor Board attempted to relieve the pressure on management and labor by permitting employers to bid for workers by offering attractive fringe benefits. Pension benefits cost firms little in view of the wartime excess profits tax and the ability to deduct contributions. The growth of new pension plans fell off markedly in the immediate post-war period as employees focused on cash wages to recover ground lost during the period of wage stabilization, but by 1949 pension benefits again became a major issue of labor negotiation (Munnell 1982 and Sass 1997).

The main expansion of today's pension system, in both union plans and non-unionized industries, began in the 1950s. The Korean War further stimulated the pension movement as employers once again competed for workers in the face of wage and salary controls and excess profits taxes. The growth in pensions continued in the 1960s. But much of the growth during that decade was due to expansion of employment in firms that already had pension plans as opposed to establishment of new plans. The percentage of the private work force covered by any type of employer-sponsored retirement plan continued to increase until the late 1960s, but since then coverage has remained unchanged.

## II. Trends in Pension Coverage

Before discussing pension trends, it is necessary to clarify three distinct ways in which workers can be associated with a plan. The first is that they could work for an employer that "sponsors" a plan to any of its employees. The second is that they could be "covered" by a plan, but not be eligible for benefits. And the third is that workers actually "participate" in the plan. Coverage and participation are not the same, since, for example, a percentage of workers covered in 401(k) plans choose not to participate. Nevertheless, this paper will use the terms coverage and participation interchangeably, except in the discussion of 401(k) plans.

Data on pension coverage are provided by two main sources – the *Current Population Survey* (CPS), which is administered jointly by the Bureau of Labor Statistics (BLS) and the Bureau of the Census, and the *Employee Benefits Survey* (EBS), conducted by the BLS.[1] Although the EBS indicates more coverage than the CPS for comparable populations, the two series provide a relatively consistent picture of pensions in the United States.

The CPS interviews roughly 50,000 households each month, primarily about labor force activity, to estimate the unemployment rate. Each March, the survey includes supplemental economic and demographic questions and questions about income and employment during the previous year. Respondents are asked whether any employer for whom they worked in the previous year had a pension or other type of retirement plan for any of its workers. Those who answer "yes" to this question are asked whether they were included in the plan. Consistent March CPS data are available since 1979.[2]

[1] The number of participants is also reported in the Internal Revenue Service's Form 5500, and theoretically it is possible to calculate coverage rates by dividing participants by the non-agricultural, non-government work force. The problem is that the Form 5500 data double-counts people covered by two plans. That is, if the employer provides both a defined benefit plan and a 401(k), the worker will be counted twice. As a result, estimating participation with the Form 5500 would significantly overstate the percentage of the work force covered by a pension plan.

[2] In addition to the March data, the BLS has conducted supplementary surveys on employee benefits in April 1972, in May 1979, 1983, and 1988, and in April 1993. Although the BLS has no current plans to repeat those surveys, questions on health and retirement benefits were included in CPS supplements on

The second source of information on pension participation is the Employee Benefits Survey (EBS). In even-numbered years, the BLS surveys establishments with fewer than 100 employees, and in odd-numbered years the agency surveys medium and large employers. Data for medium and large employers are available for selected years from 1980 to 1997; data for small employers are available since 1990.[3] EBS estimates of participation in retirement plans are higher than estimates derived from the CPS. Among full-time workers, the gap between the two surveys is 10 percentage points (Herz et al. 2000). The difference between the two surveys can be attributed to sampling procedures and survey methods (Purcell 2000a). The main advantage of the EBS is that it surveys business establishments and asks human resource professionals a lengthy list of questions about the business's employee benefit plans. The CPS interviews a single respondent in a household and devotes only a fraction of the interview to benefits. Respondents may lack knowledge about their own benefit coverage and particularly about the benefit coverage of other household members for whom they responded (Herz et al. 2000).[4] The disadvantages of the EBS for looking at general trends are 1) the survey interviews small and large employers separately, so that total coverage rates are not available annually and 2) the EBS historical information is limited. For these reasons, the following discussion focuses on trends in the CPS.

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workers in contingent and alternative employment arrangements conducted in February of 1995, 1997, and 1999. In addition, Topical Modules 4 and 7 from the 1996 Panel of the Survey of Income and Program Participation (SIPP) continues to ask some of those questions, as will the 2001 and subsequent panels of that survey.

[3] The definition of medium and large establishments changed in 1988. Until then, the BLS included establishments that employed at least 50, 100, or 250 workers depending on the industry. Thus, in mining, construction, retail trade, some manufacturing and some transportation, the BLS approached only firms with 250 employees or more. In accounting, auditing, and bookkeeping, the minimum establishment size was 50 employees. In 1988, the BLS decided to focus on all establishments with a 100 or more employees, and this change increased the size of the sample by 50 percent (Mitchell 2000).

[4] The CPS and EBS also differ in a few other ways. The EBS participation measure includes workers who have not satisfied their employer's length of service requirement for participation in the retirement plan, while the CPS measure excludes these individuals. Another difference between the two surveys is that the CPS includes self-employed incorporated workers as private workers while the EBS does not. Self-employed incorporated workers are a relatively small portion of the work force (2.8 percent in 1999), and tend to have low rates of pension coverage (27 percent of workers aged 25-64 participated in a pension plan in 1999).

The CPS can yield a wide range of numbers for pension coverage, depending on how one defines coverage and the relevant population. This is shown clearly in Figure 1 where the population moves gradually from private and government full-time full-year workers aged 25-64 whose employer "sponsors" a pension plan to all private sector workers who actually "participate" in a plan. Including government workers, restricting the relevant labor force substantially, and using employer sponsorship as the relevant criteria indicates that 68 percent of the population had at least the potential for pension protection in 1999. At the other extreme, focusing only on private sector workers and eliminating the age and full-time constraint shows that 42 percent of private sector workers participated in a pension.

What's the relevant number? First, this discussion focuses on the private sector, so government workers should be excluded. In fact, government workers enjoy a high level of pension coverage with 87 percent of full-time full-year workers aged 25-64 participating in a pension plan in 1999. Second, the real concern is not simply whether the employer offers a plan to any of its workers but whether the worker actually participates, so participation, as opposed to sponsorship, is the important criteria. Third, part-time and part-year workers should probably be included since they are frequently regular participants in the work force.[5] Fourth, young workers – that is, those under 25 – generally are more concerned about establishing themselves in their careers than accumulating assets for retirement, so their pension coverage is not a major concern.[6] That leaves the second line from the bottom in Figure 1, which shows that only about 50 percent of private sector workers age 25-64 participated in an employer-sponsored pension in 1999.[7] But one could argue that all the numbers are relevant, depending on

[5] The IRS non-discrimination provisions already require inclusion of workers with 1000 hours within a 12-month period. Some state plans, such as California State Teachers Retirement System (CalSTERS), go beyond this minimum and offer pension plans for part-time and seasonal employees.

[6] Under the Employee Retirement Income Security Act (ERISA) of 1974, full-time employees age 25 or older must be granted participant status after completing one year of service. The Retirement Equity Act of 1984 subsequently amended the participation rules, however, and for most plans lowered the participation requirement to age 21 (McGill et. al 1996).

[7] Participation for those age 25-55 is exactly the same in 1998 and 1999 as for those aged 25-64 and within two tenths of a percentage point for the 1990s. In the late 1970s and 1980s, participation for those 25-55 was slightly (less than 1 percentage point) lower, but this small discrepancy disappeared as the retirement age fell. The reason is that a disproportionate share of those age 55-64 withdrawing from the labor force

the purpose – a narrow definition of the work force to determine the success of ERISA, a broader definition of the work force to access the possibilities for expansion of coverage, and employer sponsorship to look at potential participation.

While the level of pension participation depends on definitions, the trend over time does not. Regardless of how the relevant population is defined, pension participation is just about where it was in 1979. In each case, participation dropped between 1979 and 1988 and then rebounded between 1988 and 1999. In both 1979 and 1999, only 50 percent of non-agricultural wage and salary workers in the private sector aged 25-64 participated in a pension plan, even though 1979 was the end of a decade of stagnation and 1999 was the height of the longest expansion in the post-war period. In fact, a simple correlation between pension participation and the unemployment rate suggests that much of the rebound is the result of the strong economic growth and high levels of employment in the late 1980s and 1990s.

*Coverage by Sex, Earnings, and Race*

Although the overall participation rate remained virtually unchanged between 1979 and 1999, that stability was the result of offsetting changes for males and females. Figure 2 shows that pension coverage declined for all male workers except those in the highest earning quintile (Panel A). In contrast, participation for women increased at all earnings levels (Panel B). The drop in male participation rates was caused by declines in unionism and employment at large manufacturing firms, and by the rapid growth in 401(k) plans that made employee participation in pensions voluntary.[8] Among women, the growth in pension participation was largely the result of improved earnings and an increase in full-time work and – to a lesser extent – increased unionism and employment at large firms (Even and Macpherson 1999). The remaining differential between coverage patterns for

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were covered by a pension plan, which reduced the participation rate for this older group. This reduction in coverage among older workers eventually made the participation rate for those aged 25-65 equal to that of those aged 25-55.

[8] Even and Macpherson (1994) showed that the growth of 401(k) plans caused participation rates to drop most for young and less educated workers.

men and woman can be explained by their different work patterns, since pension coverage among women who work full-time, full-year is virtually identical to the coverage rates for men (Copeland 2000).

Figure 2 shows that participation is closely correlated with earnings levels. In the top quintile, about 70 percent of workers – both male and female – participate in pensions; in the bottom quintile, that figure drops to about 20 percent for men and 10 percent for women.

Earnings also appear to be more important than race in explaining pension participation. Overall, pension participation for minority groups is lower than for whites. In 1999, pension participation was 44 percent for blacks and 31 percent for Hispanics, compared to 54 percent for non-Hispanic whites. However, as shown in Figure 3, when examining pension participation by earnings quintiles, the picture for whites and blacks looks very similar. Pension participation in the top quintile is about 75 percent for both groups and it drops to about 15 percent in the bottom quintile. Hispanics, on the other hand, have lower pension participation rates in all earnings quintiles – in the top quintile about 65 percent have a pension, and this share drops to 10 percent in the bottom quintile. On balance, however, earnings appear to be a more important factor than race in determining whether a worker participates in a pension plan.[9] This examination of pension coverage by various groups makes clear once again that about half the work force is not covered by a pension.

*The Uncovered – Firm Has a Plan*

Of those not covered by a pension plan, roughly one quarter work for an employer with a plan and three-quarters are employed in a firm without a plan.[10] The Internal Revenue

[9] Data by race and sex show a very similar pattern. Both male and female non-Hispanic whites and blacks have roughly the same rate of pension participation within each earnings quintile; the rates for Hispanics are consistently lower for both males and females.

[10] The March 2000 CPS shows that 22.5 percent of those aged 25-64 without a pension work in firms with a plan and 77.5 percent are employed by companies without a pension.

Service (IRS)'s non-discrimination provisions allow firms to exclude employees under age 21 or with less than one year of employment with the firm. Since a year of service is defined as 1000 hours during a 12-month period, many part-time and seasonal workers never qualify to participate in the plan (Halperin and Munnell 2001). In addition to the exclusion for age and service, the firm is also allowed to exclude up to 30 percent of the remaining rank-and-file workers from the plan, although other non-discrimination tests make an exclusion of this magnitude unlikely.[11] As shown in Figure 4, more than half of those excluded from firm-sponsored pension plans do not meet the age and service requirements or do not work enough to qualify for the plan, and another 6 percent were excluded because their job was not eligible for pension coverage. An increasingly important reason for not participating is the employee choosing not to contribute, presumably in 401(k) plans.

Researchers have explored the reasons why workers participate or do not participate in 401(k) plans. Part of the behavior can be explained by the characteristics of workers themselves. A series of studies using CPS data shows that participation and the level of contributions are related positively to income, age, education and job tenure (Andrews 1992, EBRI 1994, and Bassett, Fleming, and Rodriguez 1998). A recent study using the 1998 Survey of Consumer Finances also documents the importance of an individual's planning horizon in the participation and contribution decision (Munnell, Sunden and Taylor 2000). This finding reinforces conclusions from Bernheim (1998) and Clark and Schieber (1998) based on plan data indicating that employer provided information can be very important in changing employees' attitudes about the necessity of saving for retirement.

Plan structure and characteristics also are important. If employers offer a match, workers are more likely to contribute since the match provides a large initial return that supplements the advantage of deferral. Researchers have not reached a consensus, however, as to whether employees respond to the level of the match rate once a positive

[11] Although section 410(b) allows the sponsor to exclude up to 30 percent of other workers, the average deferred percentage (ADP) and the actual contribution percentage (ACP) tests make this difficult.

match is provided.[12] If the 401(k) plan supplements a defined benefit plan, workers are less likely to participate. The research suggests that both participation and contributions are negatively related to the presence and generosity of a defined benefit plan. Finally, workers are more likely to participate and contribute if they can gain access to their funds through borrowing.

Studies have shown that individuals' behavior often reflects a surprising amount of inertia and that if employees are automatically enrolled in a plan, they are more likely to participate than if they had to opt in (Madrian and Shea 2000). In 1998 and 2000, the IRS issued regulations that permit employers to enroll employees automatically in 401(k), 403(b), and 457 pension plans. Benefit consultants estimate that since the IRS issued its first regulation, 7 to 10 percent of 401(k) plan sponsors have adopted automatic enrollment (Jacobious 2000 and Purcell 2001). A study by Hewitt Associates found that only 4 percent of people automatically enrolled in a 401(k) plan subsequently opted not to participate. Thus, it is not surprising that, according to a recent study of 10 companies, average participation rates rose from 76 percent to 93 percent after enrollment was adopted (Purcell 2001).

*Uncovered – Firm Does Not Have a Plan*

The majority of uncovered workers are employed in firms without a pension plan, and the existence of a pension plan varies sharply by size of firm. The CPS shows that 32 percent of employees aged 25-64 in firms with less than 100 workers participate in a pension, compared to 72 percent for firms with more than 100 employees. Although the level of coverage in the EBS is higher for both small and large employers, the differential

[12] Kusko, Poterba and Wilcox (1998) find little change in either participation or contributions in response to large changes over time in matching provisions. Bassett, Fleming, and Rodriguez (1998) find no evidence that participation rises with the match rate. Papke (1995) shows that participation increases with the level of the match rate, with smaller marginal effects at higher match rates, and that contributions increase markedly as the employer moves from a zero to a positive match rate, with a negative effect at very high match rates. Papke and Poterba (1995) conclude that participation increases with the match rate but find no significant effect on contributions. Clark et al (2000) find a positive effect of the match rate on participation and a negative effect on contributions. VanDerhei, Copeland, and Quick (2000) confirm the finding that the match rate has a negative effect on contributions. Munnell, Sunden, and Taylor (2000) find that the level of the employer match is not particularly important for contributions given the match exists.

by size in the two surveys is roughly similar (Figure 5). The CPS provides a further breakdown by firm size. It shows that among private sector workers age 25-64 the participation rate increases from 23 percent in firms with less than 25 employees, to 43 percent in firms with 25 to 99 employees and to 64 percent for firms with 100 or more employees (Figure 6).

As reasons for not providing coverage, small employers frequently mention high employee turnover and the preference of their employees for cash wages. They also cite uncertainty about future earnings and the newness of the business. Table 1, taken from a survey of small employers by the Employee Benefits Research Institute (2001), documents the relative importance of these various factors. Note that for the entire small business sample only 12 percent say that a major reason for not providing a pension is that it costs too much to set up and administer a plan. Even defining cost broadly to include "required contributions too expensive" and "too many government regulations" brings the total to only 26 percent. Surprisingly, those firms with 21-100 employees view cost as a more important factor than very small firms (those with 5-20 employees). Twenty-two percent of firms with 21-100 employees responded that the expense of setting up and administering a plan was the major reason for not having a pension, and 31 percent cited a broad definition of costs as a major factor. Nevertheless, the survey suggest that for small firms cost is an important but not dominant consideration.

The low level of pension coverage in small firms is an important policy concern since about one-third percent of full-time workers are employed in firms with less than a hundred workers (Copeland 2001b). In an effort to make it easier for firms to establish and maintain plans for their employees, the federal government has passed several pieces of legislation over the years to ease financial and reporting requirements.[13] But, as noted

[13] The Revenue Act of 1978 authorized a defined contribution plan for firms with fewer than 100 employees called the Simplified Employee Pension (SEP). The Tax Reform Act of 1986 allowed workers in firms with less than 25 employees to contribute to a SEP on a tax-deferred basis through salary reduction (SARSEP). The Small Business Job Protection Act of 1996 authorized another type of defined contribution plan called Savings Incentive Match Plans for Employees of Small Employers (SIMPLE). SIMPLE plans generally replaced SEPs, although firms with under 100 employees could continue to establish SEPs funded exclusively by employer contributions (Purcell 2000a).

above, while cost and administrative issues matter, they are not the primary reason for low sponsorship among small employers. Perhaps that is the reason that despite this legislation, the discrepancy in coverage between large and small firms remains. Alternatively, small business owners may not have had time to understand the new plans – particularly those included in the 1996 legislation.

In addition to employer size, the GAO (2000) provides a useful summary of the major characteristics of those not covered by a pension plan. It finds that 85 percent of those in the labor force who work and lack pension coverage have low income, do not work full time, work for a small firm, and/or are relatively young. Figure 7 shows the share of employees with each of these characteristics that did not have coverage.

*Lifetime Pension Coverage*

The CPS March data on pension coverage apply only to individual workers at any given point in time. Over a lifetime and on a household – rather than an individual – basis, coverage rates are somewhat higher. This can be seen by looking at the 1993 CPS Pension Supplement, the last detailed survey of pension characteristics, at the Health and Retirement Study (HRS), and at the Survey of Consumer Finances (SCF). The HRS provides information on the income and wealth holdings for a nationally representative sample of 7,607 families who had at least one member born between 1931 and 1941. That is, during the first wave of interviews in 1992 respondents were between the ages of 51 and 61. The SCF is a triennial survey of a nationally representative sample of the entire population sponsored by the Federal Reserve Board in cooperation with Statistics of Income of the Department of the Treasury. The SCF collects detailed information on approximately 4,000 households' assets, liabilities, and demographic characteristics as well as on pension coverage, participation, and pension plan characteristics such as contribution levels. The survey over-samples wealthy households to provide reliable estimates of highly concentrated assets.

The 1993 CPS Pension Supplement asks questions about pension coverage not only at the worker's current job, but also at the worker's current second job and at previous jobs. Table 2 shows the percentage of men and women who have coverage under a private employer-provided plan sometime during their life. Pension coverage rises with age, so 66 percent of male and 60 percent of female workers aged 45-54 have some pension coverage.

To get coverage information on a household basis, it is necessary to go to the HRS or the SCF. Figure 8 presents lifetime pension coverage for households aged 51-61 by income quintiles for the two surveys. Both the HRS and SCF show that approximately 65 percent of households had some sort of pension coverage in 1992.[14] However, the figure also shows that pension coverage is much more extensive for those households in the top income quintiles. Both the HRS and the SCF indicate a marked drop off of pension coverage from above 80 percent in the top two quintiles to 30 percent for the bottom quintile.

Thus, the CPS annual statistics on pension participation understate the proportion of the population that will be eligible for pension benefits in retirement. But looking at coverage even on a lifetime basis does not change the fact that pension coverage is significantly greater for those with high income than for those at the low end of the income distribution.

## III. A Shift to Defined Contribution and Cash Balance Plans

Although the percentage of the work force covered by a pension plan has remained virtually unchanged since the 1970s, the nature of pension coverage has moved sharply from defined benefit plans to defined contribution plans. Defined benefit plans generally provide retirement benefits based on a percentage of final salary for each year of service,

[14] Although more recent SCF data are available for 1995 and 1998, the 1992 data are presented for comparability with the 1992 HRS. SCF data for 1995 and 1998 provide a similar picture.

and pay the benefits in the form of a lifetime annuity.[15] For example, a worker with a final salary of $40,000 might receive 1.5 percent a year for 30 years of service, producing an annual pension of $18,000. The employer pre-funds these benefits by making pre-tax contributions into a pension fund; employees typically do not contribute. The employer holds the assets in trust, directs the investments, and bears the risk. Benefits are insured up to specified limits by the Pension Benefit Guaranty Corporation (PBGC).[16] The defined benefit form of pension made it easy for employers at the time that they established their plans in the 1950s to grant retroactive credits for older workers for whom they had made little or no contributions.

In contrast to defined benefit plans, defined contribution plans are like savings accounts. Generally the employer, and often the employee, contributes a specified dollar amount or percentage of earnings into the account. These contributions are invested, usually at the direction of the employee, in mutual funds consisting of stocks and bonds. When the worker retires, the balance in the account determines the retirement benefit.

*A Shift from Defined Benefit to Defined Contribution Plans*

Information on the shift from defined benefit to defined contribution plan coverage and participation comes from two sources: the Labor Department's Employee Benefit Survey discussed above and the IRS's Form 5500. Almost all sponsors of pensions subject to ERISA must file Form 5500 annually with the IRS, and the Department of Labor periodically publishes summaries of the data.[17] Figure 9 presents Form 5500 data for 1975, the first year the forms were filed, and 1997, the most recent data available. Over this period, assets in defined contribution plans rose from 28 percent to about 50 percent of total pension assets; benefits paid by defined contribution plans rose from 32 percent to 58 percent of total benefits; active participants in defined contribution plans increased

[15] Lifetime annuities are paid only to those who have remained with the employer long enough to have a benefit worth more than $5,000 in present value.
[16] The PBGC monthly guarantee limit in 2001 is $3,392 at age 65, and declines to $1,546 at age 55.
[17] Small employers with SIMPLE and SEP plans are not required to file the Form 5500. Also not required to file the Form 5500 are sponsors of pension plans with total assets of $100,000 or less at the end of every plan year beginning on or after January 1, 1994.

from 29 percent to 68 percent of total participants; and contributions to defined contribution plans increased from 35 percent to 83 percent of total contributions.

Within the defined contribution world, the fastest growing type of plan is the 401(k). Similar plans had existed for decades but they were clearly authorized in the Revenue Act of 1978, which ended ambiguity surrounding their status. They became popular and spread after the IRS issued clarifying regulations in 1981. The defining characteristics of 401(k) plans are that participation in the plan is voluntary and that the employee as well as the employer can make pre-tax contributions to the plan. These characteristics shift a substantial portion of the burden for providing for retirement to the employee; the employee decides whether or not to participate, how much to contribute, and how to invest the assets. In addition, workers have access to 401(k) plan funds before retirement, adding another element of individual responsibility.

Despite the fact that employees bear much of the risk in 401(k) plans, these plans have grown enormously for a number of reasons. They are more appealing to a younger, more mobile work force. For these workers, greater portability clearly outweighs the predictability of benefits for the career employee under a defined benefit plan. Workers get statements several times a year and can see their balances grow, which makes defined contribution benefits seem more tangible. From the employer's perspective, 401(k) plans may be less costly to operate than defined benefit plans. They do not require employer contributions, although most employers do contribute to these plans. And, they are fully funded by definition, eliminating the work associated with funding requirements and pension insurance. Portability in some cases eliminates the need for employers to keep track of pensions for departed employees.[18] As shown in Figure 10, between 1984 (the first year separate data are available for 401(k) plans) and 1997, all dimensions of 401(k) plans – assets, benefits, participants, and contributions – have increased from 25 to 35 percent of total defined contribution plans to 70 to 80 percent.

[18] Many employees still leave accounts behind requiring the employer to pay some record keeping fees. This administrative burden may help explain the trend toward increased lump sum payments in defined benefit plans.

Given their popularity and growth, one would have thought that the introduction of 401(k) plans should have boosted pension plan coverage in the United States. But, as noted above, overall pension coverage has remained virtually unchanged. This means that the enormous expansion of defined contribution plans, especially 401(k)-type plans, has produced a sharp decline in the percent of the work force covered under traditional defined benefit plans. This decline reflects shifts in employment from manufacturing to service industries and – to a lesser extent – employers substituting defined contribution for defined benefit plans. Researchers attribute about half of the decline in defined benefit coverage can be attributed to employment shifts and half to substitution (Ippolito and Thompson 2000 and Gustman and Steinmeier 1992).

Most of the employer substitution of plans occurred in the late 1980s and 1990s. Before 1986, a large number of 401(k) plans were converted thrift plans, which had typically supplemented defined benefit plans but allowed only after-tax employee contributions. Engen, Gale and Scholz (1996) contend that even by 1991, a large portion of 401(k) assets was still in plans originating before 1982. Over the period 1985-1992, however, Papke (1999) found that about 20 percent of ongoing sponsors dropped defined benefit plans entirely in favor of defined contribution plans, and that they replaced traditional defined contribution plans with 401(k) plans. Papke may overstate the rate of substitution slightly since she does not take into account plan mergers and changes in plan identification numbers.[19] Nevertheless, substitution as well as increased employment in the service industry explain why coverage has not increased.

Data on households from the SCF presented in Figure 11 confirm the shift in coverage rates from defined benefit to defined contribution plans. The share of households with only a defined benefit plan dropped from about 40 percent to 20 percent between 1992 and 1998, while the share that rely solely on a defined contribution plan increased from 37 percent to 57 percent (VanDerhei and Copeland 2001).

[19] Ippolito and Thompson (2000) points out that the number of plan sponsors with defined benefit plans that remain over the time period is underestimated if the sample is not adjusted for plan mergers and changes in plan names. Applying Ippolito and Thompson's adjustment to Papke's analysis indicates that the share of firms that drop their defined benefit plan is 14 percent rather than 20 percent.

The household data also indicate that 22 percent of households have dual coverage and that this share has held steady through the 1990s.[20] The constant share of households with dual coverage is consistent with data from the Form 5500. The proportion of private sector workers that were covered by both a defined benefit and defined contribution plan increased from 10 percent to 17 percent between 1977 and 1983 but has been constant since then. The slightly higher level of dual coverage found in the SCF probably reflects that it measures coverage for households while Form 5500 measures coverage for individuals.

*A Shift of Defined Benefit Plans to Cash Balance Plans*

In addition to the shift in pension coverage from defined benefit to defined contribution plans, some employers have converted their pensions to hybrid plans that have both defined-benefit and defined-contribution characteristics. The most popular of the hybrids are the so-called cash balance plans. Bank America created the first cash balance plan in 1985, but few employers followed suit until the late 1990s. Legally, cash balance plans are defined benefit plans where the employers prefund contributions, own the assets, select the investments, and bear the risk. And, like other defined benefit plans, the PBGC insures the benefits. To the employee, however, cash balance plans look very much like a defined contribution plan. Contributions made for the employees are recorded in a "notional" account. The employees receive regular statements showing the balance in their notional account, and the benefits tend to accrue as a constant percentage of compensation. At separation, the employee can withdraw the balance, which is usually greater than they would get under a traditional defined benefit plan. The plans are attractive to employees because they provide visible and portable benefits like a defined contribution plan, while securing accrual and government insurance like defined benefit plans. Moreover, for the employer to switch from a traditional defined benefit plan to a

[20] Due to employment growth the number of active participants in pension plans have increased since 1978. The absolute number of active participants in defined benefit plans has remained fairly constant while all new growth in employment has been in industries that offer defined contribution plans. As a result, the share of workers covered by defined benefit plans has decreased.

cash balance plan requires only a plan amendment, whereas switching to a defined contribution plan requires terminating the defined benefit plan, which might trigger a reversion excise tax of either 20 or 50 percent (Gale, Papke, and Vanderhei 2001).[21]

The most recent official statistics report that only 6 percent of full-time employees at medium and large private establishments had a "cash account" benefit formula in 1997. But surveys suggest that significant conversion has occurred since then. About 16 percent of pension plans among the Fortune 100 were cash balance plans in 1998, and more generally cash balance plans may have increased from 5 percent to 12 percent of all defined benefit plan between 1998 and 2000 (Elliot and Moore 2000). One interesting aspect of cash balance plans is that they provide lump-sum payments at separation. So the growth of lump sums comes not only from the dramatic expansion of defined contribution plans but also from the changing nature of defined benefit plans. Assuming only modest growth in cash balance plans, lump-sum pension benefits should exceed annuity payments from defined benefit plans for those retiring in 2010 (VanDerhei and Copeland 2001).

*A Comment on the Economics of Pension Coverage*

One comment on the economics of pension coverage is necessary before proceeding. The shift from defined benefit to defined contribution plans has no obvious implications for whether employers are providing more or less for their workers. Economists contend that the introduction of a pension implies a reduction in cash compensation, even if it takes some time for the adjustment to occur.[22] That is, employers decide on some total

[21] Currently the Form 5500 does not provide enough information to identify cash balance plans, but the IRS included additional questions in 1999 so that it will soon be possible to determine the extent to which cash balance plans have spread.

[22] The potential trade-off between higher pensions and lower wages may be somewhat more complicated than a simple one-for-one offset. For example, by reducing employee turnover or shirking or by facilitating retirement of less productive workers, the introduction of a deferred compensation arrangement might increase productivity and thus make employers willing to increase total compensation. Alternatively, because of the favorable tax treatment of pensions, the employer has somewhat more money available than if it paid all compensation in cash; the firm could retain this windfall as profit or share some of it with employees, thereby raising total compensation. Even if the trade-off between pensions and wages occurs in the aggregate, it may not happen on a person-for-person basis. For example, raising pensions for minimum

compensation package that they want to pay their employees and then divide that package between cash wages and fringe benefits. An increase in pension benefits implies a reduction in other benefits or cut in wages and vice versa. Thus, from an economic perspective, the question of who is making the contribution to the plan is less important than it would seem, since economists believe that in the end all pension costs come out of the compensation of the worker.

## IV. Pensions as a Source of Retirement Income

Despite the constancy of the coverage figures, pension benefits from private sector plans have become an increasingly important source of retirement income (Table 3). Part of this increase is the natural result of the expansion and maturation of private plans. That is, coverage expanded significantly after World War II, and as those cohorts retired an increasing number of retirees qualified for private pension benefits. At the same time, vesting has improved considerably. ERISA defined 10 years as the maximum for cliff vesting, and the Tax Reform Act of 1986 required single-employer plans to convert to 5-year vesting. As a result, the EBS reports that in 1997 85 percent of full-time participants in plans sponsored by medium and large employers found their benefits vested after 5 years (Mitchell 2000). With shorter vesting more workers earned assured pensions. Figure 12 shows that the percentage of participants in private sector plans with vested benefits increased from 47 percent in 1979 to 65 percent in 1988 to 84 percent in 1993 (EBRI 1997).

Although the CPS provides very useful historical data, it is also interesting to look at the HRS. The two surveys provide a somewhat different picture of the importance of pension income for retirees. Much of the recent confidence in the adequacy of private pensions from the numbers reported in the HRS.

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wage workers cannot lead to a reduction in wages, because the employer cannot reduce wages below this level. Similarly, plans must cover at least some lower-paid employees to qualify for special tax treatment. But those employees may have no interest in saving for retirement, so plan sponsors may have to use some of the tax benefits to increase the total compensation of "reluctant savers," those who do not much value this deferred compensation.

*Pension Wealth in the HRS and SCF*

Since the HRS sample was aged 51 to 61 during the first wave in 1992, they were generally not retired and receiving benefits. Nevertheless, the survey asks many questions about expected pension benefits. Moreover, the data include highly detailed employer-provided plan descriptions for pensions covering many workers in the sample, which allows more accurate estimation of pension values than is possible with self-reported data. Social Security records are also available for 70 percent of the sample, which allows accurate estimation of lifetime earnings for each individual and avoids the potential underestimation of expected Social Security benefits that occurs when self-reported data are used. HRS respondents also provide comprehensive information about assets other than pensions and Social Security. The survey deals with the typical high non-response rates when respondents are asked about the value of their stock holdings, IRA balances, or other narrow asset categories by following an open-ended question about value with a series of bracketed questions.

From these data, researchers have constructed the wealth holdings of HRS participants in 1992 (Gustman, Mitchell, Samwick, and Steinmeier 2000 and Gustman and Steinmeier 1999b).[23] For defined benefit plans, they use the employer-provided plan descriptions when available to calculate projected benefits and then discount these amounts to estimate pension wealth. When a plan match is not available, they impute a plan based on a series of industry and employment variables. To get pension values as of 1992, they pro-rate wealth on the basis of work to date. That is, if a person age 57 will qualify for an early retirement benefit at age 62 and has been with the firm for 15 years, three-quarters of the eventual accumulation comes from work to date. This pro-rating of pension wealth puts it on an equal footing with other wealth reported. They calculate Social Security wealth in a similar fashion, using the HRS Social Security earnings histories when available and respondent information on current and past earnings when necessary, and

[23]Gustman and Steinmeier graciously provided us 8,000 lines of computer code for calculating wealth and other variables in the HRS.

include spouse and survivor benefits as well as the benefit for the worker.[24] For defined contribution plans, they also use the employer-provided pension formula. When the plan includes voluntary employee contributions, they assume that individuals contribute up to 5 percent of their earnings whether the employer matches or not.

Most of the pension wealth in the HRS comes from defined benefit plans.[25] In those cases where respondents report that they are covered by 401(k) plans, they have generally been in the plans for 10 years or less. Because of the dramatic increase in 401(k) plans during the 1990s, defined contribution plans will eventually dominate pension wealth for younger cohorts.

The wealth calculations for households with at least one member born between 1931 and 1941 in the HRS and SCF are shown in Table 4. In both surveys, the values of Social Security and pension wealth are substantial and remarkably similar. For those in the middle of the income distribution, Social Security wealth is $144,801 and $159,291, for the HRS and SCF respectively. Pension wealth is $60,102 and $56,175 for the HRS and SCF, respectively; this amounts to 35-42 percent of Social Security wealth. Adding about $10,000 in IRA assets to the pension amount brings the total for those in the middle of the income distribution to about 40-49 percent of Social Security wealth.

[24] Gustman, Mitchell, Samwick, and Steinmeier (2000) calculate Social Security wealth using estimated earnings profiles based on respondent information. The authors had planned to use the matched Social Security records but did not have permission for this article to use these data together with the employer provided pension information.

[25] The secular growth of benefits from defined benefit plans combined with the dramatic increase in the stock market has had an interesting impact on personal saving as reported in the National Income and Product Accounts (NIPA). Since benefits, received by retirees with high marginal propensities to consume, boost consumption but are not counted in NIPA income, they depress the saving rate. An appreciating stock market exacerbates the problem because it increases funding levels, and funds up against a regulatory ceiling can no longer make tax-deductible contributions. The decline in employer pension contributions further reduces NIPA personal income and saving. Lusardi, Skinner, and Venti (2001) estimate that the pension phenomenon accounts for 1.7 percent (30 percent) of the 5.6 percentage point drop in the saving rate between 1988 and 1999.

*How Do the Data Sources Compare?*

How do the HRS wealth numbers for those aged 51-61 compare with the CPS income numbers for those 65 and over? Table 5 shows the relative importance of Social Security and employer pensions in relation to total resources from the two surveys. The breakdown between retirement benefits or wealth and other assets looks quite similar. That is, for the respective populations, pensions and Social Security account for 65-71 percent of total retirement resources in both the CPS and HRS; for those in the middle of the distribution, they account for 82-85 percent. A difference exists, however, within the benefit or wealth retirement category; pensions are more important in the HRS than in the CPS. For example, for the population as a whole, pension wealth (including IRAs) and Social Security wealth are roughly equal in the HRS, whereas in the CPS Social Security benefits are significantly higher than pension benefits.

These two data sources present a somewhat inconsistent picture about the relative importance of retirement resources. To determine which is more credible, it is helpful to consider a third source – namely, the National Income and Product Accounts (NIPA). Table 6 shows benefits paid from public and private pensions in 1999 and Old Age and Survivor Insurance (OASI) benefits for the same year. At first, the relative size of Social Security versus pensions looks much more similar to the HRS data than to the CPS, but two adjustments are required before comparing the two surveys.

First, the NIPA data include lump-sum distributions, while the CPS does not ask about lump sums but focuses on regular payments. Most of the lump-sum payments reported in the NIPA are rolled over into IRAs or other qualified plans.[26] These amounts should not be included since they do not represent payments to beneficiaries, and in the case of qualified plans will be counted again when they are withdrawn.[27] Careful studies done for 1990 have concluded that lump sums from employer-sponsored plans amounted to

[26] On the other hand, the NIPA does not include payments from Section 408 plans, such as IRAs and SEPs, which are included in the CPS.

[27] The Bureau of Economic Analysis recognizes that rollovers should not be included, but it is unable to identify rollovers in the data on plan distributions (Woods 1996).

between $65 billion and $81 billion, or 28 to 35 percent of benefits reported in the NIPA (Woods 1996 and Yakoboski 1994 and 1997). Applying the higher percentage to 1999 – given the secular increase in lump-sum payments – suggests that lump-sum distributions were about $149 billion. Recent studies indicate that about 90 percent of lump-sum distributions are rolled over, which means that $134 billion should be subtracted from NIPA benefit numbers to get actual payments to beneficiaries (Gustman and Steinmeier 1999b).[28] The second adjustment involves recognizing that not all OASI or pension benefits go to people 65 and over. Those 65 and over received about 60 percent of the total pension income in the CPS, and about 70 percent of OASI payments. With these adjustments to the NIPA, the relative size of Social Security and pensions within total retirement benefits look as follows:

| | NIPA | CPS | HRS |
|---|---|---|---|
| Social Security | 58 | 66 | 50 |
| Pensions | 42 | 34 | 50 |

Discrepancies still exist, but they are considerably smaller than the unadjusted NIPA numbers would suggest.[29] The biggest problem with the CPS as a source of pension data is that it is oriented towards measuring income as regular periodic payments. Since the survey does not ask about payments from particular types of plans or about lump-sum benefits, respondents have a lot of latitude in how they answer questions. People may think of proceeds from their 401(k) plans and their rollover IRAs as individual savings rather that pension income. Thus, the smaller amount of pension income reported in the

[28] Yakoboski (1994) estimated that in 1990 57 percent of lump-sum payments were rolled over, but Woods (1996) argued that the 1990 figure was closer to 38 percent. Sabelhaus and Weiner (1999) report that in 1995, approximately 70 percent of lump-sum distributions were rolled over into IRAs or other tax-deferred retirement accounts. A study using data from Hewitt Associates, a benefits consulting firm, on lump-sum distributions from large plans showed that in 1996 81 percent of these distributions were rolled over (Yakoboski 1997). Gustman and Steinmeier (1999b) found that 90 percent of cash outs were rolled over.

[29] Schieber (1995) used both the NIPA numbers and those from the IRS's Statistics of Income (SOI) to argue that pension receipt was broader and benefits were higher and more evenly distributed than the CPS data would indicate. He reiterated that claim recently (Schieber and Shoven 2000) arguing, "We are convinced that Social Security exaggerates the dependence of the elderly on Social Security because the SSA uses a survey to analyze its effects that significantly undercounts the amount of employer-sponsored pension income that the elderly receive." Woods (1996) shows, however, that the SOI, NIPA, and CPS are not measuring the same thing for similar populations.

CPS most likely reflects a failure to pick up lump-sum payments from defined contribution plans. Regardless of the source, however, pensions represent a significant source of retirement income.

*Implications for the Welfare of Beneficiaries*

What does the significant amount of pension benefits and pension wealth imply for the success of the private pension system and the welfare of retirees? First, the NIPA indicates that about 40 percent of pension benefits come from pension plans for government workers, not from private pension plans. Comparing the mean expected benefit at retirement in the 1992 HRS ($14,000) with the actual mean benefit reported on the Form 5500 in 1997 ($10,803) suggests that public plans are significantly boosting the value of pension wealth. One reason the public plans tend to pay higher benefits is that about a third of state local workers are not covered by Social Security, so their full retirement benefit comes from the public plan. Average duration for public employees may also exceed that for private sector workers. Nevertheless, when assessing the level of benefits provided by private sector plans, it is important to remember that a significant portion of the pension wealth reported in the HRS comes from government pension plans.

Second, regardless of the data source, pensions are much more important for high-income than for low-income workers. This pattern contrasts with that under Social Security where low-income workers receive a higher benefit relative to earnings. As shown in Table 7 (Panel A), for those in the bottom quintile, pensions account for only 3 percent of income for those 65 and over according to the CPS. The HRS and SCF show that pension wealth is only 6-7 percent of non-housing wealth for those aged 51-61 in 1992. Panel B provides another perspective on the distributional issue by showing the share of pension benefits or pension wealth by income quintile. Regardless of the survey, the top two quintiles receive more than 70 percent of total pension benefits or hold more than 70 percent of pension wealth.[30]

[30] Gustman and Steinmeier (1999b) find that, while pensions are not important at the low end of the income scale, pension and Social Security wealth combined is a constant (roughly 21) percent of lifetime earnings

Third, the fact that pension and Social Security wealth are being evaluated in a low inflation environment makes them appear closer in value than they would with moderate or high inflation, since Social Security benefits increase in line with inflation whereas private employers rarely provide cost-of-living adjustments (COLAs). The EBS shows that only 10 percent of full-time participants in medium and large firms were in plans that provided any COLA in the 1990s (Mitchell 2000).[31] In a defined contribution pension plan, the likelihood of protection against inflation depends on the form of the distribution. If the account balance is converted to a fixed annuity on retirement, it will suffer from the same lack of inflation protection as a typical defined benefit plan. If the annuity is backed by stock investments, retirees will receive higher returns on average but will be exposed to large fluctuations in returns and the pattern of benefits over time is unlikely to reflect inflation.[32] Social Security benefits, on the other hand, are fully protected. This means that as inflation rises, Social Security benefits become increasingly more important than unindexed benefits from private pension plans.

## V. Do Low-Income Workers Really Need Pension Income?

The lack of pension income for low-wage workers would not be a source of concern if Social Security provided enough income for them to maintain their preretirement standard of living. Most observers, however, conclude that Social Security alone is inadequate when viewed either in terms of replacement rates or in relation to poverty thresholds.

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for household from the 10th to 90th percentile of lifetime earnings.

[31] Gustman and Steinmeier (1993) found that in periods of high inflation plans made some ad hoc adjustments.

[32] At least one defined contribution pension plan offers some protection against inflation. The nation's major defined contribution pension plan, Teachers Insurance and Annuity Association (TIAA) and College Retirement Equities Fund (CREF) provides two options. The first is an annuity invested in inflation indexed bonds. This should track inflation fairly well, but the retiree is exposed to fluctuations in bond prices due to changes in real interest rates. Only a tiny portion of annuitants has elected this option. The other alternative is TIAA-CREF's traditional annuity with graded benefit payments. Benefits are significantly lower to start but then increase each year in a pattern to reflect expected inflation. This option clearly does not provide complete protection against unexpectedly high rates of inflation.

Ideally, retirement benefits should enable workers to maintain the same standard of well being in retirement as they enjoyed while they were employed. Most analysts assume that retirees do not need to replace 100 percent of preretirement earnings, because they have lower clothing and transportation expenses as a result of not working, they pay less in taxes (particularly the payroll tax), they have lower housing costs because they have generally paid off their mortgages, and they have less need to save. As a rough benchmark, retirement income equal to 80 percent of preretirement earnings should be more or less adequate.

The Social Security Administration calculates benefits and replacement rates under Social Security for individuals and families with hypothetical earnings histories; some examples are given in Table 8. Those who argue that Social Security alone is adequate for low-income workers start with the 53 percent replacement rate for workers retiring at 65. To this figure, they add a benefit for the spouse equal to 50 percent of the worker's. They claim that the combined benefit provides a replacement rate of 79 percent, which meets the suggested threshold.

This conclusion is misleading for several reasons, however. First, although many commentators assume that people retire at age 65, in fact most workers currently retire earlier and receive lower benefits and lower replacement rates, as shown in Table 8. Second, relatively few spouses are entitled to a full spousal benefit. In 1999, for example, 62 percent of female Social Security beneficiaries age 62 and older were receiving wives' or widows' benefits, but only 35 percent of all women in that age group had no earnings history and were entitled to the full wife's or widow's benefit (Social Security Administration 2000a). In the remaining cases, the wife's earnings would have to be taken into account when measuring replacement. Third, "average earner" in tables like this one implies that replacement rates are being measured for someone in the middle of the earnings distribution. [33] But the middle of the earnings distribution for people near

[33] The average wage amounts used by the Social Security Administration in calculating hypothetical replacement rates are based on the *average wage index* used to index earnings. This average amount is based on total wages, including wages in non-covered employment and wages in excess of the Social Security contribution limit.

retirement is higher than for the population and, as the table shows, the higher the earnings, the lower the replacement.

Ultimately, of course, the real issue is not about the estimation procedures used by the Social Security Administration, but about the actual replacement incomes that people experience. The second series of interviews in 1994 for the HRS, which includes participants aged 53 to 63, provides data to estimate replacement rates for those opting for early retirement. Within this group, Social Security replacement rates averaged 55 percent for *couples* in the lowest quintile of the income distribution.[34] These numbers are consistent with data from the 1982 New Beneficiary Survey, which suggested that the actual replacement rate for couples in the lowest quartile was 58 percent.[35] Thus, it would appear that low-income workers, just like their higher-income counterparts, do not receive enough from Social Security to avoid a decline in economic well being upon retirement and thus need supplementary pension income. In the current environment, their only option is to continue working. That is a possibility for some, but for others unemployment and ill health make continued work very difficult.

Indeed, to add emphasis to this conclusion, it is worth noting that the dollar amounts of Social Security benefits for workers with histories of low wages are clearly inadequate by current measures of poverty. For example, a low-income worker retiring in January 2000 at age 62 would have received only $6,216, an amount significantly below the official 1999 poverty threshold of $7,990 for an aged individual. Even if that worker's spouse received the full 50 percent spouse's benefit, the combined amount of $9,324 falls short of the $10,070 poverty threshold for an aged couple. Thus, without additional income

[34] The replacement rate in this calculation is the ratio of benefits in the year of retirement as a percent of earnings in the previous year. Where only one member of the couple was receiving benefits, the recipient was treated as a single individual, and the benefit was related to the beneficiary's preretirement earnings. This sample excluded people still working, so that benefits are not affected by the Social Security earnings test.

[35] Grad (1990, p. 13) reports two different Social Security replacement rates, one using the average of the five years of highest earnings as the denominator, and the other using the five years of earnings just before retirement. These rates were 39 percent and 77 percent, respectively. The number reported in the text is the average of these two. The New Beneficiary Survey was conducted by the Social Security Administration.

from their own saving or a pension plan, many low-income elderly, even with a lifetime of covered employment, live below the poverty line in retirement.

## VI. How Do IRAs Change the Picture?

The lack of pension coverage for a significant portion of the work force has been recognized as a serious problem for a long time. The framers of ERISA addressed the issue, but decided not to mandate coverage in any way and believed in encouraging the growth of employer-sponsored plans. In addition, for those workers whose employers did not provide a plan, ERISA authorized the IRA. Although eligibility was limited initially to those without pensions, it was expanded in 1981 to encompass all workers, including those currently covered by pension plans.[36] The data suggest that IRAs did little to expand pension coverage, however. Estimates show that 22 percent of the annual flow into IRA accounts can be attributed to rollovers and 76 percent to investment returns primarily on rollover amounts; only about 2 percent of the inflow comes from tax deductible contributions (Copeland 2001a). A study of tax returns over the period 1987-1996 indicated that the share of individuals contributing to an IRA decreased from 8 percent to 4 percent (Smith 2001). Furthermore, in 1998 more than half of the 28 percent of total households with IRAs also had current pension coverage and probably a higher

[36] The original ERISA legislation allowed employees without an employer-provided plan to contribute up to $1,500 a year. In 1976 the limit was increased to $1,750 for an employee with a non-working spouse. When the Economic Recovery Tax Act of 1981 extended IRA benefits to all employees, it also raised the contribution limit to $2,000. Congress substantially tightened IRA provisions in the Tax Reform Act of 1986. Specifically, contributions to IRAs were fully tax deferred only for persons who were not active participants in an employer-sponsored pension plan or whose adjusted gross income fell below certain thresholds ($40,000 for a couple and $25,000 for an individual). Individuals ineligible for tax-deferred treatment on their contribution could make taxable contributions to an IRA and still enjoy tax-deferred earnings. These restrictions were eased for low- and moderate-income workers in 1997. The Taxpayer Relief Act of 1997 gradually increased the income limits for fully deductible IRAs to $80,000 for a couple and $50,000 for an individual by 2007. It also introduced spousal IRAs, which permit a full $2,000 for a spouse not covered by a pension plan for couples with adjusted gross income up to $150,000. Finally, the legislation introduced the Roth IRA, which permits nondeductible contributions of $2,000 each for couples with incomes up to $150,000 and individuals with incomes up to $95,000. Qualified distributions from the Roth IRA are tax-free. The Economic Growth and Tax Relief Reconciliation Act of 2001 raised the limits on both traditional and Roth IRAs gradually to $5,000 by 2008 and indexed them thereafter in $500 for inflation. The 2001 legislation also authorized "catch-up contributions" for those aged 50 and over of $500 in 2002-2005 and $1,000 thereafter.

percentage had pension coverage at sometime in their lives (Table 9). Moreover, the additional saving through IRAs must be extremely small, given that the balances are modest (the median amounts in IRA accounts for those households with incomes under $100,000 ranged between $11,000 and $20,000) and most of these balances came from rollovers and rollover earnings.

It is not surprising that IRAs cannot solve the problem of limited pension coverage. Low and moderate earners have many pressing needs for current income, and left to their own devices, they are unlikely to save adequately for retirement. Tax relief is also unlikely to affect their decisions because most low and moderate earners face low marginal tax rates, and the lowest earners pay no federal income taxes at all.

Thus, the pension story remains the same whether or not IRAs are included in the analysis. Private pension plans provide substantial benefits to middle- and upper-income workers, but a significant portion of the work force – particularly those with low earnings – end up without any source of retirement income other than Social Security.

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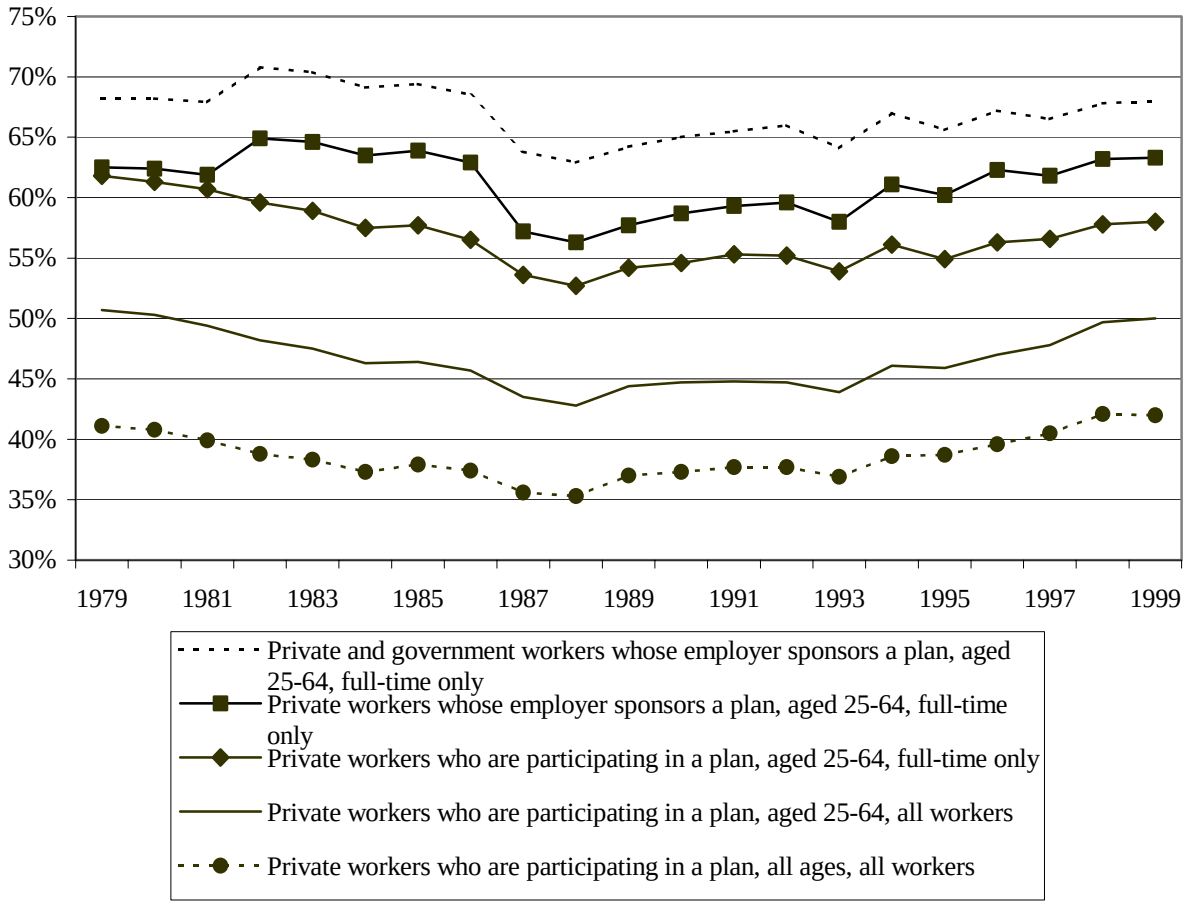
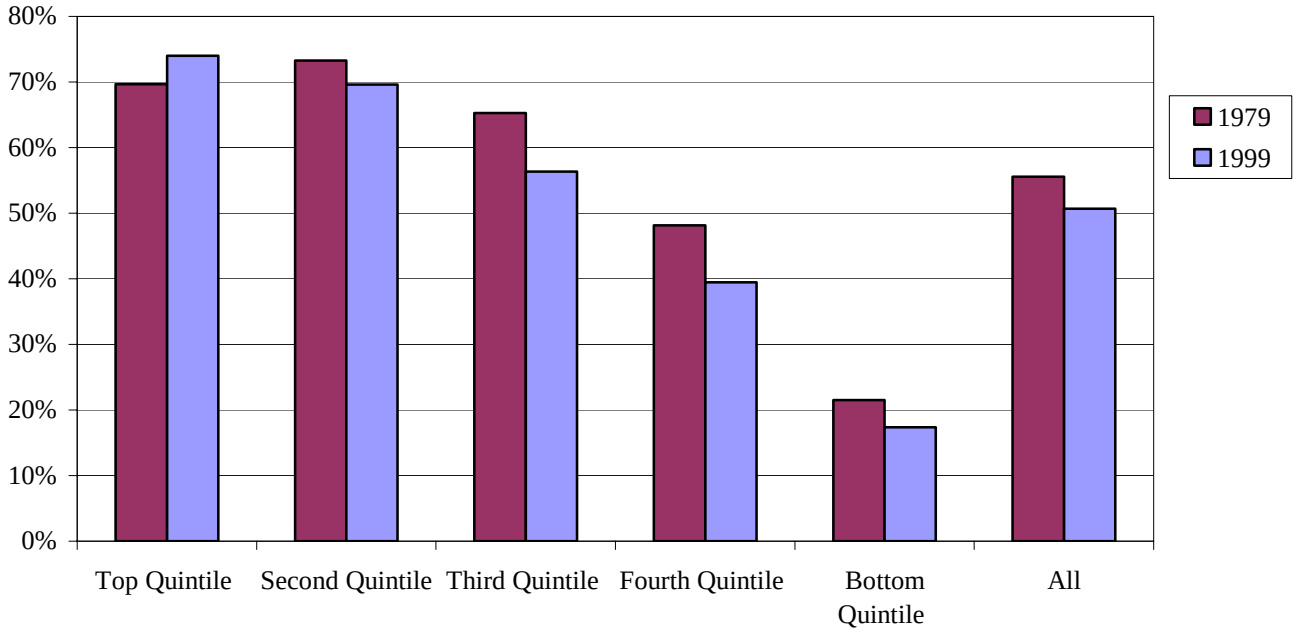
Figure 1. Pension Sponsorship and Participation, 1979-99



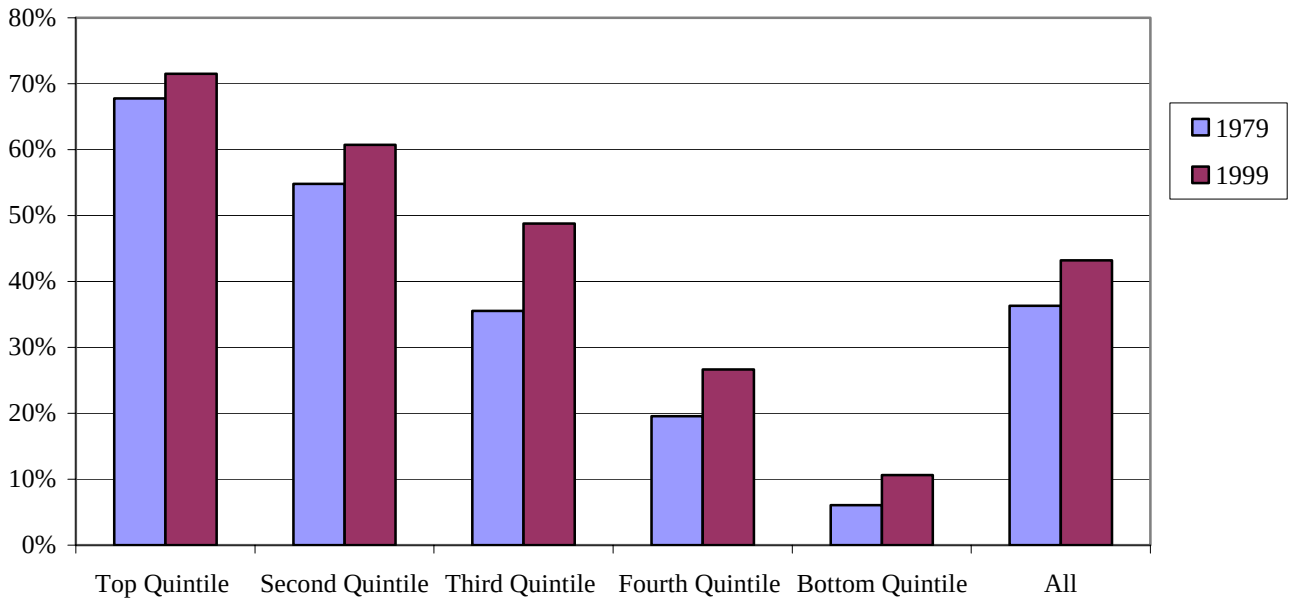

Source: Authors' calculations using the U.S. Bureau of the Census, March Current Population Survey 1980-2000.

Figure 2. Pension Participation for Male and Female Workers, Ages 25-64, 1979 and 1999 by Earnings Quintile

Panel A. Males

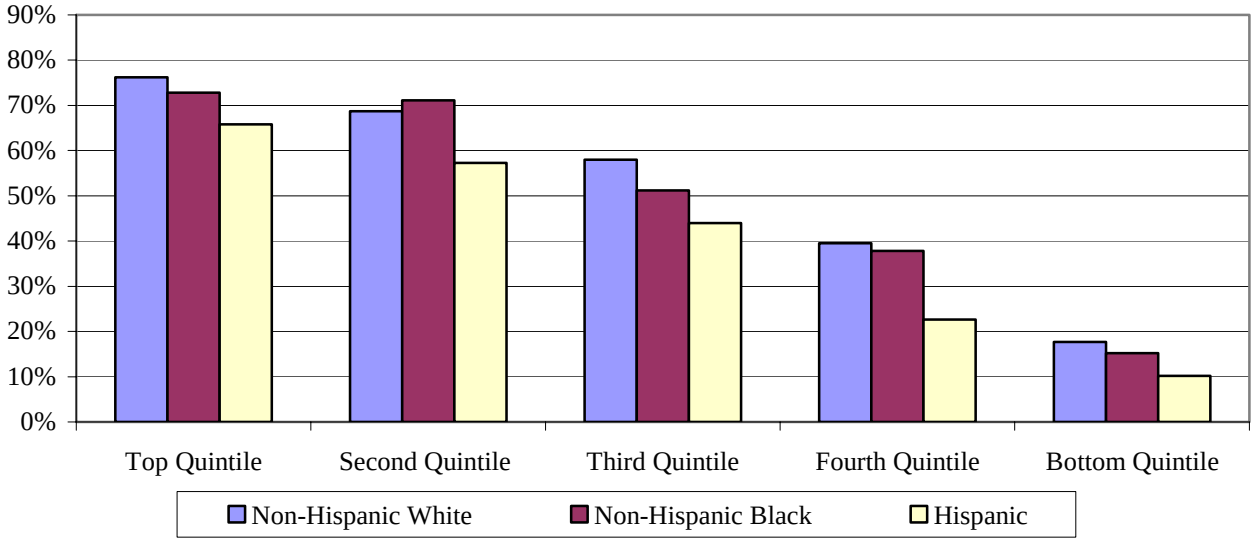



Panel B. Females



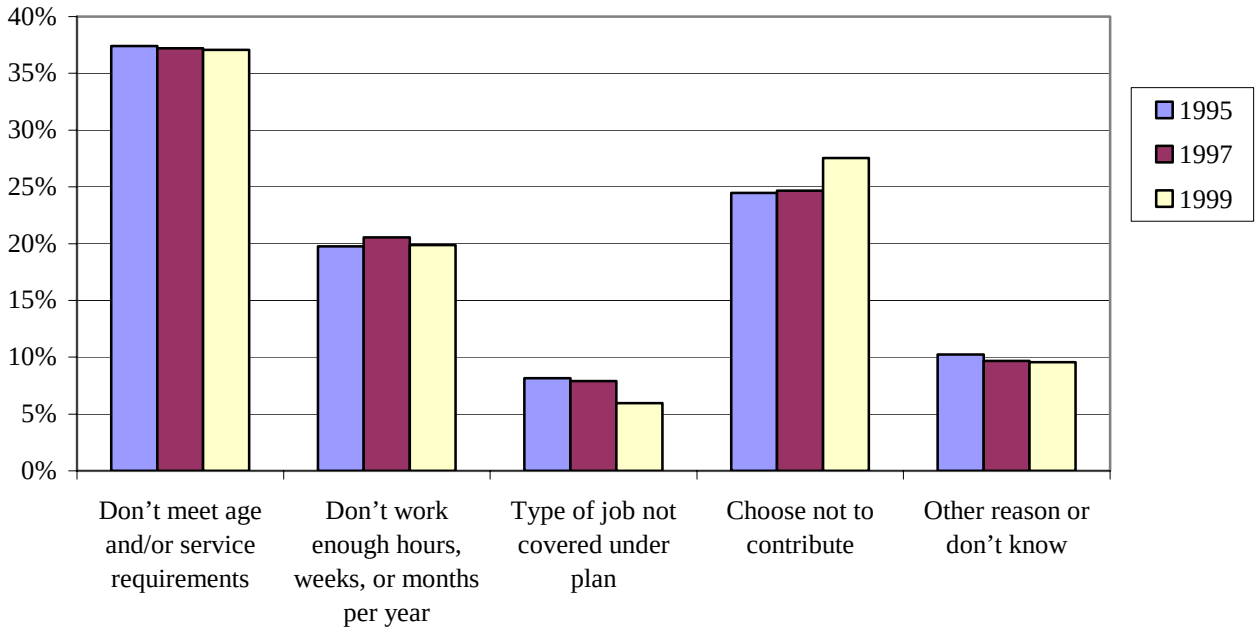

Source: Authors' calculations using the U.S. Bureau of the Census, Current Population Survey, March 1980 and 2000.

Figure 3. Pension Participation of Private Workers, Aged 25-64 by Race and Earnings Quintile, 1999



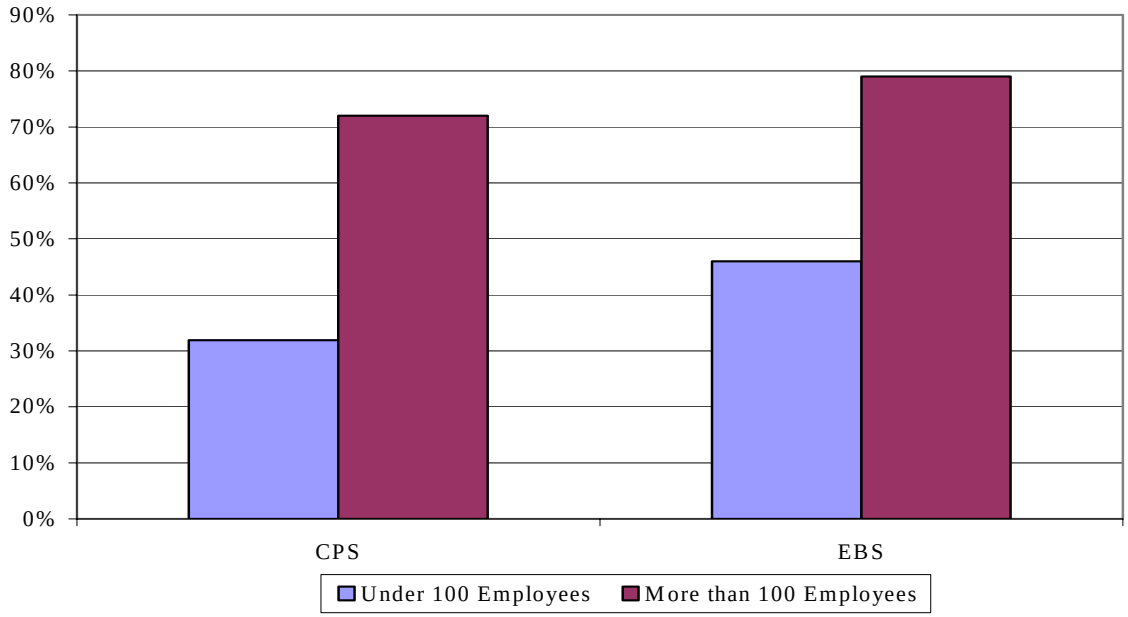

Source: Authors' calculations using the U.S. Bureau of the Census, March Current Population Survey 2000.

Figure 4. Percent of Workers Citing Reason as Most Important for Not Participating in Pension Plan, 1995, 1997, 1999




Source: Authors' calculations using the U.S. Bureau of the Census, February Current Population Survey, Contingent Worker Supplement 1995, 1997 and 1999.

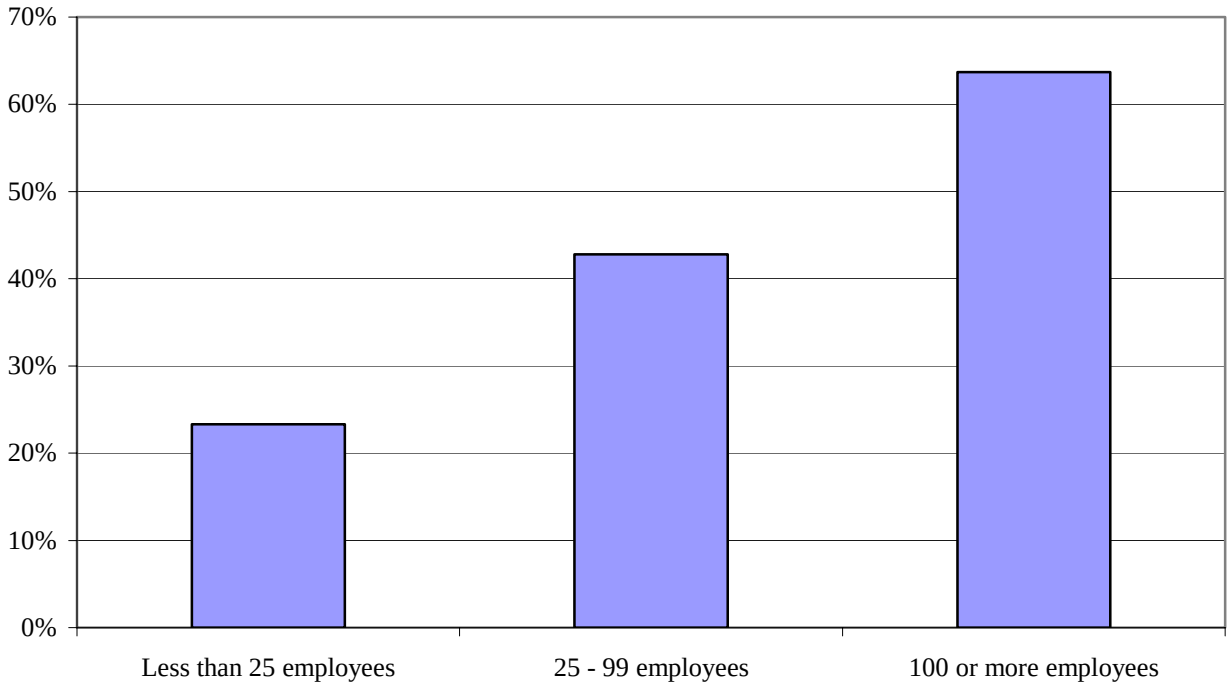
Figure 5. Pension Participation of Full-time Private-Sector Workers by Firm Size, EBS 1996-97 and CPS 1999




Source: Authors' calculations using the U.S. Bureau of the Census, March Current Population Survey 2000 and the U.S. Bureau of Labor Statistics, Employee Benefit Survey 1996 and 1997, Table 1. (http://www.bls.gov/special.requests/ocwc/oclt/ebs/ebnr0004.pdf). (http://www.bls.gov/special.requests/ocwc/oclt/ebs/ebnr0005.pdf).

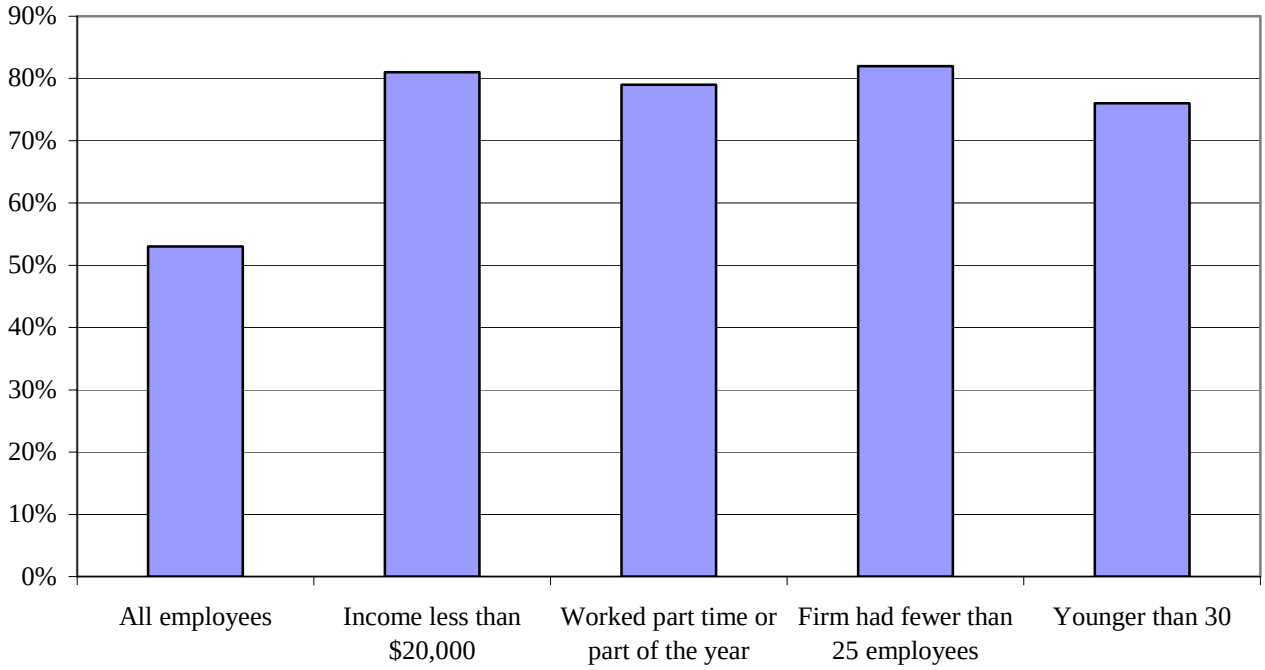
Note: The participation rate for small firms is for small independent businesses rather than all small private establishments. These data come from Chapter 9 of the 1996 EBS Small Private Establishment Survey. The reason is that the unit of observation in the EBS is the establishment, not the firm, and roughly 25 percent of the participants in the Small Private Establishment EBS are in firms with more than 100 employees. The Small Independent Businesses data remove those individuals who work for a firm with more than 100 employees.

Figure 6. Percent of Employees Aged 25-64 Covered by a Pension Plan by Firm Size, 1999




Source: Authors' calculations using the U.S. Bureau of the Census, March Current Population Survey 2000.

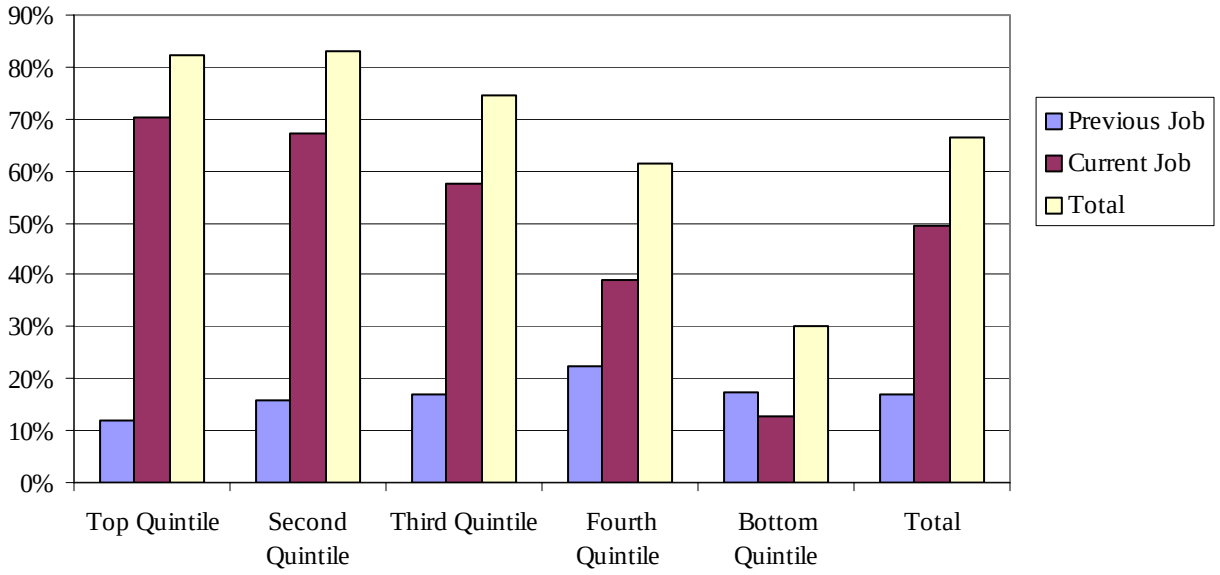
Figure 7. Percent of Employees with Selected Characteristics Who Are Not Covered by a Pension Plan, 1998



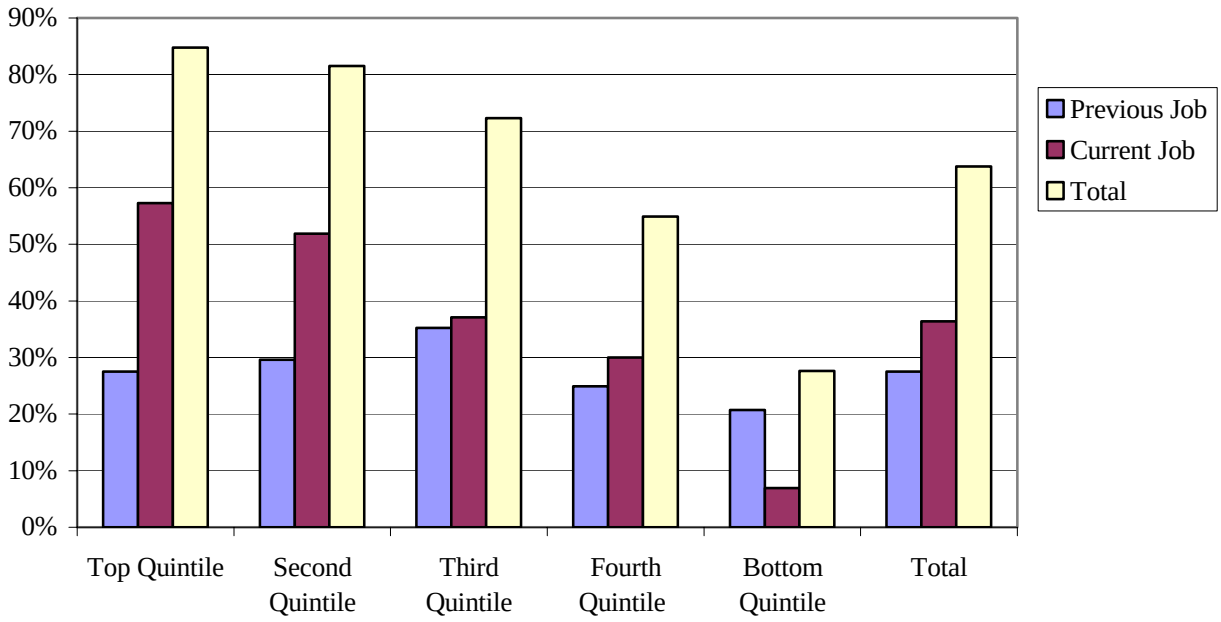

Source: U.S. General Accounting Office. 2000. "Characteristics of Persons in the Labor Force Without Pension Coverage." GAO/HEHS-00-131, Figure 2.

Figure 8. Percent of Coverage for Households Aged 51-61 under Employer-Sponsored Retirement Plans in 1992

Panel A: HRS

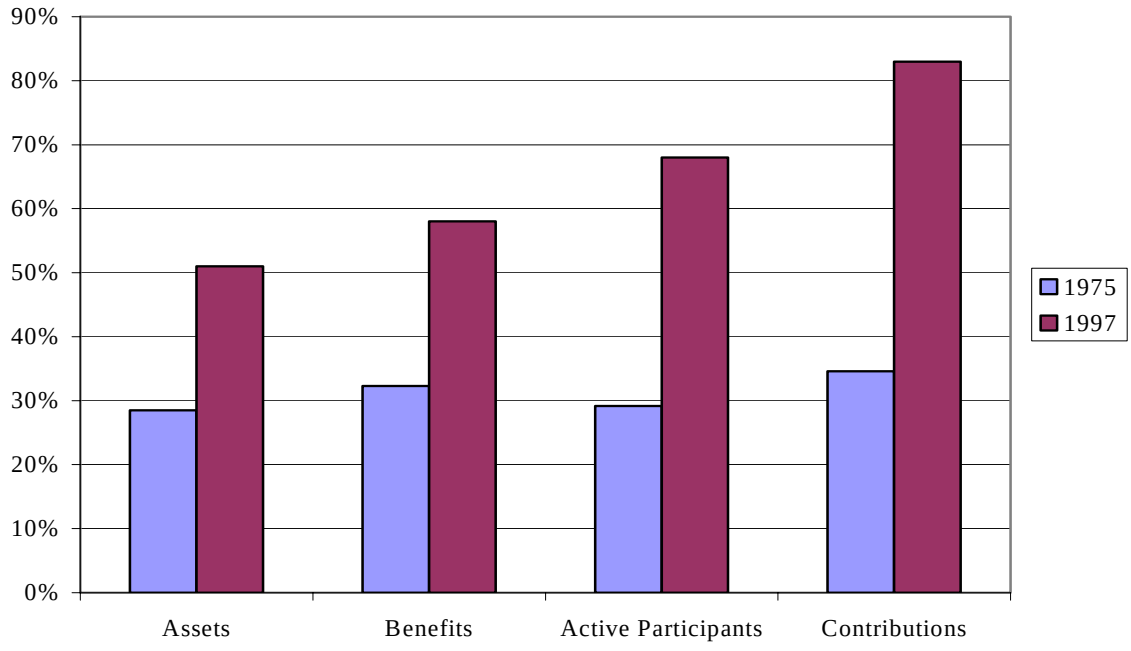



Panel B: SCF



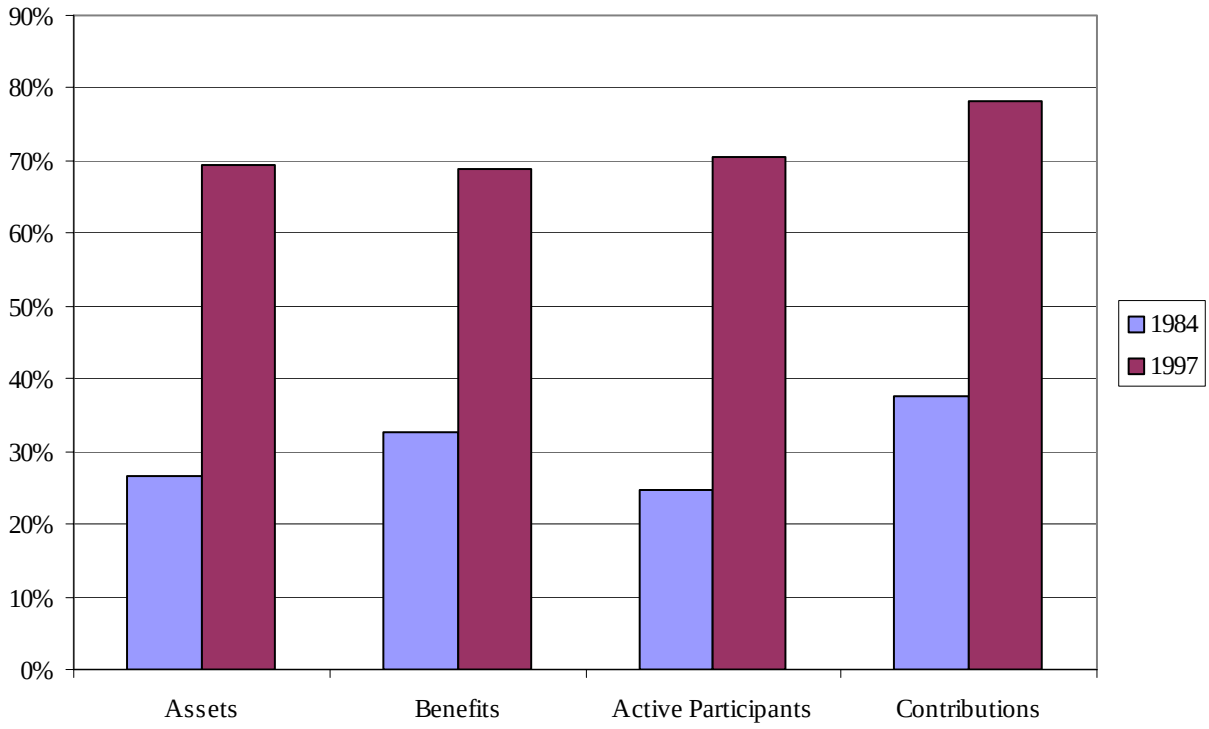

Source: Authors' calculations using the Health and Retirement Study and the Federal Reserve's Survey of Consumer Finances 1992.

Figure 9. Defined Contribution Plans as a Percent of Total Pension Plans, 1975 and 1997



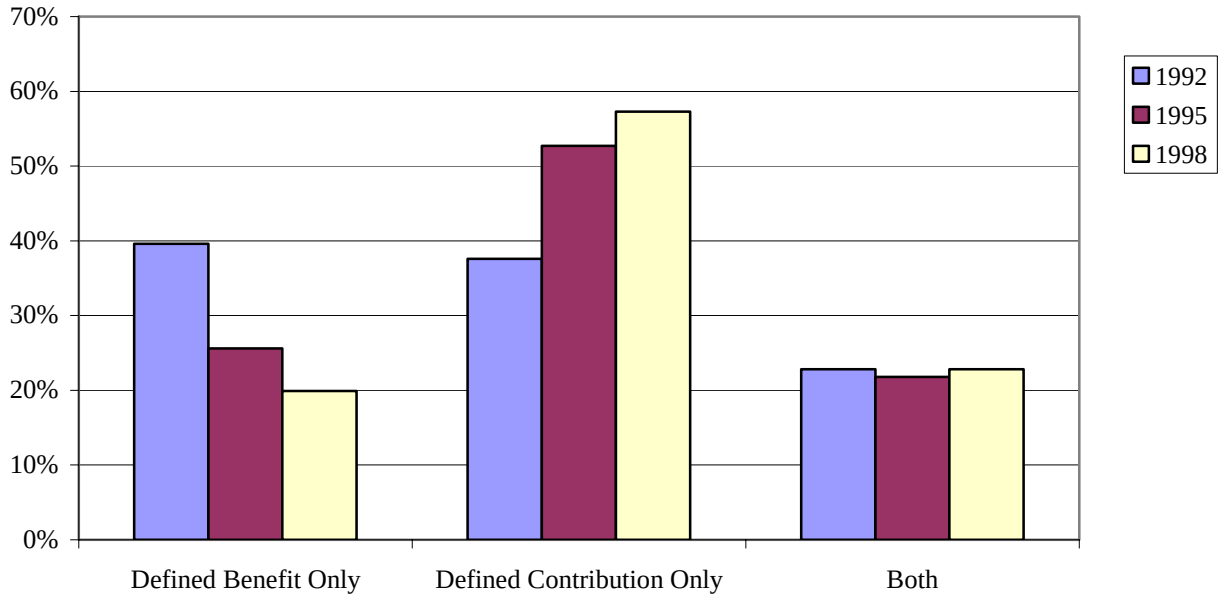

Source: U.S. Department of Labor. Pension Welfare and Benefits Administration 2001. (http://www.dol.gov/dol/pwba/public/programs/opr/bullet97/cover.htm).

Figure 10. 401(k) Plans as a Percent of Total Defined Contribution Plans, 1984 and 1997



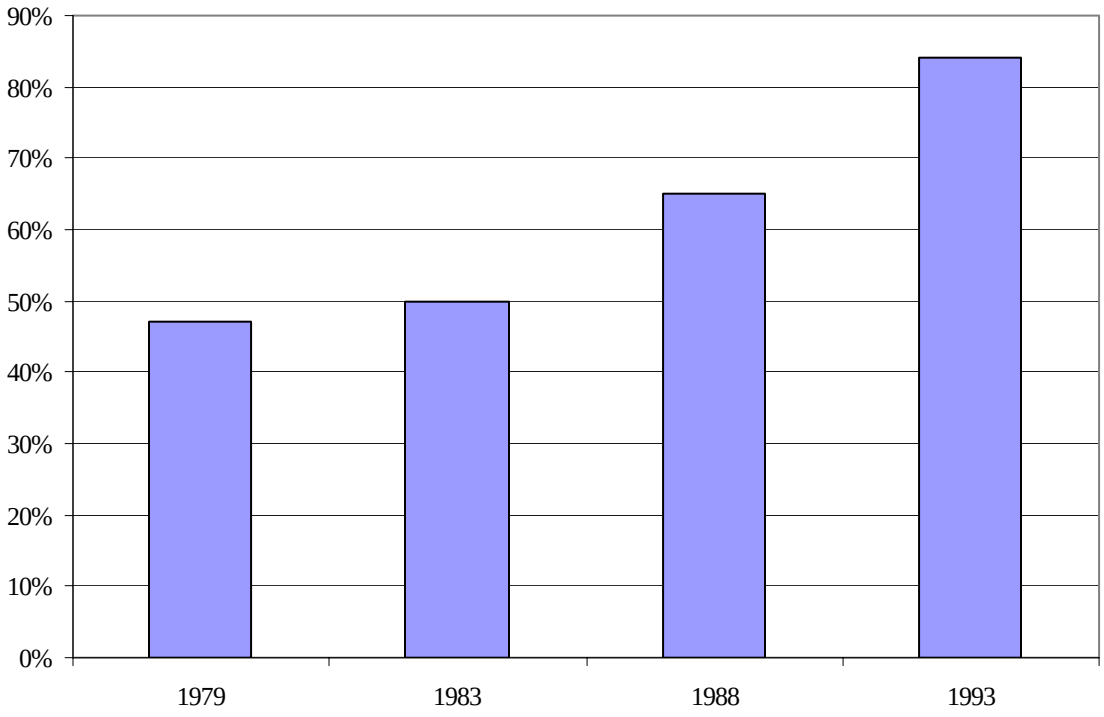

Source: U.S. Department of Labor. Pension Welfare and Benefits Administration 2001. (http://www.dol.gov/dol/pwba/public/programs/opr/bullet97/cover.htm).

Figure 11. Percentage of Households Covered by a Pension, by Pension Type, SCF 1992, 1995 and 1998




Source: Jack VanDerhei and Craig Copeland. 2001."The Changing Face of Private Retirement Plans." *EBRI Issue Brief*. No. 232 (April), Chart 2.

Figure 12. Percent of Plan Participants with Vested Benefits, 1979, 1983, 1988, and 1993




Source: EBRI Databook on Employee Benefits, 4th Edition. 1997. Table 10.4.

Table 1. Percent of Small Employers Citing Reason as the Most Important for Not Offering a Retirement Plan, by Size of Business, 2001

| Reason | 5-20 Employees | 21-100 Employees | Total |
|---|---|---|---|
| *Employee-Related Reasons* | | | |
| Employees prefer wages and/or other benefits | 20% | 11% | 19% |
| Large portion of workers are seasonal, part time, or high turnover | 13 | 31 | 15 |
| *Business-Related Reasons* | | | |
| Revenue is too uncertain to commit to a plan | 19 | 6 | 18 |
| The business is too new | 6 | 7 | 6 |
| *Cost and Administration-Related Reasons* | | | |
| It costs too much to set up and administer | 11 | 22 | 12 |
| Required company contributions are too expensive | 10 | 7 | 10 |
| Too many government regulations | 5 | 2 | 4 |
| *Other Reasons* | | | |
| Vesting causes too much money to go to short-term employees | a | 4 | 1 |
| The benefits for the owner are too small | 1 | 0 | 1 |
| Don't know where to go for information on starting a plan | 1 | 0 | 1 |
| Other reasons | 9 | 9 | 9 |
| Total | 100 | 100 | 100 |

Source: Employee Benefit Research Institute, The 2001 Small Employer Retirement Survey: Summary of Findings, Table 4.
[a] Less than 0.5 percent.

Table 2. Percent of Workers Receiving or Expecting to Receive Benefits under Private Employer-Sponsored Retirement Plans by Age and Sex, 1993

| Age of Worker | Current Primary Job | Current Secondary Job | Previous Job | Any Coverage |
|---|---|---|---|---|
| Men | | | | |
| 25-34 | 45 | 1 | 4 | 45 |
| 35-44 | 56 | 2 | 8 | 59 |
| 45-54 | 60 | 2 | 12 | 66 |
| 55-64 | 53 | 2 | 21 | 65 |
| All | 53 | 2 | 9 | 57 |
| Women | | | | |
| 25-34 | 43 | 1 | 4 | 45 |
| 35-44 | 51 | 1 | 6 | 54 |
| 45-54 | 56 | 1 | 7 | 60 |
| 55-64 | 49 | 1 | 7 | 53 |
| All | 50 | 1 | 6 | 52 |

Source: Authors' calculations using the U.S. Bureau of the Census, April Current Population Survey, Pension Supplement 1993.

Table 3. Shares of Aggregate Income of Households Aged 65 and Older from Major Sources, 1958-1998

| Income Source | 1958 | 1967 | 1976 | 1980 | 1988 | 1994 | 1998 |
|---|---|---|---|---|---|---|---|
| Social Security | 22 | 26 | 39 | 39 | 38 | 42 | 38 |
| Asset Income | 23 | 25 | 18 | 22 | 25 | 18 | 20 |
| Earnings | 37 | 30 | 23 | 19 | 17 | 18 | 21 |
| Private Pensions | 5 | 5 | 7 | 7 | 8 | 10 | 10 |
| Gov't Pensions | 9 | 9 | 6 | 7 | 9 | 9 | 9 |
| Public Assistance | 5 | 3 | 2 | 1 | 1 | 1 | 1 |
| Other | 0 | 2 | 5 | 5 | 2 | 2 | 2 |
| Total | 101 | 100 | 100 | 100 | 100 | 100 | 101 |

Sources: Chen, Yung-Ping. 1992. "The Role of Private Pensions in the Income of Older Americans," in *Trends in Pensions 1992*, edited by John A. Turner and Daniel J. Beller. Washington, DC: U.S. Department of Labor, pp. 293-418. Social Security Administration 1996 and 1998. *Income of the Aged Chartbook. , 1994* and *1996*. Washington, DC: Government Printing Office.

Table 4. Mean Wealth for All Households Aged 51-61 and for the Middle 45-55 Percent, 1992

Panel A: HRS

| Source of Wealth | Mean for All Households | | Mean for Middle 45-55 Percent of Households | |
|---|---|---|---|---|
| | Dollar Value | Percent of Total | Dollar Value | Percent of Total |
| Business Assets | 78,951 | 19.1 | 14,511 | 5.5 |
| Financial Assets | 42,140 | 10.2 | 19,274 | 7.3 |
| IRA Assets | 19,613 | 4.8 | 10,948 | 4.1 |
| Social Security | 133,662 | 32.4 | 144,801 | 54.8 |
| Pensions | 116,012 | 28.1 | 60,102 | 22.7 |
| Other | 22,383 | 5.4 | 14,602 | 5.5 |
| Total | 412,761 | 100.0 | 264,238 | 100.0 |

Source: Alan Gustman, Olivia Mitchell, Andrew Samwick, and Thomas Steinmeier. 2000. "Pensions and Social Security Wealth in the Health and Retirement Study," in *Wealth, Work and Health: Innovations in the Measurement in the Social Sciences*, edited by James P. Smith and Robert J. Willis. Ann Arbor, MI: University of Michigan Press.

Panel B: SCF

| Source of Wealth | Mean for All Households | | Mean for Middle 45-55 Percent of Households | |
|---|---|---|---|---|
| | Dollar Value | Percent of Total | Dollar Value | Percent of Total |
| Business Assets | 75,662 | 15.6 | 5,898 | 2.2 |
| Financial Assets | 85,411 | 17.6 | 280,078 | 10.3 |
| IRA Assets | 20,355 | 4.2 | 8,086 | 3.0 |
| Social Security | 143,854 | 29.6 | 159,291 | 58.5 |
| Pensions | 102,235 | 21.1 | 56,175 | 20.6 |
| Other | 57,804 | 11.9 | 14,557 | 5.4 |
| Total | 485,321 | 100.0 | 272,085 | 100.0 |

Source: Authors' calculations using the Federal Reserve's Survey of Consumer Finances 1992.

Table 5. Relative Importance of Retirement Resources for Households

| Income or Wealth | All Households | | Households in the Middle of the Population | |
|---|---|---|---|---|
| | CPS (Income) | HRS (Wealth) | CPS (Income) | HRS (Wealth) |
| | Percent of Total Income or Wealth | | | |
| Retirement Benefits or Wealth | 71 | 65 | 85 | 82 |
| Social Security | 47 | 32 | 69 | 55 |
| Pensions and IRAs | 24 | 33 | 16 | 27 |
| Other Assets | 25 | 29 | 11 | 13 |
| Other | 4 | 5 | 4 | 6 |
| Total | 100 | 100 | 100 | 101 |

Source: Authors' calculations using CPS data provided in the Social Security Administration 2000, *Income of the Population 55 and Older*, Table VII.1. HRS data are from Alan Gustman, Olivia Mitchell, Andrew Samwick, and Thomas Steinmeier. 2000. "Pensions and Social Security Wealth in the Health and Retirement Study," in *Wealth, Work and Health: Innovations in the Measurement in the Social Sciences*, edited by James P. Smith and Robert J. Willis. Ann Arbor, MI: University of Michigan Press.

Note: For comparability, the CPS measure of income does not include earnings and the HRS and SCF measures of wealth do not include housing. The CPS sample includes households 65 and older. The HRS and SCF samples include households 51-61. Also, even though IRAs are not employer-provided plans, they are included in the HRS pension figures in order to make the numbers comparable with the CPS, which includes payments from IRAs as part of pension income.

Table 6. Benefits Paid by Retirement Programs, 1999

| | Amount (Billions of Dollars) | Percent of Total |
|---|---|---|
| Social Security (OASI) | 339.9 | 44.4 |
| Pensions | 425.4 | 55.6 |
| Private | 255.2 | 33.3 |
| Public | 170.2 | 22.2 |
| Federal Civilian | 47.3 | 6.2 |
| Federal Military | 32.2 | 4.2 |
| State and Local | 90.7 | 11.9 |
| Total | 765.3 | 100.0 |

Source: *The 2000 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds*, Table 1.C1 and the National Income and Products Accounts Tables, Table 6.11C.
(http://www.ssa.gov/OACT/TR/TR00/tric.html#pgfId-84).
(http://www.bea.doc.gov/bea/dn/nipaweb/AllTables.asp#S6).

Table 7. Importance of Pensions by Income Quintile

Panel A: Pensions as a Percent of Income or Wealth

| Quintiles of Income | CPS 1998 | HRS 1992 | SCF 1992 |
|---|---|---|---|
| Top | 29.8 | 32.2 | 17.4 |
| Second | 28.1 | 30.9 | 21.9 |
| Third | 16.1 | 24.8 | 20.2 |
| Fourth | 6.8 | 16.9 | 9.2 |
| Bottom | 3.3 | 6.1 | 7.2 |

Panel B: Distribution of Total Pension Benefits or Pension Wealth

| Quintiles of Income | CPS 1990 | HRS 1992 | SCF 1992 |
|---|---|---|---|
| Top | 50.1 | 42.6 | 55.4 |
| Second | 24.0 | 28.2 | 22.3 |
| Third | 10.7 | 17.4 | 16.3 |
| Fourth | 2.9 | 8.9 | 4.2 |
| Bottom | 0.6 | 3.0 | 1.8 |

Source: Social Security Administration, *Income of the Population 55 and Older* 1998, Table VII.5 and John R Woods, 1996. "Pension Benefits among the Aged: Conflicting Measures, Unequal Distributions," *Social Security Bulletin*, 59 (Fall), Table 7. Authors' calculations of the 1992 HRS and 1992 SCF.

Note: For comparability, the CPS measure of income does not include earnings and the HRS and SCF measures of wealth do not include housing. The CPS sample includes households 65 and older. The HRS and SCF samples include households 51-61.

Table 8. Hypothetical Monthly Benefit Amounts and Earnings Replacement Rates under Social Security, 2000

| Worker | Age 62 | | Age 65 | |
|---|---|---|---|---|
| | Benefit (Dollars) | Replacement Rate (Percent) | Benefit (Dollars) | Replacement Rate (Percent) |
| Low Earner | 518 | 45.6 | 598 | 52.6 |
| Average Earner | 853 | 33.8 | 987 | 39.1 |
| Maximum Earner | 1,241 | 20.5 | 1,433 | 23.7 |

Source: Monthly benefit amounts are taken from the Social Security Administration, 2000 *Fast Facts & Figures about Social Security*, p. 16. Replacement rates are calculated based on the estimated average wage index for 1999, taken from the Social Security Administration, 2000 *Fast Facts & Figures about Social Security*, p.1, assuming 45 percent of the average for the low earner and Social Security maximum taxable earnings ($72,600) for the maximum earner.

Table 9. IRA Participation and Pension Coverage, 1998

| Income Class | Percent of Households with IRA | Median Amount | Percent of IRA Households with Pension Coverage |
|---|---|---|---|
| 1-10,000 | 3.4 | 6,000 | 40.7 |
| 10,000-24,999 | 14.6 | 11,000 | 17.8 |
| 25,000-49,999 | 26.6 | 12,000 | 44.7 |
| 50,000-99,999 | 42.8 | 20,000 | 65.6 |
| 100,000 or more | 65.2 | 70,000 | 61.9 |
| All | 28.3 | 20,000 | 52.6 |

Source: Authors' calculations based on the Federal Reserve's 1998 Survey of Consumer Finances.

Note: Amounts are in 1998 dollars.