Abstract - In 1997, the State of Michigan closed its DB pension plan to new state employees. New employees are automatically enrolled in a 401(k) plan with a mandatory state contribution. Existing employees chose between staying in the DB plan, or transferring the present value of their vested pension benefits to a DC plan. This paper surveys the event and analyzes the choice made by corrections workers, about 25 percent of Michigan public employment. An analysis of the switch to individual accounts may inform Federal estimates of take-up rates in a possible privatization of Social Security.

INTRODUCTION

Public sector pension plans are a large, influential segment of the pension market. Pension plans for state and local employees in the U.S. include almost 13 million workers, pay benefits to more than five million beneficiaries (Mitchell et al., 2001) and control $2.4 trillion in assets in 1998. Public plans include employees of state governments, local governments, teachers, police and firefighters, members of the judiciary and legislature. They vary widely with respect to governance and investment policy, but most have a similar structure—they are defined benefit (DB) plans. That is, the benefit received at retirement by workers who have vested (met minimum service and age requirements) depends on age, years of service, and salary. The pension pays an annuity, usually with a survivor benefit, until death. Most include incomplete cost-of-living increases.

DB plans traditionally dominated both the private and public sectors, but in the last 20 years, defined contribution (DC) plans, in particular, 401(k) plans, have become more common in the private sector (Papke, 1999). In the public sector, DC plans, while often a supplement to the primary DB plan, are rarely offered as the primary plan. But the DC plan has made some inroads into the public sector as well. In 1997, Michigan closed its traditional DB pension plan to new state employee hires, and now offers only an individual DC accounts in its place. This reform altered the nature of the long-term obligation facing Michigan taxpayers and the nature of the pension promise for state workers.
There have been only a handful of reforms of this type at the state level.¹ In 1991, West Virginia closed its teacher’s DB plan and created a new DC plan. In 1995–96, Washington, Colorado, and California set up a DC plan in a hybrid or cash balance format—that is, they retained a DB plan in some form, but the plan appears to participants to be more like an individual account plan (Gale, Papke, and VanderHei, forthcoming). North Dakota (1999) and Florida (2002) have legislated DB replacement with DC plans (Fore, 2001).

Michigan’s reform is particularly interesting because employees at the time of the switch were allowed to choose to stay with the DB plan or transfer the present value of their accrued pension benefits to the DC plan. Employees were given financial education and assistance in making their decision. Little empirical research has examined the choice between DB and DC plans in large part because most workers jointly select an employer and primary pension plan offered by the employer.² This experience may give us some idea of the demand for individual accounts that are proposed as part of a privatization Social Security.

This paper summarizes my recent work on Michigan’s public pension system and this event in particular, and presents new evidence on the pension choice made by Michigan corrections workers—almost one–quarter of the state employees with generous supplemental retirement arrangements. The next section provides some background on pension characteristics and pensions in the public sector. The third section provides a brief overview of Michigan’s public pension system, and of the 1997 changes to the pension system. The different aspects of the DB/DC choice facing state workers are discussed. The fourth section presents descriptive statistics and estimates of the determinants of the choice to opt for individual account pensions. There is a brief concluding section in which implications of these findings for Social Security policy are discussed.

AN OVERVIEW OF PENSION TYPES AND PROVISIONS

There are two general types of pension plans.³ In a DB plan, benefits are typically determined by a formula that is a function of a benefit multiplier, years of service, and final average salary. For most employees in the Michigan State Employees Retirement System (MSERS), for example, the benefit formula is the product of (.015) times years of service times the highest salary averaged over three years.⁴ Thus, a retiree with 30 years of service would receive 45 percent of salary (30 × .015 = .45). The benefit is paid in the form of an annuity, that is, a participant receives level payments over his/her lifetime, or the lifetime of a survivor.

In the private sector, a DB plan is often funded primarily by employer contributions (a non–contributory plan). In the public sector, employee contributions are common, although the MSERS plan became non–contributory in 1974. All contributions are invested by the sponsor—the State in the case of public plans, or the employer in the case of private plans. The sponsor bears the investment risk of meeting the pension obligation. Any unexpectedly high returns on the assets may lead to reductions in the employer’s future contribution, while unexpectedly

¹ See Rajnes (2001) for a comprehensive survey of state and local pension systems and recent developments.
² There is some work in the academic labor market. Clark and Pitts (1999), and Ghent, Clark and McDermid (2002) analyze the pension choice of newly hired faculty members at North Carolina State University since 1971.
³ This section draws on Papke (2003), which discusses all major public pension systems in Michigan.
⁴ In addition, there is a three percent noncompounding inflation adjustment not to exceed $300 that begins one year after retirement.
low returns may make it necessary for increased future contributions.

In the second type of pension plan, a DC plan, the sponsor establishes an individual account for each participant. The employer typically makes a monthly or annual contribution for each individual, or may match a pre-tax contribution by the participant. The participant selects investments from a menu of choices established by the employer. Benefits at retirement are determined by the size of the contributions and the investment earnings on the assets. The employer bears certain administrative and fiduciary responsibilities (such as providing a sufficient number of investment options), but otherwise the employer’s obligation ends with the contribution. There is no guaranteed pension benefit with DC plans.

Plans in the private sector are governed by the Employee Retirement Income Security Act (ERISA) of 1974 that established minimum coverage, participation, funding, vesting, and fiduciary requirements. State and local retirement plans are governed by individual state constitutions and are generally exempt from the provisions of ERISA, but these federal requirements for private plans have influenced public plan design and administration. In addition, public plans must comply with the Internal Revenue Code that shapes both private and public plans.

Further, governments are bound to financial measurement and reporting requirements established by the Government Accounting Standards Board (GASB). Since state and local plan administrators may choose different assumptions for salary growth, investment rates of return, worker turnover and mortality rates, GASB issues guidelines for these assumptions. The current standards, as established in GASB Statement No. 25, require that beginning with fiscal year 1996 and later, assets are to be reported at “fair value” and that unfunded liabilities be amortized over 30 years. Fair value approximates market value by smoothing year-to-year market fluctuations over a three- or five-year averaging period. This dampens the short-term investment volatility of plan assets, and tends to stabilize the required employer contribution, which is expressed as a percentage of active employee payroll. The 30-year requirement for amortization is to ensure that the current generation of taxpayers pays for the current services of public employees.

As an obligation of state and local residents, pension payments are a significant current and future expense for taxpayers. The state or local government can pre-fund the DB obligation on an actuarial basis (making contributions over long periods of time) and this should provide assets to make retirement benefit payments in the future. But just as in the private sector, a fully-funded DB plan may become quite poorly funded if assets fail to perform as expected, or if the actuarial assumptions that determined the path of contributions prove incorrect.5

In addition, required contributions may increase as a fraction of payroll due to demographic changes. Zorn (1997) and Mitchell et al. (2001) describe broad demographic changes to the public pension system overall in the last decade which have tended to increase the contribution rate.6 The number of active participants grew almost 20 percent, from 10.7 million to 12.8 million. But the retiree/beneficiary population grew by 43 percent, from 3.7 million to 5.3 million. Without large investment reserves held by the sponsor, required employer contributions likely increased since retiree benefits were rising relative to active employee payrolls.

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5 See Fore (2001) for a detailed discussion.
6 These are discussed specifically for the state of Michigan in Papke (2003).
Michigan is the eighth largest state in terms of population in the United States, and Michigan’s combined state and local pension funds rank eighth overall in the United States, totaling about $68.4 billion in the most recent Census of Governments. The State of Michigan, through the Office of Retirement Services, administers four retirement systems covering 378,247 working and 170,624 retired members (Office of Retirement Systems, 2002). It delivered pension payments totaling over $2.45 billion in 2001. The four funds cover public school employees, State employees, State police, and judges. Legislators are covered by the separate statutory Michigan Legislative Retirement System. The State Treasurer is responsible for all investments and cash management strategies for the funds. As of the end of their fiscal year, September 31, 2001, these Michigan public pension funds totaled about $49.9 billion, over twice as much as total own—source tax revenue in Michigan in 2001 ($22.4 billion).

In addition, the Municipal Employees’ Retirement System (MERS) manages about 500 separate DB plans for counties, municipalities, school districts, libraries, and other small governmental units that elect to join MERS. MERS manages most of the non—state governmental unit DB plans totaling $3.6 billion in assets covering almost 37,000 active and 17,000 retired members.

Public Act 487 of 1996 closed the fully funded DB plan to new entrants effective March 31, 1997. All new employees become members of an extension to the existing supplemental 401(k) DC plan, now called Tier 2. As of Sept 30, 2001, the DC plan covered 16,538 active participants and 13,922 non—active and retired participants.

Employee contributions to the Tier 2 plan are voluntary and pre—tax. The State contributes a mandatory four percent, and participants may contribute up to 20 percent of pay on a before—tax basis and state will match up to the first three percent of salary contributed to plan. That is, the state contributes four percent if the participant does not contribute. If a participant contributes three percent, the state will contribute another three percent for a total of seven percent of salary from the State.

Participants in Tier 2 are fully vested in their own contributions, and are gradually but quickly vested in the State’s contribution, becoming 100 percent vested in four years. Participants may borrow against their own contributions at favorable terms. Participants cannot withdraw money before leaving State employment except for certain financial emergencies.

As with a 401(k) plan in the private sector, the employee’s contribution and the vested portion of the State’s contribution are portable. This money is available to withdraw, roll over to an IRA or another 401(k) account, or to leave in the DC retirement plan upon retirement or upon pre—retirement termination of employment with the State. Participants need not take a distribution before age 70.5.

After leaving state service, participants may take a full or partial distribution if they retire after age 55, or if they leave state service for any other reason besides retirement after age 59.5. Distribution options are more flexible than with a DB plan. They include: (1) monthly payments for a specific period of time not to exceed 20 years; (2) monthly payments of specific dollar amount until fund is

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exhausted (a minimum of $100/month over a maximum of 20 years); (3) a rollover to an IRA or another employer’s plan; (4) a lump sum.

The Opportunity to Switch

During fiscal year 1998, the Michigan State Employees’ Retirement Act provided existing employees an opportunity to transfer to the DC plan as their primary plan. This was a one-time opportunity, and the decision to transfer was irrevocable. If a vested participant opted to leave the DB plan, the actuarial present value (APV) of his or her DB annuity was transferred to the DC plan. The election window ran from January 2, 1998 to April 30, 1998 for a transfer of funds as early as June 1, 1998. The state had until September 30, 1998 to transfer the money (plus any interest due). Slightly over five percent (3,224 of about 58,000) of all active State employees transferred to DC plan (Office of Retirement Services, 1998).

Several features of the 401(k) plan were highlighted as advantages in the publications distributed to State Employees Retirement System (SERS) members during the transfer window. First, the plan is portable. Participants are 100 percent vested in only four years. An employee who leaves state employment before retirement may take his/her contributions (and the state’s after four years) under the DC plan. In contrast, in the DB plan, participants are only entitled to a deferred pension benefit after working for 10 years (that is, they are cliff vested in 10 years). Even if the DB participant were vested, he may not take the DB pension with him when moving to a new employer, but must wait until age 60 to begin receiving benefits. Further, the DC account continues to increase in value (or decrease) if the participant moves out of public employment, while the pension benefit from a DB formula is frozen in nominal terms until retirement.

Note also that benefits are back loaded in a traditional DB plan, since the benefit is a function of years of service and final salary. That is, a much larger fraction of the total pension benefit is accrued in the final years of employment. This provides employees in a DB plan an incentive to remain in public employment until they are eligible to collect pension benefits. Stated another way, backloading significantly lowers lifetime pension benefits for employees who change jobs mid-career (Gustman and Steinmeier, 1993). This is not the case with the new Tier 2 plan since the State’s annual contribution is a percentage of salary.⁸

Aside from 401(k) plan portability, there is also greater payout flexibility, the potential for higher benefits through successful investment, and the ability to continue to accrue earnings during retirement and to create an inheritable estate. Finally, there is complete employee control over investments and the distribution schedule at retirement, which may or may not be considered an advantage. It’s likely that the 401(k) plan would be preferred by mobile individuals, short-tenure or young employees, employees wishing to control their investments, employees desiring more flexibility in estate planning, dual income households, dual pension households, and non-career employees.

These same publications highlighted the following advantages of the DB plan: guaranteed lifetime income provided by the annuity, automatic cost-of-living adjustments, employer assumption of investment risk, guaranteed income for a designated beneficiary after the employee’s death, employer responsibil-

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⁸ For example, suppose an employee makes no contribution. Then, each year the State would contribute a flat four percent of salary. The flat benefit accrual pattern (that is, four percent is contributed every year) is neutral with respect to job changes. In a DB plan, in contrast, the fraction of final salary accrued rises with years of service.
ility for investment decisions and oversight, and no current required employee contribution in most cases. Thus, career employees, and more risk–adverse individuals who value the guarantee of an annuity may prefer the DB plan.

The ultimate size of a 401(k) pension benefit is subject to financial risk. That is, the value of the fund at retirement is determined in part by investment choices and performance. Workers with a taste for managing their own investments will find this feature attractive, but others may prefer the certainty of a formulaic benefit. The annuity form of DBs is much like Social Security payments. Knowing that part of their retirement income comes from an annuity may incline workers to diversify across types of retirement income and switch to the DC plan where a lump sum payment is an option. On the other hand, the recent discussions of privatizing all or part of Social Security may encourage workers to hang on to a vanishing breed of pension plan.

Certainly a worker that anticipates fewer than 10 years of state employment would prefer the DC plan, since 10 years of employment are required to be entitled to any future benefit under the DB plan. This would be true for an employee of any age. But younger workers with a longer expected career in public employment may also prefer the portability of the DC plan. Workers early in their careers with, say, a projected 15–year career in state employment, would be vested in the DB plan when they leave. However, the Tier 1 benefit is frozen at its nominal value at job separation. If the younger worker still has about 20 years until retirement, the Tier 1 nominal benefit will lose much of its value before age 60.

The expected value of participation in a DB or DC plan will depend on the terms of each plan, worker characteristics and the probability of various events occurring during the remaining work life of a participant. Since DB formulas use final salary instead of career salary in the benefit formula, the expected value of a DB plan rises with age. This increases the present value of the benefit that would be transferred to the DC plan, as well as the DB benefit paid at retirement.

As mentioned above, about five percent of all MSERS employees transferred to the 401(k) plan, so there was very little demand overall for individual accounts. But that average conceals interesting differences in switching probabilities for employee subgroups with different characteristics and time to retirement.

There are two distinct groups covered by MSERS. Three–quarters of the employees have the vesting and retirement provisions that I have discussed, and I analyze their switching probabilities in a previous paper (Papke, 2004). That sample contains quite heterogeneous job descriptions. The other one–quarter of MSERS participants are corrections workers who have more generous, supplemental early retirement provisions in their DB plan. In the next section, I analyze the choice made by corrections workers, and compare them the results generally to the broader set of Michigan public employees.

DATA DESCRIPTION AND ANALYSIS

As the discussion above suggests, the choice to switch to the 401(k) plan is a function of age, vesting and retirement provisions, but also tastes and subjective probabilities of future employment that I can not hope to measure. But I do have a limited set of demographic variables to serve as controls, and in this section I focus on the effects of tenure, age, and pension provisions on the probability of switching to the DC plan.

The one–quarter of public employees (about 13,000 in 1998) who work in corrections may retire earlier and with a more generous benefit formula than the more heterogeneous group of MSERS participants: full benefits at age 51 with
25 years of service, or at age 56 with 10 or more years of service. Also, for the years between retirement and age 62, the pension multiplier is two percent, rather than the standard 1.5 percent.

I obtained data on corrections workers who participate in the Supplemental or Covered Employee Plan from the Office of Retirement Systems for the pay period prior to and following the switch. These data include the pension plan type, salary, and tenure and a few demographic characteristics: age, race, marital status, and number of children. Summary statistics for the sample are provided in Table 1.

Few corrections workers opted to move to the DC plan. Of the 13,170 corrections workers eligible to switch, 211, or 1.60 percent overall, moved to the DC plan during the window. Women were slightly more likely to switch (1.9 percent) than men (1.5 percent). Corrections workers were much less likely to move to the 401(k) plan than the heterogeneous sample of Michigan public employees, where 8.5 percent of the 14,957 men and 6.5 percent of the 24,639 women chose to switch.

Over half of the male corrections employees (9,792) were vested, with an average tenure of almost 11 years. Fewer than half (44.7 percent) of female workers (3,378) were vested with an average tenure of 9.4 years. Over 72 percent of the men are married, while only 34.1 percent of the women are married. The average age of the sample participants is about 41 years.

Table 2 details the distribution of corrections workers who switched to the DC plan by tenure and gender. For example, of the 92 men with tenure under one year, 6.12 percent switched to the DC plan. Broadly speaking, for both genders, the highest fraction of switching occurs among workers with two years of tenure or less. These workers would have no vested benefits to transfer to the plan and are eight or more years from vesting. The percentage of workers shifting generally falls with tenure, but jumps up at vesting at 10 years, and again at the retirement–eligible tenure of 25. Caution is required when interpreting these percentages as many of the cells have a small number of observations.

I follow the specification in Papke (2004) and estimate the following equation:

\[
\text{Switch} = \beta_0 + \beta_1 \text{tenure} + \delta_0 \text{vested} \\
+ \delta_1 \text{vested}(\text{tenure} - 10) + \beta_2 \text{age} \\
+ \delta_2 (\text{eligible at age 51}) \\
+ \delta_3 (\text{eligible at age 56}) + \text{other factors}
\]

This equation assumes linear relationships in tenure and age, and allows for breaks in the switching probability at vesting (\(\delta_0\)), and at the retirement–eligible age 51, given 25 years of tenure (\(\delta_2\)), and age 56, given 10 years of tenure (\(\delta_3\)). The slope with respect to tenure after vesting is measured by \(\beta_1 + \delta_1\). I estimate this linear probability model separately for men and women and report the results in Table 3.

The estimates indicate that for men the probability of switching before vesting declines with tenure, about .44 percentage points per year. So, the probability of switching declines by one percentage point for every 2.27 years of employment until the employee vests at 10 years. But the effect of tenure after vesting (\(\beta_1 + \delta_1\)) becomes almost negligible (–.06 percentage points per year). The effects for women are slightly larger—switching falls with tenure until vesting by .60 percentage

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9 This pension plan is called the Supplemental or Covered Employee Plan. The years of service must be in a covered position (work in a custodial capacity), and the three years preceding retirement must have been in a covered position.

10 Of those, 108 were vested and moved $87,756 on average to their DC accounts. The total amount transferred was $9.5 million. The median sized transfer was $36,738.
points per year, then by .07 after vesting. The tenure effects are precisely measured (p-values are zero).

Vesting at 10 years increases the probability of switching to the DC plan by 1.64 percentage points for men and virtually the same amount for women. When vesting occurs, the participant has some accumulated benefit that can be transferred to the DC plan.

The other large increases in the switch probability for men occur when they become eligible for retirement. Becoming eligible for retirement at age 51 (after 25 years of service) increases the probability of switching to the DC plan by 4.31 percentage points (p-value of .024). About 1.8 percent of the men met these eligibility criteria. Becoming eligible to retire did not affect switching probabilities for women (that is, the effects are not measured precisely), though 3.5 percent of the women were eligible to retire at age 56 (only 0.8 percent met the age 51 criteria).

Higher salaried workers are more likely to switch to the DC plan. The coefficients indicate that a $100 increase in bi-weekly salary increases the switch probability for men by .28 percentage points (p-value of .001), so one-standard deviation increase (about $330) raises the probability by almost one percentage point. The effect for women is similar—a .23 percent increase

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>SUMMARY STATISTICS STATE OF MICHIGAN CORRECTIONS WORKERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variable</td>
<td>Males</td>
</tr>
<tr>
<td>Switch to DC plan</td>
<td>.015</td>
</tr>
<tr>
<td>Bi-weekly Salary ($100s)</td>
<td>14.748</td>
</tr>
<tr>
<td>Tenure (Years)</td>
<td>10.823</td>
</tr>
<tr>
<td>Vested</td>
<td>.501</td>
</tr>
<tr>
<td>Vested*(Tenure – 10)</td>
<td>3.151</td>
</tr>
<tr>
<td>Age</td>
<td>41.306</td>
</tr>
<tr>
<td>Eligible at age 51</td>
<td>.018</td>
</tr>
<tr>
<td>Eligible at age 56</td>
<td>.028</td>
</tr>
<tr>
<td>Married</td>
<td>.726</td>
</tr>
<tr>
<td>Number of Children</td>
<td>1.548</td>
</tr>
<tr>
<td>White</td>
<td>.842</td>
</tr>
<tr>
<td>Native American</td>
<td>.021</td>
</tr>
<tr>
<td>Asian</td>
<td>.0059</td>
</tr>
<tr>
<td>Black</td>
<td>.111</td>
</tr>
<tr>
<td>Hispanic</td>
<td>.020</td>
</tr>
<tr>
<td>Number of Observations</td>
<td>9,792</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 2</th>
<th>PERCENTAGE OF CORRECTIONS WORKERS SWITCHING BY TENURE AND GENDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>0&lt;= Tenure &lt; 1</td>
<td>6.12 (92)</td>
</tr>
<tr>
<td>1 &lt;= Tenure &lt; 2</td>
<td>2.11 (474)</td>
</tr>
<tr>
<td>2 &lt;= Tenure &lt; 3</td>
<td>2.50 (599)</td>
</tr>
<tr>
<td>3 &lt;= Tenure &lt; 4</td>
<td>1.52 (560)</td>
</tr>
<tr>
<td>4 &lt;= Tenure &lt; 5</td>
<td>1.18 (425)</td>
</tr>
<tr>
<td>5 &lt;= Tenure &lt; 6</td>
<td>0.66 (458)</td>
</tr>
<tr>
<td>6 &lt;= Tenure &lt; 7</td>
<td>3.17 (63)</td>
</tr>
<tr>
<td>7 &lt;= Tenure &lt; 8</td>
<td>0.42 (237)</td>
</tr>
<tr>
<td>8 &lt;= Tenure &lt; 9</td>
<td>0.47 (1,272)</td>
</tr>
<tr>
<td>9 &lt;= Tenure &lt; 10</td>
<td>0.17 (597)</td>
</tr>
<tr>
<td>10 &lt;= Tenure &lt; 11</td>
<td>2.22 (1,082)</td>
</tr>
<tr>
<td>11 &lt;= Tenure &lt; 12</td>
<td>0.89 (783)</td>
</tr>
<tr>
<td>12 &lt;= Tenure &lt; 13</td>
<td>1.91 (472)</td>
</tr>
<tr>
<td>13 &lt;= Tenure &lt; 14</td>
<td>2.08 (240)</td>
</tr>
<tr>
<td>14 &lt;= Tenure &lt; 15</td>
<td>1.64 (183)</td>
</tr>
<tr>
<td>15 &lt;= Tenure &lt; 16</td>
<td>1.09 (92)</td>
</tr>
<tr>
<td>16 &lt;= Tenure &lt; 20</td>
<td>1.86 (806)</td>
</tr>
<tr>
<td>20 &lt;= Tenure &lt; 24</td>
<td>1.20 (748)</td>
</tr>
<tr>
<td>25 &lt;= Tenure</td>
<td>3.59 (390)</td>
</tr>
</tbody>
</table>

Note: Observations numbers are in parentheses.
per $100 increase in salary (p–value of .083). The few demographic controls generally have small coefficients and are statistically insignificant. Age has no independent effect for men or women, apart from the role it plays in retirement eligibility.\textsuperscript{11} Marriage does increase the

\textsuperscript{11} An F–test on dummy variables for age 51, age 56, and tenure greater than or equal to 25 failed to reject with a p–value of .924 for men. For women, the age 51 dummy variable has a coefficient of –0.020 (p–value of .014).

Comparing these results generally with those for the larger, more heterogeneous sample analyzed in Papke (2004), I find that the pattern of jumps in the switch probabilities at vesting and at retirement eligibility for corrections workers is the same but the increases in probability are smaller for corrections workers. For example, in the heterogeneous–jobs sample, the effect of vesting at 10 years increases the probability of switching by over 6.5 percentage points for both men and women relative to not being vested. In the more heterogeneous sample, like corrections, the largest increases in the probability of switching occurred at the age/tenure combinations for retirement: for men, the probability of switching when eligible for retirement at age 55 increases by 16.03 percentage points and by 5.5 percentage points at age 60; the increase is 9.58 percent for women at age 55 and 5.3 percent at age 60 (all these coefficients have a p–value of 0.00.).

While demographics are less important in determining a switch than plan provisions in both samples, they play more of a role in the heterogeneous sample. Marriage increases the likelihood of switching in the heterogeneous sample by over one percentage point for both men and women—more than twice the size of the effect for corrections workers—and more children

\begin{table}
\centering
\begin{tabular}{|l|cc|}
\hline
Independent Variable & Males & Females \\
\hline
Bi–weekly Salary & .0028 & .0023  \\
($100s) & (.0010) & (.0013)  \\
Tenure (Years) & –.0044 & –.0060  \\
& (.0010) & (.0014)  \\
Vested & .0164 & .0162  \\
& (.0035) & (.0066)  \\
Vested*(Tenure – 10) & .0038 & .0053  \\
& (.0010) & (.0015)  \\
Age & .00015 & –.00013  \\
& (.00020) & (.00037)  \\
Eligible at age 51 & .0431 & .0364  \\
& (.0191) & (.0385)  \\
Eligible at age 56 & .0550 & –.0113  \\
& (.0169) & (.0085)  \\
Married & .0048 & .0024  \\
& (.0028) & (.0051)  \\
Number of Children & .00038 & –.0025  \\
& (.00102) & (.0018)  \\
Native American & –.0083 & –.0208  \\
& (.0050) & (.0037)  \\
Asian & .0056 & .1150  \\
& (.0324) & (.0783)  \\
Black & .0010 & –.0021  \\
& (.0043) & (.0053)  \\
Hispanic & –.00034 & –.0228  \\
& (.00848) & (.0040)  \\
Constant & –.0104 & .0295  \\
& (.0114) & (.0194)  \\
Number of Observations & 9,773 & 3,371  \\
R–Squared & .0187 & .0181  \\
\hline
\end{tabular}
\caption{LPMS OF SWITCHING, PIECEWISE–LINEAR SPECIFICATION MICHIGAN CORRECTIONS WORKERS}
\end{table}
reduces the probability of switching, although the effect for both genders is small (about –.005) and is statistically significant only for women (with a p-value of 0.00).

CONCLUSION

In 1998, Michigan gave the public employees in its second largest defined benefit pension plan an opportunity to transfer vested benefits to an individual account in a portable 401(k) plan. The take-up rate was fairly low—about 5.5 percent of about 58,000 state employees switched to the DC plan. It appears that overall there was not much demand for individual accounts. But there was much greater demand for individual accounts among workers that were vested in the defined benefit plan, and, therefore, had some stock of wealth to transfer. The greatest demand for the DC plan came from workers who were eligible to retire in their fifties in the case of corrections workers or at age 60 in the case of the other employees. At least in the short run, the pension shift was independent of actual retirement. These workers transferred their accrued pension benefits to a portable DC plan, but were still in public employment one year later.

While it may not be wise to generalize from the pension choices of public employees in one state, the deal that was offered plan participants does offer some interesting parallels to discussions of individual accounts for Social Security. The probability of switching to an individual account depends less on age or salary, and more on having a lump-sum amount to transfer to the DC plan. Workers become “vested” (entitled to a Social Security benefit) after 40 quarters of work. Evidence from Michigan public employees suggests that individuals are more likely to opt for an individual account if they can transfer the present value of accrued benefits to a self-directed plan.

Acknowledgments

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