A decline in pension coverage during the 1980s for males in the private sector is confirmed and is contrasted with the federal, state, and local sectors in which no such decline is found. As a consequence, the governmental advantage in the probability of coverage grew over the 1980s. This remains true even in the most appropriate testing methodology in which worker earnings are endogenous and in which otherwise constant characteristics are moved between years and sectors. Government wage differentials are estimated as a byproduct of this methodology and show a tendency toward comparability over the 1980s.

CHANGES IN THE RELATIVE PROVISION OF PUBLIC-SECTOR PENSIONS

DALE BELMAN
JOHN S. HEYWOOD
University of Wisconsin-Milwaukee

I. INTRODUCTION

Two related bodies of literature have developed over the last few years with surprisingly little recognition of each other. The first documents the decline in private-sector pension provision over the 1980s presenting various explanations for that decline and arguing over its implications. Woodbury and Bettinger (1991) highlight the reductions in marginal tax rates that made fringe benefits less desirable. Bloom and Freeman (1992) demonstrate that the decline is more substantial for young, less educated males and tie their finding to more general work on growing inequality in labor market returns (see Blackburn, Bloom, and Freeman 1990). Even and Macpherson (1993) argue that much of the decline reflects a change from standard pension plans to 401k plans. Despite agreement that private-sector pension coverage has declined (see Parsons 1991), the reasons remain disputed.1

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The second body of literature estimates the relative provision of pension coverage (and other fringe benefits) in the public sector as compared to the private sector (Quinn 1982; Wiatrowski 1988; Belman and Heywood 1991). These estimates grew out of a recognition that simply comparing wages (Smith 1977) excludes large portions of worker compensation and might result in misleading comparisons. The estimates suggest that the probability of pension coverage is higher in the public sector for otherwise equal workers but that comparing the generosity of pension plans across sectors is difficult because of differences in financing and characteristics.²

To the extent that the first literature correctly identifies a decline in private-sector pension coverage, the second literature has unwittingly been shooting at a moving target. The degree of any public-sector advantage in pension coverage is a function not only of the extent of that provision in the public sector but also of the extent of provision in the private sector. Hence whatever the pattern of coverage in the public sector, the large private-sector decline could be key in determining movements in the relative sectoral advantage.

We find a substantial decline in private-sector coverage for prime age male workers, which is not matched in the federal, state, or local sectors. Although two thirds of this decline is due to changes in characteristics of the labor force, the private-sector decline in the 1980s cannot be fully explained. Estimating a variety of pension provision equations for both 1979 and 1988, we find that the government provision advantage increases over the 10 years in each of the three public sectors. The largest advantages are in state and local sectors for both 1979 and 1988, but the largest increase in advantage over that period is for the federal sector. This increased advantage for public workers is largely due to the steep decline in private-sector coverage. Comparison between 1979 and 1988 within the public sector indicates that the likelihood of pension coverage increased only modestly for state and local workers and declined modestly for federal workers.

The conclusions of both bodies of literature must be modified by these results. The decline in coverage identified for the private sector is unique to that sector. Thus the size of the public-sector advantage in pension provision is highly sensitive to the year of examination with the later year showing a larger advantage. The implications of these
findings need not be quite as clear, as we suggest in the body of the article.

II. METHODOLOGY AND DATA

Following previous research on private-sector pension coverage, we examine the May 1979 and May 1988 Current Population Surveys (CPS), which include special supplemental questions on the extent of pension coverage. The CPS also identifies if the worker is employed in the private, federal, state, or local sector and provides a variety of standard human capital and demographic controls. We limit our sample to men because this is the group for which the primary decline has been identified (see Bloom and Freeman 1992).3

Limiting the male sample to those with complete data, Table 1 presents the mean proportions of workers identifying that they participate in an employer-sponsored pension plan and the sample sizes upon which those means rest. Looking across the rows shows that the coverage in the public sectors, near 90%, is substantially higher than in the private sector. Looking down the columns shows a substantial drop in private-sector provision, from 68% to 54%, a modest drop in the federal provision, from 94% to 90%, and no drop in either the state or local sectors.

At issue is the extent to which the changes in Table 1 can be explained by changes in the characteristics of the respective workforces. To determine this, we follow a modified probit Oaxaca technique, which requires that pension probability equations be estimated for each sector and year. Thus eight such probit equations are estimated. In each case, the dependent variable is dichotomous indicating whether the worker is covered by an employer-sponsored pension plan.4 The independent variables include years of education, experience, tenure, racial status, collective bargaining coverage, marital status, broad occupational dummies, employer size, urban area and size dummies, regional dummies, whether a household head, whether a seasonal worker, and whether a new hire (tenure below a year). This represents a substantial, if not exhaustive, set of the variables used in past studies and generally matches typical earnings equations.5
TABLE 1: Sample Means and Sizes for Pension Coverage

<table>
<thead>
<tr>
<th></th>
<th>Private</th>
<th>Federal</th>
<th>State</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>.68</td>
<td>.94</td>
<td>.89</td>
<td>.89</td>
</tr>
<tr>
<td>(5388)</td>
<td>(377)</td>
<td>(300)</td>
<td>(650)</td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>.56</td>
<td>.90</td>
<td>.89</td>
<td>.90</td>
</tr>
<tr>
<td>(7064)</td>
<td>(420)</td>
<td>(433)</td>
<td>(776)</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Sample sizes are in parentheses.

We include a measure of earnings among the explanatory variables. Larger total compensation will, through the income effect, cause employees to expend more on each element of compensation, such as pensions. This increases the probability that any worker will receive a pension. Moreover, the progressive income tax suggests that the advantage to receiving pension coverage increases as income does.

The probit equation for each sector, s, and year, t, is then

\[ P_{cov}^t = \Phi(X^t \beta), \]

with one of the controls the natural log of hourly earnings. After estimating these equations, the change in probability within each sector can be divided into a portion attributable to changes in characteristics and a portion attributable to change in coefficients over time.\(^6\) The latter portion is isolated by taking the mean values for the controls from a single year and projecting probabilities of coverage for each year using the estimated equations:

\[
\begin{align*}
P_{cov}^{t,88,79} - P_{cov}^{t,79,79} &= \Phi(X^t \hat{\beta}^{88}) - \Phi(X^t \hat{\beta}^{79}) \\
P_{cov}^{t,88,88} - P_{cov}^{t,79,88} &= \Phi(X^t \hat{\beta}^{88}) - \Phi(X^t \hat{\beta}^{79})
\end{align*}
\]

The constant superscript indicates that the percentage differential is computed within each sector. This provides two estimated differences: (2a) is the difference due to changes in coefficients using the 1979 characteristics (the first subscript denotes equation and the second the year for which characteristics were used) and (2b) is the difference due to changes in coefficients using the 1988 characteristics. Note that
the projections in (2) need not pass through the point of means. Thus, the typical Oaxaca decomposition does not hold as an identity when using probits because of the inherent nonlinearity.

III. RESULTS

As there is no particular reason to favor one base or the other, we present both and the arithmetic mean in the top half of Table 2. Holding all characteristics constant, the observed decline of 14 percentage points in private-sector coverage becomes 4.7 percentage points. The federal decline of 4 points becomes about 1 1/2 when all characteristics are held constant. The state-sector coverage would actually increase between 2 and 3 points on an already high base. Finally, holding characteristics constant presents no coverage change for the local sector, just as the unadjusted figures suggested.

The large private-sector decline in provision, not matched in the public sector, suggests that the relative advantage of the public sector has grown. To examine whether this has happened, the estimated probit equations are combined in slightly different manners. The unexplained difference within years but between the private sector, \( p \), and the public sector, \( g \), is examined holding characteristics constant.

\[
\hat{P}_{t}^{p} - \hat{P}_{t}^{g} = \Phi(X_{t}^{p} \hat{\beta}_{p}^{g}) - \Phi(X_{t}^{p} \hat{\beta}_{p}^{g}).
\]

Again, two measures are generated. The first is the change in pension probability moving the private-sector workers to the public sector, the private base. The second is the change moving the public-sector workers from the private sector to the public sector, the public base. The arithmetic averages of the two bases are presented for both years in the top of Table 3. The change in the public-sector advantage between the two years is also presented.

The federal advantage in 1979 is the smallest of the three sectors, with an 8.8% advantage. The comparable state and local advantages
TABLE 2: Change in Pension Probability Holding Characteristics, Constant: 1979-1988

<table>
<thead>
<tr>
<th></th>
<th>Private</th>
<th>Federal</th>
<th>State</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exogenous earnings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1979 Base</td>
<td>-4.6</td>
<td>-1.7</td>
<td>1.9</td>
<td>0.6</td>
</tr>
<tr>
<td>1988 Base</td>
<td>-4.8</td>
<td>-1.2</td>
<td>3.0</td>
<td>-0.4</td>
</tr>
<tr>
<td>Average</td>
<td>-4.7</td>
<td>-1.45</td>
<td>2.45</td>
<td>0.1</td>
</tr>
<tr>
<td>Endogenous earnings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1979 Base</td>
<td>-6.4</td>
<td>-2.3</td>
<td>0.2</td>
<td>-0.9</td>
</tr>
<tr>
<td>1988 Base</td>
<td>-6.6</td>
<td>-1.6</td>
<td>1.1</td>
<td>-1.4</td>
</tr>
<tr>
<td>Average</td>
<td>-6.5</td>
<td>-1.95</td>
<td>0.65</td>
<td>-1.15</td>
</tr>
</tbody>
</table>

TABLE 3: Public Sector Differentials in Pension Coverage and Earnings (1979-1988)

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pension differential (earnings exogenous)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1979</td>
<td>8.8</td>
<td>19.1</td>
<td>18.8</td>
</tr>
<tr>
<td>1988</td>
<td>18.3</td>
<td>26.3</td>
<td>25.8</td>
</tr>
<tr>
<td>Change</td>
<td>9.5</td>
<td>7.2</td>
<td>7.0</td>
</tr>
<tr>
<td>Pension differential (earnings endogenous)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1979</td>
<td>10.0</td>
<td>18.4</td>
<td>17.9</td>
</tr>
<tr>
<td>1988</td>
<td>18.9</td>
<td>26.6</td>
<td>24.4</td>
</tr>
<tr>
<td>Change</td>
<td>8.9</td>
<td>8.2</td>
<td>6.5</td>
</tr>
<tr>
<td>Earnings differential (characteristics held constant)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1979</td>
<td>8.3</td>
<td>-11.4</td>
<td>-11.5</td>
</tr>
<tr>
<td>1988</td>
<td>6.5</td>
<td>-3.2</td>
<td>-5.0</td>
</tr>
<tr>
<td>Earnings differential (raw)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1979</td>
<td>18.2</td>
<td>-4.0</td>
<td>-11.1</td>
</tr>
<tr>
<td>1988</td>
<td>24.5</td>
<td>6.8</td>
<td>5.0</td>
</tr>
</tbody>
</table>

are more than twice as large at 19.1 and 18.8 percentage points. The federal advantage in 1988 remains the smallest but at 18.3 percentage points, indicating that the federal advantage has increased 9.5 percentage points, the state has increased 7.2 percentage points, and the local has increased 7.0 percentage points.

These are dramatic increases in the probability of coverage advantage and result because of a decline in the private-sector probability not matched in any of the public sectors.
Bloom and Freeman have demonstrated that the decline in coverage is most severe among those with less than high school education. Indeed, reestimating equation (2) for those private-sector workers with less than a high school education confirmed that their net decline of 5.7 percentage points of coverage was one full percentage point above the average of 4.7 for the private sector as a whole. Moreover, the notion that education protected private-sector workers from loss of pension coverage is substantiated by our examination of the public-sector advantage for those with college degrees. From 1979 to 1988, the federal advantage fell slightly from 17.6 to 17.2 percentage points, the state advantage rose a moderate 2.4 percentage points, and the local advantage rose 6.7 points but was still below the all education average of 7.0 points. These estimations demonstrate that the growth in coverage advantages presented in Table 3 hide even larger growth among those with less than a college education.

As an additional check on the general results in the top of Table 3, we combine the measures isolated in equations (2) and (3).

In the first of those equations, the sector was held constant, the characteristics were held constant, and the influence of changing years was examined. In the second of those equations, the year was held constant, the characteristics were held constant, and the influence of changing sectors was examined. These can be combined to examine the influence of changing both year and sector while holding the characteristics constant. As an illustration, the 1979 private-sector sample can be used to predict the probability of pension coverage in any of the eight sectors by using the full set of estimated equations from (1). Thus the estimated pension probability for sector \( s \) in year \( t \) can be predicted using the characteristics from the 1979 private sample:

\[
P_{\text{Pension}}^t = \Phi(\chi_{10}^t, \beta^t).
\] (4)

The full set of projections for the 1979 private-sector base are shown in the top of Table 4. Holding the sample constant as both sector and year of estimation are altered reveals roughly similar results to those anticipated. The private-sector probability of coverage declines, whereas that in the public sector increases for all three sectors. This
TABLE 4: A Full Set of Projections From a Common Base (1979 Base)

<table>
<thead>
<tr>
<th>Exogenous earnings</th>
<th>Private</th>
<th>Federal</th>
<th>State</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>.676</td>
<td>.740 (.064)</td>
<td>.895 (.219)</td>
<td>.872 (.196)</td>
</tr>
<tr>
<td>1988</td>
<td>.630</td>
<td>.834 (.204)</td>
<td>.927 (.297)</td>
<td>.901 (.271)</td>
</tr>
<tr>
<td>Change</td>
<td>-.046</td>
<td>.094 (.140)</td>
<td>.032 (.078)</td>
<td>.029 (.075)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Endogenous earnings</th>
<th>Private</th>
<th>Federal</th>
<th>State</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>.675</td>
<td>.757 (.102)</td>
<td>.886 (.211)</td>
<td>.866 (.191)</td>
</tr>
<tr>
<td>1988</td>
<td>.611</td>
<td>.832 (.221)</td>
<td>.917 (.306)</td>
<td>.848 (.237)</td>
</tr>
<tr>
<td>Change</td>
<td>-.064</td>
<td>.075 (.119)</td>
<td>.031 (.095)</td>
<td>-.020 (.046)</td>
</tr>
</tbody>
</table>

NOTE: The numbers in parentheses are the difference between the public-sector coverage and the private-sector coverage.

The latter result is, however, not uniform across all eight possible bases (4 sectors times 2 years). Whereas the private-sector coverage declines using all eight bases, the federal coverage increases in only four of eight bases. The state-sector coverage uniformly increases in all eight bases, but the local-sector coverage increases in only six of eight bases. Thus the most firm conclusions are that private-sector coverage has declined, whereas state coverage has increased.

The projections from Table 4 can be used to create public-sector advantages that hold characteristics constant but change both year and sector. Those advantages are shown in parentheses for each year and sector. They confirm the earlier estimates by indicating an increase in the advantage for each public sector. Like the earlier estimates, the change in the advantage is largest for the federal sector, but the absolute advantage remains larger for the state and local sectors.

IV. ALTERING THE TREATMENT OF EARNINGS

Despite the generally consistent results of the previous section, there is reason to be cautious. The log of earnings measure included as a control is surely not exogenous. The human capital and demographic variables used to explain pension provision are also determinants of earnings. Freeman (1981) recognized this and responded by including an estimated measure of earnings as the appropriate control. Similarly, Belman and Heywood (1991) used an estimated measure of
earnings in their study of the governmental advantage in fringe benefit provision.

Surprisingly, those documenting the decline in private pension coverage often do not respond to this problem. Bloom and Freeman (1992) use actual earnings without apology. Even and Macpherson (1993) use a measure of actual annual income but mention the problem of endogeneity. Woodbury and Bettinger (1991) use a limited measure that captures expected earnings at specific points in the age-earnings profile. None of the studies addresses the problem of moving an earnings measure, whether actual or estimated, between probit equations estimated for different years. Inflation and productivity-induced increases will cause high earnings of the early year to become low earnings when placed in the estimated coverage equation for the later year. This leads to systematic bias when computing the unexplained movement in pension coverage. Even if the regimes in the two years were identical, the lower earnings from the first year could indicate a fall in pension coverage for workers with the same characteristics (including earnings).\(^7\)

This point can be made somewhat differently by recognizing that once it is admitted that earnings are endogenous, it should also be recognized that earnings measures cannot be cavalierly moved from one year to the next as if they were specific to the individual.

Further, no inflation adjustment can solve what is a more fundamental problem; that earnings regimes may vary by both year and by sector and that this must be built into the probit estimates for pension coverage. The previous studies have not done this.\(^8\)

Log earnings equations are estimated for each year and sector forming the basis for reestimating the three series of pension coverage measures detailed in equations (2) through (4). Those equations are in all cases identical except that the earnings measure is now that estimated for each individual using the sector and year earnings equation specific to the pension probit being used. If the base group for a given projection is the 1979 private sector, all variables used will be those for the 1979 private sector except the earnings that will be what those with 1979 private-sector characteristics could be expected to earn in the sector and year being examined. This solves the difficulty of inappropriately holding earnings constant between years. In general,
the predicted coverage for period $t$ and sector $s$ using period $\bar{t}$ and sector $\bar{s}$ as the base can now be expressed as

$$ Pen_{cov_t} = F(\hat{X}_{\bar{t}, \bar{s}}) $$

(5)

where $X_{\bar{t}, \bar{s}}$, the variable representing the earnings measure, is no longer the actual earnings but the relevant projection:

$$ X_{\bar{t}, \bar{s}} = \ln Wage_{\bar{t}} \alpha_{\bar{t}} $$

(6)

Thus, for example, the 1979 private characteristics are used to project the 1988 federal earnings using the coefficients, $\hat{\alpha}$, from the 1988 federal estimated earnings equation. These estimated earnings are used in projecting the 1988 federal pension coverage for the 1979 private sample. In this way the projected earnings become a necessary first step in projecting the pension coverage.

The earnings equations were estimated with the same variables as the pension probits except for the deletion of the tenure variables and the addition of an experience squared variable. Obviously, as two elements of compensation, one would anticipate identical determinants for both earnings and pension provision but the requirements of estimation demand the modest variation.9

As a by-product of our estimation, we produce a full set of projected earnings for each base year and sector, which allows computation of government wage differentials. Following the traditional Oaxaca technique, Table 3 presents the average of the public and private base differentials. These differentials move a common sample between sectors but within years. The estimates indicate a large positive federal differential for 1979 familiar from earlier work (see Smith 1977). Also present are even larger negative differentials (higher private-sector wages) for the state and local sectors again familiar from earlier work.10 By 1988 all differentials had become smaller in absolute size, suggesting a move toward comparability.11

Despite similarities between the two years, an examination of the raw earnings demonstrates the importance of using the estimated wages. The raw differentials (Table 3), which are simply the relevant difference in mean wages, show a federal differential as high as 24%
and suggest the local differential increased 16 points between the two years. These greatly overstate what happened to the differentials that hold characteristics constant. Thus, when using the unadjusted wages to project pension provision equations, as done in previous examinations, these unfairly large differences are used to make pension projections.

The wage differentials have been explored largely to justify the technique described in (5) and (6) in which the characteristics from the base enter the wage estimate, which, in turn, enters the pension projection. We now turn to these results. As before, we begin by examining the change in pension provision within each sector across the two years. This holds the sample constant across years but not across sectors. The results are presented in the bottom half of Table 2 identified as "earnings endogenous." The most immediate change from the earlier estimates is shown in the estimate of the decline in private-sector pension provision. The decline has grown by nearly 2 percentage points to 6.5%.

To a lesser extent, all the other sector changes show a similar pattern. The federal decline has grown to nearly 2 percentage points. The increase in state coverage has virtually vanished, and a very modest decline in local coverage appears evident. Despite these changes, the basic lesson, if not the magnitudes, remains similar. Over the course of the 1980s there has been a large decline in private-sector pension coverage that has not been matched by similar declines in any of the public sectors.

Following the progression in the earlier section, the public-sector advantage in pension provision is now computed. These estimates hold characteristics constant across sectors but not years. The results are presented in Table 3. The new technique yields a modest change in emphasis, with the federal and state advantage growing by more nearly the same percentage point increase. The local-sector increase remains substantially smaller. The federal advantage remains smaller than either the state or local advantage.

Finally, we consider the full set of projections from a single base sample. This allows the characteristics to be held constant across both sectors and years. Again, as a representative, the bottom half of Table 4 shows the projections for the 1979 private sample. Note that the projection to the local sector yields somewhat smaller provision
probabilities using the new technique and also yields a decline in local-sector provision, holding the sample constant to that of the 1979 private sector.

As before, all eight samples yield a decline in private-sector coverage between the two years. Only three bases indicate an increase in federal sector coverage. All eight bases indicate an increase in state pension coverage between years. Only two bases indicate an increase in local pension coverage between years. Thus, compared with the earlier results, the decline in private coverage and increase in state coverage remain similarly strong. The federal and local sectors each seem to indicate a greater likelihood of decline in coverage compared to that suggested earlier. Nonetheless, the large declines in the private sector are not matched in any of the public sectors. The consequence, as the numbers in parentheses in Table 4 show, is that the government pension provision advantage increases in all three sectors over the years.

V. DISCUSSION AND CONCLUSIONS

Using both the traditional methodology and an innovative one that makes the wage endogenous, the probability of receiving a pension in the private sector has declined for men. This decline has largely not been matched in any of the three public sectors.

The consequence is that for otherwise equal workers, the probability advantage of the public sectors has grown over the 1980s. Indeed, the 1988 figures indicate that the advantage had risen to nearly 19% in the federal sector and about 25% in the other public sectors. These are certainly enormous differences for workers with comparable characteristics.

There are, however, substantial differences in the structure and evolution of public and private pensions, which may partly explain the growing gap between public and private pension coverage. First, federal and state pensions are more likely to be contributory than those in the private sector. In the 1979 CPS, 35.9% of private pensions were contributory. In contrast, 91.5% of federal pensions, 79.9% and 10.0% of local pensions were contributory. Controlling for the characteristics of employees in the four sectors in a typical probit, one finds that
public-sector workers remain substantially and significantly more likely to contribute to their pensions. Thus it may be that public employees "purchased" a greater probability of coverage by participating in contributory plans. It may also be that employees who contribute to a plan may be more aware of its existence.

Second, the structure of plans also differs systematically across sectors, causing problems in measurement of pension coverage. Private-sector plans are more likely to be defined as contribution plans, whereas those in the public sector are more likely to be defined as benefit plans (Lovejoy 1982). The private sector has also made increasing use of 401k plans in the last decade and, in some cases, these have replaced traditional pension plans. Even and Macpherson demonstrate that the probability of a worker not participating in a pension plan is 4 times larger for 401k plans. Thus the expansion of 401k plans brought with it an overall decline in pension coverage.

To the extent that the decline in pension coverage reflects a choice not to participate in retirement savings, it may be of less concern. On the other hand, retirement benefits generated by the tax law but not necessarily representing compensation payments by the employer should not be compared to those plans in which such payments are made. This study has limited itself to a definition of pension plans that excludes many 401k plans. Given that such plans are voluntary and may not include employer payments, this seems appropriate for the sectoral comparisons in which the public-sector pensions mirror the traditional definition of pensions. However, to the degree that we exclude employer contributory 401k plans, as well as deferred profit and stock plans, there may be some overstatement of the declines in private pension coverage.12

Third, the generosity and costs of pensions across sectors and over time have also not been examined. The patterns of generosity could contradict, or reinforce, our conclusions. It remains unknown. Costs of providing pensions depend not only on the generosity of plans but also on the portfolio performance, the timing of retirements, and the administrative costs of managing both the pensions and the portfolio. As an example, the cost of the federal pension system increased considerably in the 1980s because Congress failed to provide adequate funding in earlier decades. Thus federal pension costs would have
looked relatively low before the increase and relatively high after. Similarly, many private firms were able to reduce their pension costs in the 1980s by investments in high-yield but risky bonds. The collapse of that market resulted in some retirees’ pension payments being reduced and may force some firms to face the expensive task of refunding their pension plans. Again, all of this makes it difficult to compare pension costs across sectors or times.

Fourth, the implications of the growth in the governmental advantage are complicated by recent changes in benefit regulations and tax laws, which make it very difficult for an employer to exclude a portion of an establishment’s workforce from fringe benefits that all others in the establishment receive (see Scott, Berger, and Black 1989). As a consequence, each establishment typically either offers or does not offer pensions to all workers. Indeed, Scott, Berger, and Black suggest that this has resulted in workers being segregated into groups according to whether they receive fringe benefits. Yet as soon as some establishments fail to offer pensions, comparability with the public sector becomes nearly impossible. In a sense, the public sector is similar to a large private-sector employer, who, in offering benefits to part of its labor force, is required to provide them to all of its labor force.

The fact that private employers may segregate employees with some in firms with pensions and some in firms without pensions raises a difficult issue for the public sector that cannot match this pattern and still follow the spirit of the new benefit regulations.

Despite these complications, the importance of the basic conclusions remains. The decline in private-sector pension coverage has not been matched by the public sectors. This has given rise to an increase in the governmental advantage in provision. As emphasized throughout, these findings modify the conclusions of the literature both on how widespread the decline in coverage is and on the nature of governmental provision advantage.

NOTES

1. The decline in private-sector unionization as a cause for the decline is a common theme throughout these studies.
2. A variety of rationales may explain the likelihood and generosity of pensions in the public sector. Public-sector decision makers may see the costs of pensions as hidden and delayed, making them a desirable way to generate compensation (Reeder 1975). Increasingly, federal requirements making fringe benefits available equally to all workers might help generate a public-sector advantage in provision by making the real choice simply whether the employer offers the benefit. Finally, governments may view themselves as "model employers" and provide pensions to lead by example.

3. We have reproduced the results for women and, like others, find virtually no decline in pension coverage. As public-sector coverage remains constant, the relative advantage shows no change.

4. The question in 1979 asks "Does your employer or union have a pension or other type of retirement plan for any of its employees?" This is followed by "Are you included in such a plan?" If answers to both questions are yes, our variable takes the value of 1. Virtually identical questions are asked in 1988, and we follow the same procedure. However, in 1988 two more questions ask whether the individual is offered a "profit-sharing or stock plan" and whether the individual is offered a 401k or similar plan. It is possible that the worker could answer no to the original two questions but yes to one of the additional 1988 questions. We code this as a zero, but see Even and Macpherson 1993 for a different approach.

5. Indeed, the specification closely follows that of Bloom and Freeman.

6. The full set of estimated probit equations is not presented, to save space, but is available from the authors upon request.

7. Similarly, using the second year as a base could lead to bias of the reverse sign. There is not particular reason to feel these measures generated from the two bases would cancel each other out given the nonlinear probit specification.

8. A related reason for using an estimated wage is the substitutability of pensions and earnings in a total compensation package, which suggests that actual earnings could be simultaneous with the pension variable.

9. Again, the full set of earnings regressions and the associated pension probits are not displayed, to save space, but are available from the authors upon request.

10. Smith (1977) found large negative differentials for men in state and local government that were moderated by positive female differentials.

11. For a complete review of the pattern of public-sector earnings differentials over time, see Belman and Heywood (1996).

12. The public sector often provides 403b plans, which mirror 401k plans but which typically supplement, rather than replace, traditional pensions. This is especially true of state and local governments.

REFERENCES


Dale Belman is associate professor and John S. Heywood is professor in the Department of Economics at the University of Wisconsin–Milwaukee. This article is the latest in a long series of joint work that compares public- and private-sector labor markets. Earlier work focuses on earnings differences, the proper measurement of comparability, and the relative dispersion in ages across sectors.