

NBER WORKING PAPERS SERIES

THE FALL IN PRIVATE PENSION COVERAGE IN THE U.S.

David E. Bloom

Richard B. Freeman

Working Paper No. 3973

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
January 1992

The authors thank David Beede and Melissa Binder for extremely helpful assistance and comments. This paper is part of NBER's research programs in Aging and Labor Studies. Any opinions expressed are those of the authors and not those of the National Bureau of Economic Research.

THE FALL IN PRIVATE PENSION COVERAGE IN THE U.S.

ABSTRACT

This study documents the 1980s fall in pension coverage and shows that it was concentrated most heavily on men, especially on the young and less educated. We find evidence that changes in real earnings and deunionization account for a sizeable portion of the fall in pension coverage. By contrast, we find little evidence that pension coverage fell because of a twist away from pensions in the tradeoff between pensions and other forms of compensation. With the possible exception of changes in the tax deductibility of contributions to individual retirement accounts, we also find little evidence that pension coverage declined because of institutional changes that reduced the attractiveness of pensions to employees or employers.

David E. Bloom
Department of Economics
Columbia University
New York, NY 10027
and NBER

Richard B. Freeman
Department of Economics
Harvard University
Cambridge, MA 02138
and NBER
and Centre for Economic
Performance
London School of Economics

The Fall in Private Pension Coverage in the U.S.

Between 1950 and 1979 the proportion of U.S. private sector wage and salary workers covered by pensions more than doubled (see Kotlikoff and Smith, 1983). This increase in pension coverage was driven in part by the positive effect of rising real incomes on the demand for deferred consumption, coupled with the tax advantages to employers and employees of deferred compensation. It was also driven by the Supreme Court's 1949 Inland Steel decision making pensions a mandatory negotiating subject in collective bargaining.

During the 1980s, however, the upward trend in pension coverage reversed itself. Household and establishment surveys provide evidence of modest to sizeable declines in the proportion of workers covered by pensions, with considerable variation across demographic groups. National income and product account data also reveal a sharp fall from 1980 to 1989 in the proportion of total employee compensation taking the form of employer contributions to retirement plans (from 5.8 percent to 3.9 percent, though this decline seems to have multiple causes, including rising real rates of return on defined benefit plan assets; see Employee Benefit Research Institute, 1991).

Why did private pension coverage fall in the 1980s? Was the decline related to another major turnabout in the 1980s labor market: the failure of average real earnings to maintain its long-term upward trend, especially for less-skilled workers whose real earnings fell precipitously (see, for example, Blackburn, Bloom, and Freeman, 1990)? Or did the decline mainly reflect a

change in the structure, but not the level, of total compensation?

In this study, we document the 1980s fall in pension coverage and show that it was concentrated most heavily on men, especially on the young and less educated. We find evidence that the fall in pension coverage represents both a manifestation and a consequence of the 1980s decline in the economic position of less-educated male workers. We also consider, but fail to find much evidence in support of, a series of alternative explanations for the fall (with the possible exception of changes in the tax deductibility of contributions to individual retirement accounts).

Documenting the fall in pension coverage

Table 1 reports selected indicators of pension coverage and eligibility at various points around the 1980s. The Bureau of Labor Statistics' (BLS) data on workers in medium and large establishments show a ten percentage point drop from 1985 to 1988 in the proportion of workers eligible for pension coverage. These data show further that the proportion of workers covered by defined benefit plans dropped by 17 percentage points from 1979 to 1988, a period in which employers' relative preference for defined contribution plans apparently increased (see Kruse, 1991 for a recent study of this phenomenon).

According to household data collected in the Current Population Survey (CPS), there was a six percentage point decline in pension coverage among 25-64 year old workers from 1979 to 1988. The fact that this decline refers to all wage and salary

workers in this age group, including those in firms with fewer than 250 employees, appears to explain the more moderate magnitude of this estimate compared to those noted above based on BLS establishment data (since a relatively large number of small firms have never sponsored pension programs for their employees).

The CPS data also show that the fall in pension coverage occurred almost entirely among men, which leads us to concentrate on male workers in the remainder of this study. Disaggregating the male work force by age and education pinpoints the decline in coverage even more finely. Among 25-34 year olds coverage fell by 14 points; among 25-64 year old high school dropouts it fell by 17 points; while for the intersection of these groups, 25-34 year old men with less than 12 years of schooling, pension coverage fell by a stunning 26 percentage points. By contrast, pension coverage among 35-64 year old male college graduates (not reported in Table 1) fell by only five percentage points from 1979 to 1988 (to 76 percent).

Measured in relation to average earnings, the 1980s loss of pension coverage was small but not trivial. Based on the national income and product accounts for 1980, employer contributions to private and public retirement plans (excluding social security) amounted to roughly 7 percent of wage and salary payments. Annual pension contributions thus represented about 11 percent of wage and salary payments for the fraction of the workforce (i.e., 63 percent) that was covered by pensions. If the 1980s fall in pension coverage had been randomly distributed through the workforce, and if no other changes had occurred in the determination of employer pension contributions, the six

percentage point decline in pension coverage would, on an annual basis, be roughly equivalent to a real wage decline of .7 percent. If the fall in coverage were permanent, the discounted value of the loss would be 13 percent of annual earnings for the average worker (assuming a constant real wage and no inflation). These figures, and the corresponding reductions in economic well-being, are proportionately larger for those groups of workers experiencing relatively greater falls in pension coverage (e.g., young, less-educated males).

Causes of the fall

It is well established empirically that pension coverage is positively correlated with earnings levels and union status (see, for example, Kotlikoff and Smith, 1983). These stylized facts have been easily and convincingly rationalized at a theoretical level. First, because of their tax-advantaged status (i.e., income tax liabilities on both pension contributions and returns on pension plan assets can be postponed until a period of the life cycle in which earned income is reduced and one's marginal tax rate is presumably lower), pensions are an attractive device for increasing savings as income rises. Second, the greater prevalence of pensions among union workers has been attributed to two factors: the role of unions in amalgamating preferences for collective goods in the workplace and the strong influence in union settings of older workers who presumably place relatively high value on pension benefits (see Freeman, 1981 and 1985).

To assess the contribution of changes in earnings and unionization to the fall in pension coverage, we used data from

the May 1979 CPS to estimate the parameters of a linear probability model linking participation in employer or union sponsored pension plans to (the log of) hourly earnings, union membership, and a vector of standard "control variables". We focus on three groups of male workers: 25-64 year olds; 25-34 year olds; and 25-64 year old high school dropouts. No attempt is made to account explicitly for expectations about future earnings or marginal tax rates or for the perceived riskiness of future pension benefits. Neither do we account for the effect of union density on the ability of unions to win pension coverage in collective bargaining or for the existence of union-nonunion spillovers in pension coverage.

We interpret the coefficient on hourly earnings in our simple regression specification as a downward-biased estimate of the true effect of income on the demand for pension coverage. It is biased down because it will also reflect the tradeoff between earnings and pensions that competitive markets may be expected to induce. Note, however, that the covariance between the estimated coefficients on earnings and union membership are sufficiently small to mitigate any concern that earnings-pension tradeoffs will seriously bias the union coefficients (via the positive correlation between earnings and unionization).

Table 2 summarizes our key results. The first column reports estimated regression coefficients (and OLS standard errors) for the log wage and union membership variables. The coefficients are statistically significant and sizeable (and roughly comparable in magnitude to those estimated from several

independent data sets in Freeman, 1985). The coefficients are also reasonably comparable to those computed from the May 1988 CPS.

The second column in Table 2 reports changes from 1979 to 1988 in the average log wage (adjusted for inflation using the personal consumption expenditure deflator in the GNP accounts) as well as in the percent unionized. The figures show that both the log wage and the percent unionized fell among all three groups, with the largest declines occurring among the high school dropouts. By multiplying the 1979 regression coefficients by the 1979-1988 change in the average level of the corresponding regressors, we derive estimates of the contribution of the changes in variables to the fall in pension coverage. These estimates are reported in the third column of Table 2.

The calculations suggest that the decline in real earnings produced drops in pension coverage of 1, 2, and 3 percentage points for the three groups of men respectively -- roughly 10-20 percent of the decline for each group. The fall in unionization had uniformly larger effects, amounting to 2, 3, and 4 percentage points for the respective samples, or roughly 20-25 percent of the observed changes. When the effects of changes in all of the right-hand side variables are taken into account (i.e., when the effects of industry, occupation, firm size, marital status, presence of a working spouse, race, region, age, education, experience, and full-time status are included), the proportion of the fall in pension coverage for which this shift-share analysis can account rises to about 50 percent for all three groups. (The full set of regression results is available upon request from the

authors.)

Other possible causes

Although our simple regression analysis demonstrates that declining real wages, deunionization, and changes in our other control variables can account for a sizeable portion of the 1980s fall in pension coverage, other factors not directly accounted for in our specification may also have played a role. These factors, which may have operated either as alternatives to or in concert with those considered above, include: (1) a twist in the tradeoff between pensions and wages or between pensions and other fringe benefits -- away from pensions; and (2) institutional changes impinging upon the attractiveness of pensions. These factors are considered below.

(1) Changing tradeoffs. Workers' preferences for pensions vis-a-vis take-home pay or other fringe benefits may have weakened in the 1980s for several reasons. First, workers may have experienced a pure change in their relative taste for deferred consumption (i.e., an increase in the rate at which they discount future consumption). Second, workers' expectations about the generosity of social security retirement income may have increased in line with the 1980s increases in social security taxes, thereby inducing them to cut back on supplemental saving. Indeed, the Old Age and Survivor Insurance (OASI) component of employee and employer social security taxes both increased from 4.52 to 5.53 percent from 1979 to 1988, while the real maximum annual taxable income increased from 36,371 to 45,000 (1988) dollars. (For an individual earning at the maximum

in both years, these changes translate into increased OASI contributions of nearly 1700 dollars per year, about four percent of the 1988 taxable earnings limit.) Third, large increases in the 1980s in the cost of employer-sponsored health insurance might have raised the health insurance component of compensation packages at the expense of other fringe benefits, such as pension coverage.

We find little evidence to support the view that any of these hypotheses provide first-order explanations for the 1980s fall in pension coverage. If preferences for deferred compensation fell in the 1980s, one would expect those demographic groups that had the largest losses in pension coverage to exhibit the largest offsetting gains in relative earnings. However, this expectation runs counter to the facts. The correlation is +.79 between 1979-88 percentage changes in real earnings and 1979-88 percentage point changes in pension coverage for the 11 (partially overlapping) demographic groups singled out in Table 1. Indeed, the group with the largest drop in real earnings -- 25-34 male high school dropouts -- experienced the largest decline in pension coverage, while the group with the largest increase in real earnings -- 25-64 year old females -- experienced the smallest decline in pension coverage. These facts also cast doubt on the view that pension coverage declined because employers have become less paternalistic in their compensation practices in response to rising income and education levels. Finally, the age profile of pension coverage flattened across cohorts between the 1970s and

1980s (see Woods, 1989), suggesting that the 1980s fall in pension coverage is not due to changes in employee preferences related to the timing of that coverage.

It also seems unlikely that workers reduced their private pension coverage because they expected a sizable increase in social security retirement benefits. The ratio of social security earnings to earnings in an individual's last year of work fell from 51 percent in 1980 to 42 percent in 1989, after rising for some 35 years (Placentini and Cerino, 1991). In addition, survey data collected throughout the 1980s show that most American workers expect social security benefits either to have declined in generosity or to have disappeared by the time of their retirement (see, for example, Louis Harris and Associates, 1979; Gallup, 1984; and U.S. News and World Report, 1985). Particularly striking is the fact that younger workers exhibit the least confidence in the ability of the social security system to pay their retirement benefits. Finally, empirical evidence on the hypothesized negative effect of social security on private savings is mixed (see Sandmo, 1985 for selected references), casting further doubt on the hypothesis that pension coverage declined in the 1980s in response to changes in the social security system.

We also find little evidence to support the view that pension coverage was squeezed out by the rising cost of health insurance coverage. One would expect increased medical insurance costs to be funded by some combination of cost-shifting and reductions in all forms of compensation. Cost-shifting was important in the 1980s: there was a dramatic 23 percentage point

drop from 1979 to 1989 in the proportion of employees in medium and large establishments covered by health insurance plans funded entirely by their employers. As a result, employer outlays for group health insurance only increased by 1.1 percentage points of total compensation from 1980 to 1989 (see Employee Benefit Research Institute, 1991). Barring some peculiar cross-elasticity of demand between pension and health coverage, this increase is not sufficiently large to account for a substantial portion of the fall in pension coverage.

(2) Institutional changes. Many changes took place in the 1980s regarding the legal status of different pension rules and provisions (see Mitchell, 1991). Vesting standards were generally relaxed, it became more difficult for employers to exclude newly-hired older workers from pension plan participation, and benefit accruals became required after the normal age of retirement. Although on balance the changes probably increased the shadow price of pensions to firms, there is little a priori reason to think that the changes were sufficiently important -- either individually or collectively -- to account for a sizable portion of the fall in pension coverage.

From the standpoint of workers, the attractiveness of pensions may have decreased in the 1980s due to the fall in marginal personal income tax rates. A married couple with two dependents and earned income of 25,000 (1988) dollars fell into the 28 percent federal tax bracket in 1980. But in 1989 this couple would have fallen into the 15 percent tax bracket (U.S. Bureau of the Census, 1990). Although the decline in the

marginal tax rate reduces the incentive to participate in a pension plan, this effect might be offset by the effect of increased disposable income on the desire for (tax-deferred) savings. The tax rate hypothesis is further weakened by the fact that the 1980s fall in pension coverage was smallest among high-income workers -- for whom marginal tax rates declined the most.

In 1981, Congress extended the eligibility to make tax-deductible contributions to individual retirement accounts (IRAs) to workers who participated in employer-sponsored pension plans. This development led to a massive increase by 1986 in the number of taxpayers claiming IRA deductions (see Employee Benefit Research Institute, 1991). Although IRA deduction eligibility for high-income taxpayers was limited in 1986, leading to a fall in the number of taxpayers claiming IRA deductions, there was still a net increase from 1981 to 1988 of three million tax returns in which IRA deductions were claimed. Since IRAs are reasonably good substitutes for most employer-sponsored pensions (i.e., they offer many of the same tax advantages and allow considerable freedom of choice regarding the timing and amount of contributions, until one reaches their dollar limit), their increased use might account for a substantial portion of the 1980s fall in pension coverage. The fact that low income workers now have relatively stronger incentives to take advantage of IRAs than high income workers is also consistent with the relatively sharp drop in pension coverage among the low-income group. On the other hand, employer-sponsored 401(k) plans offer many of the same attractions as IRAs and greater access to the accrued value of benefits. Employer-sponsorship of 401(k) plans increased

sharply in the late 1980s, possibly signaling a future shift away from IRAs.

Conclusions

Our results indicate that studies of the declining economic position of less skilled American men that focus solely on their real earnings and employment rate understate the true magnitude of their growing immiseration and of rising inequality in the economy. Our results also suggest that the "private welfare system" associated with employers weakened significantly in the 1980s. Future generations of older males may find themselves facing stronger incentives to work past the traditional age of retirement, and more dependent on the social security system for income once they do retire.

References

Blackburn, McKinley L., Bloom, David E., and Freeman, Richard B., "The Declining Economic Position of Less Skilled American Men," in Gary Burtless, ed., A Future of Lousy Jobs? Washington D.C.: The Brookings Institution, 1990, 31-67.

Employment Benefit Research Institute, "EBRI Issue Brief," October 1991, number 119.

Freeman, R. "The Effect of Unionism on Fringe Benefits," Industrial and Labor Relations Review, July 1981, 34, 489-509.

_____, "Unions, Pensions, and Union Pension Funds," in David Wise, ed., Pensions, Labor, and Individual Choice, Chicago: University of Chicago Press, 1985, 89-118.

Gallup, The Gallup Poll: Public Opinion, Wilmington, Delaware: Scholarly Research, 1984.

Kruse, Douglas L., "Pension Substitution in the 1980s: Why the Shift Toward Defined Contribution Pension Plans?" NBER Working Paper 3882, National Bureau of Economic Research, October 1991.

Louis Harris and Associates, Inc., "1979 Study of American Attitudes Toward Pensions and Retirement."

Mitchell, Olivia S., "Trends in Pension Benefit Formulas and Retirement Provisions," NBER Working Paper 3744, National Bureau of Economic Research, June 1991.

Piacentini, Joseph S. and Cerino, Timothy J., EBRI Databook on Employee Benefits, Washington, D.C.: Employee Benefit Research Institute, 1991.

Sandmo, Agnar, "The Effects of Taxation on Savings and Risk Taking," in Handbook of Public Economics, Auerbach, Alan J. and Feldstein, Martin, eds., New York: North-Holland, pp. 265-311.

U.S. Bureau of the Census, Statistical Abstract, Washington, D.C.: U.S. Government Printing Office, 1990.

U.S. Department of Labor, Bureau of Labor Statistics, Employee Benefits in Industry: A Pilot Study. Report 615, Washington, D.C.: U.S. Government Printing Office, 1980.

U.S. Department of Labor, Employee Benefits in Medium and Large Firms 1988, Bulletin 2336, Washington, D.C.: U.S. Government Printing Office, 1989.

U.S. News and World Report, "Social Security at 50 Faces New Crossroads," August 12, 1985.

Woods, John R., "Pension Coverage Among Private Wage and Salary Workers: Preliminary Findings from the 1988 Survey of Employee Benefits," Social Security Bulletin, October 1989, 52, 2-19.

Table 1

Percent of Workers Covered (or Eligible for Coverage)
Under Private Pension Plans, 1979-1988

	<u>1979</u>	<u>1988</u>	<u>Change</u>
BLS Employee Benefits Survey			
(full-time employees in medium and large private nonfarm establishments eligible to participate in employer-sponsored pension plans)			
all plans	91*	81	-10
defined benefit plans	87	70	-17
May Current Population Surveys (25-64 year old workers participating in employer- or union-sponsored pension plans)			
All workers	63	57	-6
Males	70	61	-9
Females	53	52	-1
Males, by age			
25-34	64	50	-14
35-64	73	68	-5
Males, by years of schooling			
<12	61	44	-17
12	71	61	-10
16 or more	76	70	-6
Males, 25-34, by years of schooling			
<12	49	23	-26
12	65	51	-14
16 or more	69	60	-9

* 1985 figure

Sources of information for Table 1

- (1) BLS Employee Benefits Survey: U.S. Department of Labor, 1980 and 1989.
- (2) May CPS: The 1979 and 1988 May Current Population Survey Employee Benefits Supplements. Our tabulations are based upon all workers aged 25-64 who held a job in the week preceding the survey and who were not self-employed. Workers were asked if their employer or union provided a pension plan and if they participated in the plan. There were 17,041 observations in the 1979 sample and 17,841 in the 1988 sample; there were 9,935 men in the 1979 sample and 9,544 men in the 1988 sample.

Table 2

Effect of Changes in Earnings, Unionism, and Other Factors
on the Decline in Pension Coverage among Male Workers, 1979-88

<u>Demographic Group/Factors</u>	1979 Coefficient (SE)	1979-88 Change in Factor Average	Effect of Change in Factor
Men 25-64			
log wage	.16 (.01)	-.05	-.01
union	.19 (.01)	-.10	-.02
all factors	---	---	-.05
Men 25-34			
log wage	.17 (.02)	-.11	-.02
union	.22 (.02)	-.12	-.03
all factors	---	---	-.07
Men, < than High School			
log wage	.22 (.03)	-.15	-.03
union	.22 (.02)	-.17	-.04
all factors	---	---	-.09

Notes: The 1979 coefficients were estimated by ordinary least squares, applied separately to each demographic group. The dependent variable refers to employee participation in an employer or union-sponsored pension plan. The regression controls consist of a race dummy, three marital status dummies, a dummy for workers with employed wives, three education dummies, nine age dummies, eight region dummies, 10 occupation dummies, 47 industry dummies, job tenure, a dummy for workers holding their present job for less than one year, dummies for year round and full time work status, and a dummy for workers in firms with more than 100 employees. See notes to Table 1 for sample inclusion criteria. The three regressions are based upon 8,429, 3,234, and 1,689 observations, respectively.