Explaining the Decline in Retirement Plan Coverage between 2001 – 2012

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**INTRODUCTION**

For workers trying to save for retirement, it has never been worse. Using the CPS, we find that from 2001 through 2012, there was a dramatic drop in employer sponsorship of retirement plans – defined benefit and defined contribution from 61% down to an all time historical low of 53%. This is a reversal of recent optimistic trends; between 1950 and 1979, retirement account sponsorship rates doubled from 25% to 50% and then leveled off. But in 2001, coverage rates began to fall steadily. A large share of employees are not covered by any type of retirement account, neither a defined contribution or defined benefit plan, which diminishes the ability of individuals to save consistently for retirement and adequately supplement their Social Security benefits.

The trends in employer sponsorship of retirement accounts varied significantly across states. Although the national average decline in sponsorship rates was 8 percentage points, Georgia experienced a 14.1 percentage point decline, while Oklahoma experienced a 2.5 percentage point increase in sponsorship rates. We utilize this state variation to investigate whether the retirement account bargaining environments, along with firm and worker characteristics, account for changes in sponsorship rates over time.

Using a Probit model and an Oaxaca-Blinder threefold decomposition technique, we analyze whether factors that affect the bargaining environment for employee benefits, such as the number of weeks a worker spent unemployed the previous year; the level of income inequality in a state measured by the state’s household income Gini coefficient; the state’s unionization rate; and state level unemployment rates for each age group are significant determinants of retirement account sponsorship. We also research whether geographical norms for employee benefit provision -- the fraction of the state’s population that is young, educated, as well as the fraction of the state’s firms that are small -- matter. We control for other factors that typically explain variation in retirement account coverage rates -- worker’s education level, age, and employer firm size.

Even and MacPherson (2008) found that the growth in small firms was the main reason for the drop in employer-sponsorship of retirement plans. They called for policy makers to help small firms sponsor retirement accounts. If the bargaining environment for benefits determines employer sponsorship of retirement plans then incenting small firms to sponsor retirement plans may be ineffective in raising sponsorship rates.

**1A. EMPLOYER RETIREMENT ACCOUNT AND PENSION PLAN SPONSORSHIP OVER TIME**

The 1980-2012 March Supplement of the Current Population Survey asks respondents who worked in the previous year whether the employer (or union) for their longest job during the preceding calendar year had a pension or other retirement plan for *any* of the employees (sponsorship), and if they did, whether the worker participated in such a plan (participation). [[2]](#footnote-2) We construct sponsorship and participation rates from this question[[3]](#footnote-3) limiting the sample to people ages 25-64 who worked at least one week the previous year.

Looking at retirement account sponsorship trends over time, we see that from 1980 through 1988, rates of retirement account sponsorship by employers declined slightly, from 58% to 55%. Then in 1988, sponsorship rates began a decade-long increase rising from 55% to 61% in 2001. Unfortunately, that increase was short lived; from 2001 through 2012, sponsorship rates fell dramatically from 61% to an all time historical low of 53% -- a drop of 13% or 8 percentage points. The trend in participation rates mirrors that in sponsorship rates, but the levels are lower.

[Figure 1 about here]

Two more data sets confirm this decline. The Survey of Consumer Finances (SCF) -- a household level survey collected every three years from 1989-2010 -- asks respondents whether the head of the household or their spouse has any type of retirement account from a current or past job. For households where the head of the household is age 25-64, employer-provided retirement account participation peaks in 1994 at 62%, and then bottoms out in 2010 at 56.6%. In other words, participation in a retirement account through an employer falls by 6 percentage points, or by 8.96% in the SCF.[[4]](#footnote-4)

[Figure 2 about here]

The Health and Retirement Study (HRS) -- a biennial household level survey of individuals ages 51 and above from 1992-2010 -- asks respondents who are working if they have a retirement account or pension plan at their current job. The HRS data indicates that employer-sponsored retirement plan coverage peaked in 2000 at 59%, and dropped to 53.5% by 2010. The total drop in employer sponsored retirement account coverage is 6 percentage points, or 10% in the HRS.

[Figure 3 about here]

As mentioned above, the decline in sponsorship rates varies dramatically across states, with Georgia, Michigan and New Jersey suffering a drop of 11-14 percentage points, while Oregon, South Dakota and Kansas had a more limited decline of 1.5-0.9 percentage points. Because of the enormous variation in pension sponsorship levels and changes across states, we suspect that there are state specific elements that determine pension sponsorship.

[Table 1 about here]

**1B. LITERATURE REVIEW**

Using a Probit model and an Oaxaca-Blinder decomposition, Even and MacPherson (1994, 2000) find that differences in worker and firm characteristics -- gender, education and firm size -- account for virtually all the changing distribution of retirement account coverage between 1979 and 1993. In a later paper, Even et al. (2008) attributed most of the drop in retirement account sponsorship to more employees working for small firms which are less likely to provide employee benefits. Parsons (1991) echoed similar studies in the 1980s that changes in pension coverage were mainly due to industrial mix; Parsons found that approximately 10 percent decline in sponsorship rates over the 1979-1987 period was primarily due to sectoral shifts in industrial activity.

Aaronson and Coronado (2005) focus on firm’s motivations and apply a modeling approach to understand a firm’s decision to offer access to a retirement plan to their workers. They find that while factors such as ERISA regulation and increased longevity explain a large part of the switch from DB to DC plans, changing workforce characteristics and production processes that use less-specific skills increased employer demand for 401(k)-type DC plans. [[5]](#footnote-5)

In this study, we highlight the impact of the “labor -contracting” environment on retirement account sponsorship. Previous research controlled for factors affecting the bargaining environment and employee benefit provision but rarely explained how they operated. Exceptions are Freeman (1981) and Ghilarducci (1990), but they only explicitly modeled the role of unions in changing the objection function of workers and affecting employers’ decision to provide pensions. Our approach utilizes the substantial variation across U.S. states to identify the impact of the labor-contracting environment on retirement account sponsorship rates that affect union and non union workers.

The bargaining environment reflects the relative bargaining power of employers and employees subject to the firm’s cost constraints. Therefore, unionization rates matter. Moreover, to the extent that the cost of job loss and the corresponding fear of job loss reduce workers’ bargaining power, unemployment rates and weeks spent unemployed are relevant determinants of retirement account sponsorship. In addition, labor market norms matter; when most firms offer retirement account sponsorship to their employees, firms need to match that to be able to attract competitive workers. As a result, the fraction of the state’s workers who are older and well educated, and the fraction of the firms that are large all predict a higher sponsorship rate at the state level, which increases the likelihood that a firm offers retirement account access to their workers, even if its workers are young and uneducated and the firm is small.

In addition, Hinz and Turner (1998) are among many researchers concluding that when people at one’s workplace have higher incomes, they are more likely to be incented by the tax deduction for pensions to demand them. As a result, we expect to find that as more people fall into higher income brackets (proxied by state Gini coefficients) – they are more likely to be covered by a retirement account and that increasing inequality correlates with decreasing pension coverage.

In sum, previous studies have focused mainly on worker and firm characteristics to explain retirement account coverage rates and gave short attention to the bargaining environment between workers and employers. This study measures the impact of the bargaining environment, including state specific norms (in addition to employer and employee characteristics) on the sponsorship of retirement accounts through employers. It also investigates the extent that changes in the bargaining environment can explain the decline in sponsorship rates over the past decade.

**METHODOLOGY**

We use the 2000-2002 and 2010-2012 March Supplement of the Current Population Survey to measure and explain the drop in retirement account sponsorship rates over time. The data is at the individual level, and the sample is limited to people ages 25-64 who worked at least one week the previous year. We use three-year averages for each time period to establish a credible sample size at the state level. The 2010-2012 data references pension sponsorship rates for the 2009-2011 calendar years, while the 2000-2002 data refers to the years 1999-2001. All state level variables are therefore collected for the 1999-2001 and 2009-2011 years[[6]](#footnote-6).

For each of these three-year blocks of data, we apply a probit model that explains the cross sectional variation in pension sponsorship across workers using worker specific firm and personal characteristics, as well as state level variables:

$$y\_{igt}=α\_{t}X\_{gt}+γ\_{t}Z\_{igt}+ε\_{igt}$$

Where *g* indexes the state, *i* indexes the individual and *t* indexes time. *Yigt* is an indicator of whether the individual is sponsored for a retirement plan at work or not (0,1) , the *Xgt* are the state level variables, the *Zigt* are the worker specific firm and personal characteristics, and *igt* is the error term.

*Zigt* include an individual’s sex, age, race, citizenship, education, occupation, industry, firm size, full time/part time status, number of weeks spent unemployed, metro area residence status, classification of worker and marital status. *Xgt* consist of state level characteristics, including the GINI coefficient[[7]](#footnote-7), age specific unemployment rates (times an indicator for whether the trend in the unemployment rates is positive or negative)[[8]](#footnote-8), the unionization rate, and the fraction of the state’s population of workers aged 25-64 who are younger than 40, have more than 2 yrs of college education or are employed in a small firm (with 99 employees or less).

We run the probit regressions on 2000-2002 and 2010-2012 data separately to get estimates of *t* and *t* for each period. We then apply a version of the Oaxaca-Blinder decomposition technique to the results. The threefold decomposition[[9]](#footnote-9) breaks down the predicted change in pension coverage between 2000-2002 and 2010-2012 into an endowment effect[[10]](#footnote-10) (consisting of changes in worker, firm and state characteristics multiplied by probit coefficients from the base period), a coefficient effect[[11]](#footnote-11) (consisting of changes in probit coefficients across the two periods multiplied by worker, firm and state characteristics from the base period), and an interaction term (consisting of the change in probit coefficients multiplied by the change in characteristics).

This decomposition is applicable to our analysis because we are comparing two periods, 2000-2002 and 2010-2012, and we ask what would have happened to sponsorship rates if worker and firm characteristics remained the same as in 2000-2002, but the importance of those characteristics in determining sponsorship rates changed (the coefficient effect). We also ask what would have happened to sponsorship rates if the characteristics changed over time, but their importance in determining pension sponsorship rates stayed as in 2000-2002 (the endowment effect)[[12]](#footnote-12).

We apply the Yun (2005) transformation to the probit coefficients to make them invariant to the choice of omitted category variables. We then decompose the explained component, the unexplained component, and the interaction terms into the shares attributable to each variable included in the model following the methodology detailed in Even and MacPherson (1990) and Yun (2004) [[13]](#footnote-13). This allows us to identify which characteristics were most influential in determining the drop in pension sponsorship rates over the time period.

Because Even and McPherson’s analysis predates the Yun method, they were only able to do a detailed analysis of changes in retirement account sponsorship over time due to changes in endowments (the explained component). By applying the newest econometric advances in our work, our analysis sheds light on another set of variables that were significant in explaining changes in retirement account sponsorship.

**THE DATA**

Factors that directly encourage employer sponsorship of a retirement account have diminished dramatically over the last ten years.

[Table 2 about here]

The national population became older, with the fraction of the population in the 25-44 age category dropping by 7 percentage points, while the fraction of the population in the 45-54 age group grew by 1 percentage points and the fraction in the 55-64 age group increased by 6 percentage points.

The population also became better educated, with a 7 percentage point decrease in the fraction of people who have a high school degree or less, and a 5 percentage point increase in the fraction with a college degree or better. Both of these changes should lead to more retirement account coverage; older workers are more likely to demand retirement accounts because they are closer to retirement and higher education levels lead to higher incomes and higher incomes makes the tax deduction for retirement saving worth more.

The share of the workforce employed in the education (+1 percentage points), health care (+2 percentage points) and professional services (+3 percentage points) sectors expanded and these industries have relatively high rates of employer retirement account coverage. C*eteris paribus,* thesefactors, in addition to the popularity of tax-favored and cheaper to administer DC plans should have increased the demand and supply for retirement accounts. Moreover, fears about the long-term solvency of Social Security should have also increased pension coverage across the board.

On the other hand, many changes detracted from retirement account sponsorship -- the population is composed of more Hispanics (+4 percentage points) and Asians (+1 percentage points), more non-citizens (+1 percentage points) and more single people (+3 percentage points). These demographic groups have historically had lower sponsorship rates. Employment in manufacturing and in information services dropped by 3 percentage points each – these are sectors with high sponsorship rates. Also, more people worked part time (+3 percentage points), and the number of weeks unemployed was significantly larger in 2010-2012 than in 2000-2002 (+1.24 weeks). Again, these changes would predict a drop in sponsorship rates.

Importantly, the fraction of people working in small firms grew by 5 percentage points and as Even et al. (2008) concluded, small firms are less likely to provide a retirement plan for their workers because of the lack of economies of scale in retirement account administration and the uncertainty about firm revenues.

The environment favoring retirement account sponsorship eroded as workers’ ability to obtain an employer sponsored retirement account waned and the firms’ incentives to provide a retirement account fell. The unionization rate declined (-3 percentage points) and unemployment rates for all age groups increased by 4-5 percentage points. Moreover, unemployment trends were heading upwards for all age groups in the latter part of the decade. Finally, inequality got worse, measured by rising GINI coefficients, indicating fewer people in the upper income tax rate brackets. All of these changes would push sponsorship rates down.

In order to parse out the impact of each change on retirement account sponsorship rates, we conduct an Oaxaca-Blinder decomposition. This allows us to analyze the total change in retirement account sponsorship, and to break down this total change into the portions resulting from changes in worker, firm and state characteristics, and the shares attributable to changes in the price of these characteristics.

**RESULTS**

A probit analysis for each period explains variations in pension sponsorship across individuals, controlling for individual and employer characteristics, as well as state level variables for the state they live in. Standard errors control for clustering at the state level.

The probit analysis finds that in addition to the individual and employer characteristics, many of the state level variables are indeed significant in explaining differences in pension sponsorship across individuals.

[Table 3 about here]

Specifically, as the fraction of the working age population who is educated increases in a state, so does the sponsorship rate; this effect is in addition to the impact of an individual worker’s education level on his/her own likelihood of being sponsored for a retirement account at work. Also, the fraction of the workforce who is at small firms significantly lowers the likelihood of an individual being sponsored at work, regardless of the size of an individual worker’s employer. The fraction of the working age population who are younger had a positive and significant effect on sponsorship in the earlier period, but that impact became negative in the later period. Finally, the state Gini coefficient and the state level unemployment rates and their trends are all significant determinants of pension sponsorship.

Applying the Oaxaca-Blinder threefold decomposition to these probit coefficients, we find that the endowment effect (changes in worker and firm characteristics and in state-level bargaining environment variables) predicted an increase in sponsorship rates of 2 percentage points, while the coefficient effect (changes in the *role* of the endowments in determining sponsorship rates) explained a decrease in sponsorship rates of 3 percentage points. Moreover, the *interaction* between changes in endowments and the change in their role predicts an 8 percentage point decline in sponsorship rates.

[Table 4 about here]

Breaking down the decomposition components further, we find that state level variables dominate the individual and firm level variables in determining retirement account sponsorship. Moreover, the intercept term was the strongest driver of declining retirement account sponsorship. The intercept term captures the mean likelihood of being sponsored for retirement at work, after controlling for observable factors. The negative intercept effect indicates that the overall environment became less amenable to sponsoring retirement accounts at work in 2010-2012, and the strength of this effect bolsters our argument that the labor market environment matters in explaining changes in retirement account sponsorship rates.

The detailed decomposition results are listed in table 5.

[Table 5 about here]

Looking at the endowment effect, we find that the rise in unemployment rates for young workers, the increase in inequality measured by the Gini index, the growing employment at small firms, the peak in the number of weeks unemployed, the decreasing coverage of unions, and the drop in manufacturing were the largest contributors to a drop in the retirement account sponsorship rate. On the other hand, the aging workforce (as measured by the drop in the fraction of working age people who are under 40 years of age) and the rising unemployment of middle aged workers were the most significant forces pulling sponsorship rates up. Note that if we ignore the role of state level environmental factors, the biggest determinants of a drop in sponsorship rate are firm size and industrial composition; this is the finding in Even and MacPherson’s work.

The strongest factors predicting a drop in sponsorship rates are the intercept term and the increased unemployment among middle aged workers. On the other hand, the aging of the working age population and the growing employment in small firms had the biggest positive impacts on sponsorship rates. Note that the unemployment rate of middle aged workers has opposite endowment and coefficient effects. The endowment effect states that when there are more unemployed middle aged workers, firms are more likely to offer retirement accounts to their workers. On the other hand, the willingness of firms to provide retirement plans when middle age unemployment rises has diminished over time. Likewise, the impact of the aging the workforce operates differently through the endowment and the coefficient effects. According to the endowment effect, when there are more older workers, firms are more likely to offer retirement accounts presumably because older workers demand them. But in the coefficient effect, we see that firms have also become more likely to offer their young workers retirement accounts. Finally, the coefficient effect reveals that small firms have become more likely to sponsor retirement plans.

Finally, the interaction effect finds that the strongest determinants of a drop in sponsorship rates are the rise in middle age unemployment and the aging of the working age population, while the growing employment in small firms predicts the biggest increase in sponsorship rates.

**ROBUSTNESS CHECKS**

To ensure that our results are robust, we shift the starting period of the analysis to 2001-2003. Although the drop in sponsorship rates is smaller over this shortened time period (7 percentage points), the impacts of the state level and individual and firm level variables are similar. This indicates that our findings are robust to a shift in the underlying time period.

[Table 5b about here]

One concern is that the standard errors of the state level probit coefficients are biased downward because of data clustering at the state level. The logic for this type of bias is that each state level variable uses the same information for all observations in the state, as opposed to other variables that vary for each individual in the state. If the standard errors of the state level probit coefficients are biased downward, those probit coefficients appear to be significant when in reality they may not be[[14]](#footnote-14). We corrected for this bias when we ran the probit estimation by calculating Huber-White Standard Errors, thereby adjusting for any correlation of the error terms within states. However, as discussed in Wooldridge (2003), this standard method for correcting for clustering is not sufficient when the number of groups is finite. In our case, we have 51 states (including the District of Columbia) – definitely a finite number. Each of the states in our sample contains anywhere from 800 to 2000 observations. The size of the potential bias to standard errors from clustering is the square root of (1+ (n-1)) where n is the number of observations per group, and  is the within correlation of the error term in each group. Because of the high number of observations per group in our sample, the potential bias could be severe.

To correct for this, we use a method from Wooldridge (2006) in which probit equations are run separately for each state, substituting state level variables with a state level dummy (which is the intercept term of the equation).

$$y\_{igt}=D\_{gt}+γ\_{t}Z\_{igt}+ε\_{igt}$$

The estimated $\hat{D}\_{gt}$ from these equations includes all the state level variables.

$$\hat{D}\_{gt}=1+α\_{t}X\_{gt}+ μ\_{gt}$$

We then regress the 51 estimated state level intercepts on the state level variables using weighted Least Squares, where the weights are the inverse of the estimated standard errors of the $\hat{D}\_{gt}$ terms in the first stage[[15]](#footnote-15). In 2000-2002, the impact of the Gini index and the middle age unemployment rate are significant, but none of the other variables are, while in 2010-2012, the impacts of Gini, the fraction of the population who is highly educated and the older unemployment rate trends are significant.

[Table 6 about here]

That state level variables retain their significance when we run the specification at the state level increases our confidence that the original findings are significant.

**ADDITIONAL ROBUSTNESS CHECK**

The findings in the paper relied on cross sectional data from 2000-2002 and 2010-2012. While the results are significant, there is always a possibility that there is an omitted dimension that we did not control for that explains the change in sponsorship. To correct for this possibility, we use longitudinal data from the SIPP 2008 panel. Waves 3 and 11 were fielded in April-July 2009 and December 2011-March 2012, and in both of these waves, respondents were asked about their retirement account sponsorship. Though it is a short panel, we track respondents who were ages 25-64, were working and were sponsored for a retirement account through their employer in wave 3, and who remained in the sample and were working in wave 11. We check what happened to these respondents: did they retain their sponsorship or did they lose it. We then conduct a probit analysis of the probability of losing sponsorship subject to individual level and state level controls.

Results are in appendix table 7 and they indicate that getting more education matters for improving one’s likelihood of getting sponsored, but only for education past the college level. Losing retirement account sponsorship was associated with a decrease in firm size, a change in industry or occupation (into certain sectors), moving into the private sector or becoming self employed and becoming single. The number of months spent unemployed significantly reduced one’s chances of getting sponsored for a retirement account at work. On the other hand, gaining union coverage significantly improved one’s chances of getting retirement account sponsorship, as did working more hours.

[Table 7 about here]

The state level variables did not impact the probability of keeping or losing sponsorship, except for the fraction of the state’s population that is young, though this effect is probably picking up migration by young people into states that experience improvements in labor demand. The lack of significance of state level variables in the longitudinal analysis may be a result of the fact that the length of the panel is short and does not allow for many changes at the state level.

The results of the longitudinal analysis reinforce our claim that bargaining power matters, since the length of time spent unemployed and union status both significantly impacted the likelihood of losing or retaining retirement account sponsorship.

**CONCLUSION**

We utilize state variation in retirement account sponsorship to investigate whether the retirement account bargaining environments, along with firm and worker characteristics, account for changes in sponsorship rates over time.

Using a Probit model and an Oaxaca-Blinder threefold decomposition technique applied to data from the CPS for 2000-2002 and 2010-2012, we find that state level variables dominate the individual and firm level variables in determining retirement account sponsorship. Specifically, the rise in unemployment rates for young workers, the increase in inequality measured by the Gini index, the growing employment at small firms, the peak in the number of weeks unemployed, the decreasing coverage of unions, and the drop in manufacturing were the largest contributors to a drop in the retirement account sponsorship rate. On the other hand, the aging workforce (as measured by the drop in the fraction of working age people who are under 40 years of age) and the rising unemployment of middle aged workers were the most significant forces pulling sponsorship rates up.

We also apply a longitudinal analysis using data from the SIPP 2008 panel, waves 3 and 11. The results of the longitudinal analysis reinforce our claim that bargaining power matters, since the length of time spent unemployed and union status both significantly impacted the likelihood of losing or retaining retirement account sponsorship.

Our results suggest that bargaining power and the bargaining environment are significant determinants of retirement account sponsorship. Therefore, attempts to raise retirement account sponsorship must address the degradation of workers’ bargaining power.

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**APPENDIX**

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| Table 1. Retirement Sponsorship Rates by State, 2000-2002 and 2010-2012 |
|   | 2000 | 2010 | Percentage Point Change |
| Georgia | 62.63% | 48.22% | -14.41% |
| Michigan | 67.08% | 54.35% | -12.73% |
| New Jersey | 62.13% | 50.86% | -11.27% |
| Utah | 64.82% | 54.42% | -10.40% |
| Tennesse | 61.84% | 51.85% | -10.00% |
| Texas | 57.14% | 47.16% | -9.98% |
| Pennsylvania | 68.72% | 58.79% | -9.93% |
| Arizona | 56.84% | 47.01% | -9.83% |
| Missouri | 66.34% | 57.20% | -9.14% |
| Hawaii | 62.75% | 54.00% | -8.76% |
| South Carolina | 61.53% | 52.79% | -8.74% |
| Nevada | 58.15% | 49.54% | -8.61% |
| Nebraska | 66.48% | 57.97% | -8.51% |
| Rhode Island | 66.32% | 57.90% | -8.42% |
| *US* | *61.41%* | *53.01%* | *-8.40%* |
| Mississippi | 58.80% | 50.59% | -8.20% |
| Indiana | 64.91% | 56.71% | -8.19% |
| Louisiana  | 56.76% | 48.64% | -8.12% |
| Florida | 52.03% | 44.03% | -8.00% |
| Ohio | 66.30% | 58.45% | -7.85% |
| Virginia | 67.04% | 59.55% | -7.49% |
| Massachusetts | 62.06% | 54.77% | -7.29% |
| Arkansas | 58.61% | 51.44% | -7.17% |
| Maryland | 66.52% | 59.37% | -7.15% |
| Kentucky | 62.34% | 55.25% | -7.10% |
| New York | 58.82% | 51.83% | -6.99% |
| Illinois | 63.29% | 56.30% | -6.99% |
| Delaware | 66.35% | 59.47% | -6.88% |
| Connecticut | 64.97% | 58.10% | -6.87% |
| New Mexico | 55.57% | 48.72% | -6.86% |
| Wisconsin | 69.38% | 62.53% | -6.84% |
| Minnesota | 68.37% | 61.74% | -6.63% |
| Iowa | 67.07% | 60.45% | -6.62% |
| California | 53.34% | 46.75% | -6.60% |
| Maine | 62.36% | 56.30% | -6.06% |
| Alabama | 63.27% | 57.28% | -5.99% |
| North Carolina | 61.96% | 56.03% | -5.92% |
| Idaho | 58.43% | 52.85% | -5.59% |
| District of Columbia | 66.61% | 61.03% | -5.58% |
| New Hampshire | 62.86% | 58.03% | -4.83% |
| Colorado | 59.31% | 55.57% | -3.74% |
| Alaska | 63.04% | 60.58% | -2.46% |
| Wyoming | 60.61% | 58.84% | -1.77% |
| Washington | 62.06% | 60.36% | -1.71% |
| Oregon | 58.84% | 57.35% | -1.49% |
| South Dakota | 60.58% | 59.34% | -1.23% |
| Kansas | 64.27% | 63.40% | -0.87% |
| North Dakota | 62.57% | 62.16% | -0.41% |
| Vermont | 58.28% | 58.48% | 0.20% |
| Montana | 53.45% | 54.24% | 0.79% |
| West Virginia | 59.39% | 60.62% | 1.23% |
| Oklahoma | 56.16% | 58.79% | 2.63% |
| *Data:* Current Population Survey, March Supplement, 2000-2002 and 2010-2012. *Notes:* Table is ranked by the percentage point change in retirement plan sponsorship. Data on sponsorship refers to the respondent's longest held job in the previous calendar year. State sponsorship rates for 2000 and 2010 are pooled three-year averages over the periods 1999-2001 and 2009-2011, respectively.  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table 2. Data Means Over Time |   |   |   |   |
|   | 2000-2002 | 2010-2012 | Difference |   |
| Male | 0.53 | 0.53 | 0.00 |   |
| Female | 0.47 | 0.47 | 0.00 |   |
| Age 25-44 | 0.60 | 0.53 | -0.07 | \*\*\* |
| Age 45-54 | 0.27 | 0.28 | 0.01 | \*\*\* |
| Age 55-64 | 0.13 | 0.20 | 0.06 | \*\*\* |
| White non-Hispanic | 0.73 | 0.69 | -0.04 | \*\*\* |
| Black Non-Hispanic | 0.11 | 0.11 | 0.00 | \*\*\* |
| Asian Non-Hispanic | 0.04 | 0.05 | 0.01 | \*\*\* |
| Hispanic | 0.11 | 0.15 | 0.04 | \*\*\* |
| Noncitizen | 0.08 | 0.09 | 0.01 | \*\*\* |
| Citizen | 0.92 | 0.91 | -0.01 | \*\*\* |
| Less than HS education | 0.10 | 0.08 | -0.02 | \*\*\* |
| HS or some college | 0.50 | 0.45 | -0.05 | \*\*\* |
| Associates’ degree | 0.09 | 0.11 | 0.01 | \*\*\* |
| Bachelors’ degree | 0.20 | 0.23 | 0.03 | \*\*\* |
| Masters, professional degree or Doctorate | 0.10 | 0.13 | 0.02 | \*\*\* |
| Professional and technical | 0.24 | 0.27 | 0.03 | \*\*\* |
| Farmers | 0.01 | 0.01 | 0.00 | \*\*\* |
| Managers, officials, proprietors | 0.17 | 0.14 | -0.03 | \*\*\* |
| Clerical and kindred | 0.15 | 0.15 | 0.01 | \*\*\* |
| Sales workers | 0.06 | 0.05 | -0.01 | \*\*\* |
| Craftsmen | 0.11 | 0.10 | -0.01 | \*\*\* |
| Operatives | 0.11 | 0.09 | -0.01 | \*\*\* |
| Service workers | 0.12 | 0.14 | 0.02 | \*\*\* |
| Farm laborers | 0.01 | 0.00 | 0.00 | \*\*\* |
| Laborers | 0.04 | 0.04 | 0.00 | \*\*\* |
| Agriculture, forestry and Fishing | 0.02 | 0.01 | 0.00 | \*\*\* |
| Mining | 0.00 | 0.01 | 0.00 | \*\*\* |
| Utilities | 0.01 | 0.01 | 0.00 | \*\*\* |
| Construction | 0.07 | 0.07 | 0.00 | \*\*\* |
| Manufacturing | 0.14 | 0.11 | -0.03 | \*\*\* |
| Wholesale trade | 0.04 | 0.03 | -0.01 | \*\*\* |
| Retail trade | 0.10 | 0.10 | 0.00 | \*\*\* |
| Transportation and warehousing | 0.05 | 0.04 | 0.00 | \*\*\* |
| Information | 0.06 | 0.02 | -0.03 | \*\*\* |
| Finance, Insurance | 0.05 | 0.05 | 0.00 |   |
| Real Estate | 0.02 | 0.02 | 0.00 | \*\*\* |
| Professional services | 0.04 | 0.07 | 0.03 | \*\*\* |
| Management, administration and waste management | 0.04 | 0.05 | 0.00 | \*\*\* |
| Education | 0.09 | 0.10 | 0.01 | \*\*\* |
| Health care and social assistance | 0.12 | 0.14 | 0.02 | \*\*\* |
| Arts and entertainment | 0.01 | 0.02 | 0.01 | \*\*\* |
| Accommodation and food | 0.05 | 0.05 | 0.01 | \*\*\* |
| Other services | 0.05 | 0.05 | 0.00 |   |
| Public administration | 0.05 | 0.05 | 0.00 | \*\*\* |
| Firmsz 1-24 workers | 0.28 | 0.33 | 0.05 | \*\*\* |
| Firmsz 25-99 workers | 0.12 | 0.09 | -0.04 | \*\*\* |
| Firmsz 100-499 workers | 0.14 | 0.13 | -0.01 | \*\*\* |
| Firmsz 500-999 workers | 0.06 | 0.05 | 0.00 | \*\*\* |
| Firmsz 1000+ workers | 0.40 | 0.40 | 0.01 | \*\*\* |
| Part-time | 0.13 | 0.15 | 0.03 | \*\*\* |
| Full-time | 0.87 | 0.85 | -0.03 | \*\*\* |
| Number of Weeks Unemployed | 1.11 | 2.35 | 1.24 | \*\*\* |
| Non Metro Area | 0.18 | 0.15 | -0.03 | \*\*\* |
| Metro Area | 0.82 | 0.85 | 0.03 | \*\*\* |
| Self employed | 0.10 | 0.10 | 0.00 |   |
| Wage and salary worker | 0.74 | 0.74 | 0.00 | \*\* |
| Government worker | 0.16 | 0.16 | 0.00 | \*\*\* |
| Married | 0.65 | 0.62 | -0.03 | \*\*\* |
| Separated, divorced or widowed | 0.17 | 0.16 | 0.00 | \*\* |
| Never married | 0.18 | 0.21 | 0.03 | \*\*\* |
| Sponsorship | 0.61 | 0.53 | -0.08 | \*\*\* |
| Gini index for the state | 0.42 | 0.44 | 0.01 | \*\*\* |
| The share of workers age 25-64 with two years of college education or more in the state | 0.40 | 0.47 | 0.07 | \*\*\* |
| The percentage of employees working in small firms (99 employees or less) in the state | 0.41 | 0.42 | 0.01 | \*\*\* |
| The percent of the population age 25-64 who is under 40 years of age in the state | 0.44 | 0.39 | -0.05 | \*\*\* |
| Unemployment rate for age group 25-44  | 0.04 | 0.09 | 0.05 | \*\*\* |
| Unemployment rate for age group 45-54 | 0.03 | 0.08 | 0.05 | \*\*\* |
| Unemployment rate for age group 55-64 | 0.03 | 0.07 | 0.04 | \*\*\* |
| Trend in Unemployment rate for age group 25-44  | 0.00 | 0.01 | 0.02 | \*\*\* |
| Trend in Unemployment rate for age group 45-54 | 0.00 | 0.01 | 0.01 | \*\*\* |
| Trend in Unemployment rate for age group 55-64 | 0.00 | 0.01 | 0.01 | \*\*\* |
| Unionization | 0.18 | 0.15 | -0.03 | \*\*\* |
| *Data:* Current Population Survey, March Supplement, 2000-2002 and 2010-2012. *Notes*:\*\*\* denotes significance at the 1% level or better, \*\* denotes significance at the 5% level or better, and \* denotes significance at the 10% level or better*.* |

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| Table 3: Probit Regression Results.  |
|  Dependent Variable is Retirement Account Sponsorship | 2000-2002 | 2010-2012 |
| Coef. | Std. | Coef. | Std. |
| Female | -0.064 | 0.000 | -0.090 | 0.000 |
| Age 45-54 | 0.097 | 0.000 | 0.068 | 0.000 |
| Age 55-64 | 0.106 | 0.000 | 0.013 | 0.000 |
| Black Non-Hispanic | -0.121 | 0.000 | -0.180 | 0.000 |
| Asian Non-Hispanic | -0.171 | 0.000 | -0.189 | 0.000 |
| Hispanic | -0.235 | 0.000 | -0.246 | 0.000 |
| Citizen | 0.312 | 0.000 | 0.367 | 0.000 |
| HS or some college | 0.281 | 0.000 | 0.268 | 0.000 |
| Associates’ degree | 0.404 | 0.000 | 0.368 | 0.000 |
| Bachelors’ degree | 0.414 | 0.000 | 0.437 | 0.000 |
| Masters, professional degree or Doctorate | 0.538 | 0.000 | 0.535 | 0.000 |
| Farmers | -0.395 | 0.002 | -0.333 | 0.002 |
| Managers, officials, proprietors | 0.007 | 0.000 | -0.023 | 0.000 |
| Clerical and kindred | -0.044 | 0.000 | -0.081 | 0.000 |
| Sales workers | -0.233 | 0.000 | -0.183 | 0.000 |
| Craftsmen | -0.042 | 0.000 | -0.110 | 0.000 |
| Operatives | -0.177 | 0.000 | -0.262 | 0.000 |
| Service workers | -0.279 | 0.000 | -0.312 | 0.000 |
| Farm laborers | -0.663 | 0.002 | -0.407 | 0.002 |
| Laborers | -0.207 | 0.000 | -0.337 | 0.000 |
| Mining | 0.331 | 0.001 | 0.433 | 0.002 |
| Utilities | 0.506 | 0.001 | 0.651 | 0.002 |
| Construction | 0.066 | 0.001 | 0.172 | 0.001 |
| Manufacturing | 0.295 | 0.001 | 0.491 | 0.001 |
| Wholesale trade | 0.224 | 0.001 | 0.432 | 0.001 |
| Retail trade | 0.014 | 0.001 | 0.143 | 0.001 |
| Transportation and warehousing | 0.053 | 0.001 | 0.280 | 0.001 |
| Information | 0.197 | 0.001 | 0.365 | 0.001 |
| Finance, Insurance | 0.343 | 0.001 | 0.582 | 0.001 |
| Real Estate | -0.062 | 0.001 | -0.031 | 0.001 |
| Professional services | 0.190 | 0.001 | 0.476 | 0.001 |
| Management, administration and waste management | -0.160 | 0.001 | -0.050 | 0.001 |
| Education | 0.184 | 0.001 | 0.298 | 0.001 |
| Health care and social assistance | 0.207 | 0.001 | 0.348 | 0.001 |
| Arts and entertainment | -0.048 | 0.001 | 0.121 | 0.001 |
| Accommodation and food | -0.332 | 0.001 | -0.185 | 0.001 |
| Other services | -0.103 | 0.001 | 0.023 | 0.001 |
| Public administration | 0.316 | 0.001 | 0.384 | 0.001 |
| Firmsz 25-99 workers | 0.485 | 0.000 | 0.589 | 0.000 |
| Firmsz 100-499 workers | 0.723 | 0.000 | 0.887 | 0.000 |
| Firmsz 500-999 workers | 0.863 | 0.000 | 1.038 | 0.000 |
| Firmsz 1000+ workers | 1.045 | 0.000 | 1.234 | 0.000 |
| Full-time | 0.426 | 0.000 | 0.424 | 0.000 |
| Number of Weeks Unemployed | -0.015 | 0.000 | -0.016 | 0.000 |
| Metro Area | -0.026 | 0.000 | 0.033 | 0.000 |
| Wage and salary worker | 0.709 | 0.000 | 0.598 | 0.000 |
| Government worker | 1.068 | 0.000 | 0.964 | 0.000 |
| Separated, divorced or widowed | -0.086 | 0.000 | -0.093 | 0.000 |
| Never married | -0.147 | 0.000 | -0.168 | 0.000 |
| Gini | -3.225 | 0.004 | -2.510 | 0.005 |
| The share of workers age 25-64 with two years of college education or more in the state | 0.203 | 0.002 | 0.395 | 0.002 |
| The percentage of employees working in small firms (99 employees or less) in the state | -0.756 | 0.003 | -1.166 | 0.003 |
| The percent of the population age 25-64 who is under 40 years of age in the state | 0.106 | 0.003 | -1.484 | 0.004 |
| Unemployment rate for age group 25-44  | -0.150 | 0.008 | -3.200 | 0.018 |
| Unemployment rate for age group 45-54 | -2.470 | 0.009 | 4.163 | 0.020 |
| Unemployment rate for age group 55-64 | 2.436 | 0.010 | 1.044 | 0.010 |
| Trend in Unemployment rate for age group 25-44  | -2.331 | 0.015 | 3.151 | 0.026 |
| Trend in Unemployment rate for age group 45-54 | 2.190 | 0.018 | -0.543 | 0.020 |
| Trend in Unemployment rate for age group 55-64 | -0.848 | 0.016 | 0.791 | 0.016 |
| Unionization | 0.704 | 0.001 | 0.453 | 0.002 |
| Intercept | -0.556 | 0.003 | -0.126 | 0.003 |
| Pseudo R2 |   | 0.2549 |   | 0.277 |
| *Data:* Current Population Survey, March Supplement, 2000-2002 and 2010-2012.  |

Table 4. Aggregate decomposition results explaining the Decline in Retirement Account Sponsorship

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Total change** | **Endowment Effect** | **Coefficient Effect** | **Interaction term** |
|  | Total change in predicted coverage explained by model | If only the variables changed (2001 betas \*change in the X’s) | If only the sensitivities or determinants changed (2001 X’s\*change in the betas) | Interaction term (changes in betas \* changes in X’s) |
| Total Predicted Change | -0.08 | 0.02 | -0.03 | -0.08 |
| State level variables | 0.10 | 0.04 | 0.14 | -0.08 |
| Individual and firm level variables | -0.02 | -0.02 | -0.01 | 0.00 |
| Intercept Term | -0.16 | 0.00 | -0.16 | 0.00 |

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| Table 5. Detailed Decomposition Results |
|   | Endowment Effect | Coefficients Effect | Interaction Effect |
| Female | 0.0000 |   | -0.0018 | \*\* | 0.0000 |   |
| Male | 0.0000 |   | 0.0016 | \*\* | 0.0000 |   |
| Age 25-44 | 0.0005 | \*\*\* | -0.0064 | \*\*\* | 0.0008 | \*\*\* |
| Age 45-54 | 0.0001 | \*\*\* | -0.0008 |   | 0.0000 |   |
| Age 55-64 | -0.0002 |   | 0.0019 | \*\*\* | 0.0009 | \*\*\* |
| White non-Hispanic | -0.0015 | \*\*\* | -0.0042 | \* | 0.0002 | \* |
| Black Non-Hispanic | 0.0000 |   | 0.0011 |   | 0.0000 |   |
| Asian Non-Hispanic | -0.0001 | \* | 0.0000 |   | 0.0000 |   |
| Hispanic | -0.0007 | \*\*\* | -0.0003 |   | -0.0001 |   |
| Citizen | -0.0004 | \*\* | -0.0067 | \*\*\* | 0.0001 | \*\* |
| Less than HS education | 0.0012 | \*\*\* | -0.0001 |   | 0.0000 |   |
| HS or some college | 0.0006 | \*\*\* | 0.0009 |   | -0.0001 |   |
| Associates’ degree | 0.0001 | \*\*\* | 0.0007 | \*\* | 0.0001 | \*\* |
| Bachelors’ degree | 0.0007 | \*\*\* | -0.0016 | \*\* | -0.0002 | \*\* |
| Masters, professional degree or doctorate | 0.0011 | \*\*\* | -0.0001 |   | 0.0000 |   |
| Professional and technical | 0.0014 | \*\*\* | -0.0001 |   | 0.0000 |   |
| Farmers | 0.0000 |   | -0.0001 |   | 0.0000 |   |
| Managers, officials, proprietors | -0.0011 | \*\*\* | 0.0013 |   | -0.0002 |   |
| Clerical and kindred | 0.0002 | \*\*\* | 0.0014 |   | 0.0001 |   |
| Sales workers | 0.0000 |   | -0.0008 | \*\* | 0.0001 | \* |
| Craftsmen | -0.0002 | \*\*\* | 0.0018 | \*\* | -0.0001 | \*\* |
| Operatives | 0.0002 | \*\*\* | 0.0023 | \*\*\* | -0.0003 | \*\*\* |
| Service workers | -0.0004 | \*\*\* | 0.0010 | \* | 0.0002 |   |
| Farm laborers | 0.0001 | \* | -0.0004 | \*\* | 0.0001 | \* |
| Laborers | 0.0001 | \* | 0.0013 | \*\*\* | -0.0001 | \* |
| Agriculture, forestry and Fishing | 0.0001 |   | 0.0006 | \* | 0.0000 |   |
| Mining | 0.0001 | \*\* | 0.0000 |   | 0.0000 |   |
| Utilities | -0.0003 | \*\*\* | 0.0000 |   | 0.0000 |   |
| Construction | -0.0001 | \* | 0.0007 | \* | 0.0000 |   |
| Manufacturing | -0.0018 | \*\*\* | -0.0020 | \*\*\* | 0.0005 | \*\*\* |
| Wholesale trade | -0.0005 | \*\*\* | -0.0007 | \*\* | 0.0002 | \*\* |
| Retail trade | -0.0001 | \*\* | 0.0004 |   | 0.0000 |   |
| Transportation and warehousing | 0.0000 |   | -0.0010 | \*\*\* | 0.0000 |   |
| Information | -0.0008 | \*\*\* | -0.0004 |   | 0.0002 |   |
| Finance, Insurance | 0.0000 |   | -0.0013 | \*\*\* | 0.0000 |   |
| Real Estate | -0.0001 | \* | 0.0005 | \*\*\* | 0.0000 | \* |
| Professional services | 0.0014 | \*\*\* | -0.0016 | \*\*\* | -0.0011 | \*\*\* |
| Management, administration and waste management | -0.0002 | \*\*\* | 0.0004 |   | 0.0000 |   |
| Education | 0.0001 | \* | 0.0007 |   | 0.0001 |   |
| Health care and social assistance | 0.0004 | \*\*\* | 0.0001 |   | 0.0000 |   |
| Arts and entertainment | -0.0002 | \*\*\* | -0.0001 |   | -0.0001 |   |
| Accommodation and food | -0.0006 | \*\*\* | -0.0001 |   | 0.0000 |   |
| Other services | 0.0000 |   | 0.0002 |   | 0.0000 |   |
| Public administration | 0.0001 | \*\* | 0.0010 | \*\* | 0.0001 | \* |
| Firmsz 1-24 workers | -0.0083 | \*\*\* | 0.0094 | \*\*\* | 0.0017 | \*\*\* |
| Firmsz 25-99 workers | 0.0014 | \*\*\* | 0.0007 |   | -0.0002 |   |
| Firmsz 100-499 workers | -0.0004 | \*\*\* | -0.0014 | \*\* | 0.0001 | \*\* |
| Firmsz 500-999 workers | -0.0003 | \*\*\* | -0.0007 | \*\* | 0.0001 | \* |
| Firmsz 1000+ workers | 0.0004 |   | -0.0066 | \*\*\* | -0.0001 |   |
| Part-time | -0.0013 | \*\*\* | 0.0000 |   | 0.0000 |   |
| Full-time | -0.0013 | \*\*\* | 0.0002 |   | 0.0000 |   |
| Number of Weeks Unemployed | -0.0045 | \*\*\* | 0.0004 | \* | 0.0004 | \* |
| Non Metro Area | 0.0001 |   | 0.0014 | \*\* | -0.0002 | \* |
| Metro Area | 0.0001 |   | -0.0064 | \*\* | -0.0002 | \* |
| Self employed | 0.0001 |   | -0.0019 | \*\*\* | 0.0000 |   |
| Wage and salary worker | 0.0000 |   | 0.0077 | \*\* | 0.0000 |   |
| Government worker | 0.0003 |   | 0.0013 | \* | 0.0000 |   |
| Married | -0.0006 | \*\*\* | -0.0016 |   | 0.0001 |   |
| Separated, divorced or widowed | 0.0000 |   | -0.0001 |   | 0.0000 |   |
| Never married | -0.0006 | \*\*\* | 0.0005 |   | 0.0001 |   |
| Gini index for the state | -0.0085 | \*\*\* | -0.0800 |   | -0.0029 |   |
| The share of workers age 25-64 with two years of college education or more in the state | 0.0061 |   | -0.0205 |   | -0.0036 |   |
| The percentage of employees working in small firms (99 employees or less) in the state | -0.0028 | \* | 0.0441 |   | 0.0012 |   |
| The percent of the population age 25-64 who is under 40 years of age in the state | 0.0174 | \*\* | 0.1852 | \*\* | -0.0223 | \* |
| Unemployment rate for age group 25-44  | -0.0401 | \*\* | 0.0313 |   | 0.0456 |   |
| Unemployment rate for age group 45-54 | 0.0481 | \*\* | -0.0474 | \*\*\* | -0.0916 | \*\*\* |
| Unemployment rate for age group 55-64 | 0.0094 |   | 0.0111 |   | 0.0150 |   |
| Trend in Unemployment rate for age group 25-44  | 0.0108 |   | 0.0021 |   | -0.0225 |   |
| Trend in Unemployment rate for age group 45-54 | -0.0016 |   | -0.0005 |   | 0.0095 |   |
| Trend in Unemployment rate for age group 55-64 | 0.0022 |   | -0.0001 |   | -0.0054 |   |
| Unionization | -0.0029 | \*\*\* | 0.0116 |   | -0.0019 |   |
| Intercept |   |   | -0.1562 | \* |  |   |
| Total Effect | 0.0224 |   | -0.0270 |   | -0.0757 |   |
| *Data:* Current Population Survey, March Supplement, 2000-2002 and 2010-2012. *Notes*:\*\*\* denotes significance at the 1% level or better, \*\* denotes significance at the 5% level or better, and \* denotes significance at the 10% level or better*.* |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table 4b. Decomposition results for 2001-2003, 2010-2012 | **Total change** | **Endowment Effect** | **Coefficient Effect** | **Interaction term** |
| Total Predicted Change | -0.07 | 0.03 | -0.03 | -0.08 |
| State level variables | 0.04 | 0.05 | 0.07 | -0.08 |
| Individual and firm level variables | -0.02 | -0.01 | 0.00 | 0.00 |
| Intercept Term | -0.09 | 0.00 | -0.09 | 0.00 |

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| Table 5b. Detailed decomposition results for 2001-2003, 2010-2012 periods |
|  | Endowment Effect | Coefficient Effect | Interaction Effect |
| Female | -6E-06 |   | -0.00136 | \* | 1.49E-06 |   |
| Male | -6E-06 |   | 0.001216 | \* | 1.49E-06 |   |
| Age 25-44 | 0.000474 | \*\*\* | -0.00613 | \*\*\* | 0.000651 | \*\*\* |
| Age 45-54 | 7.48E-05 | \*\* | -0.00065 |   | -1.8E-05 |   |
| Age 55-64 | -0.00011 |   | 0.00182 | \*\*\* | 0.000698 | \*\*\* |
| White non-Hispanic | -0.00139 | \*\*\* | -0.00469 | \* | 0.000229 | \* |
| Black Non-Hispanic | 6.04E-06 |   | 0.000851 |   | -1.1E-05 |   |
| Asian Non-Hispanic | -9.1E-05 | \*\* | 5.86E-05 |   | 1.05E-05 |   |
| Hispanic | -0.00068 | \*\*\* | -0.0003 |   | -7.3E-05 |   |
| Citizen | -0.0003 | \* | 0.000865 | \*\*\* | 6.18E-05 | \* |
| Non-Citizen | -0.0003 | \* | -0.00902 | \*\*\* | 6.18E-05 | \* |
| Less than HS education | 0.00135 | \*\*\* | -0.00014 |   | 2.31E-05 |   |
| HS or some college | 0.000572 | \*\*\* | 0.001794 |   | -0.00014 |   |
| Associates’ degree | 0.000112 | \*\* | 0.001043 | \*\* | 0.000131 | \*\* |
| Bachelors’ degree | 0.000733 | \*\*\* | -0.0021 | \*\*\* | -0.00024 | \*\*\* |
| Masters, professional degree or doctorate | 0.001072 | \*\*\* | -0.00033 |   | -5.9E-05 |   |
| Professional and technical | 0.001211 | \*\*\* | 0.001698 |   | 0.000187 |   |
| Farmers | 2.38E-05 |   | -0.00019 |   | 3.29E-05 |   |
| Managers, officials, proprietors | -0.00086 | \*\*\* | 0.000956 |   | -0.00011 |   |
| Clerical and kindred | 0.000102 | \*\*\* | 0.001461 |   | 3.13E-05 |   |
| Sales workers | -2.7E-05 |   | -0.00083 | \* | 7.61E-05 | \* |
| Craftsmen | -0.00017 | \*\*\* | 0.002285 | \*\*\* | -0.00017 | \*\*\* |
| Operatives | 0.000128 | \*\*\* | 0.00199 | \*\*\* | -0.00023 | \*\*\* |
| Service workers | -0.0004 | \*\*\* | 0.000829 |   | 0.000104 |   |
| Farm laborers | 5.06E-05 |   | -0.00031 | \*\* | 4.45E-05 |   |
| Laborers | 4.75E-06 |   | 0.001106 | \*\*\* | -5E-06 |   |
| Agriculture, forestry and Fishing | 3.93E-05 |   | 0.00044 |   | -2.1E-05 |   |
| Mining | 0.000102 | \*\* | -7.8E-05 |   | -2.6E-05 |   |
| Utilities | -0.00015 | \*\*\* | 5.21E-05 |   | -7.5E-06 |   |
| Construction | -1.1E-05 |   | 0.000412 |   | 3.45E-06 |   |
| Manufacturing | -0.00152 | \*\*\* | -0.00134 | \*\* | 0.000273 | \*\* |
| Wholesale trade | -0.00046 | \*\*\* | -0.00085 | \*\*\* | 0.000216 | \*\*\* |
| Retail trade | -4.6E-05 |   | 0.000143 |   | 2.42E-06 |   |
| Transportation and warehousing | 3.94E-06 |   | -0.00066 | \*\* | 1.99E-05 |   |
| Information | -0.00051 | \*\*\* | -0.00011 |   | 5.24E-05 |   |
| Finance, Insurance | -6.3E-05 |   | -0.00036 |   | 0.000007 |   |
| Real Estate | -4.5E-05 |   | 0.000662 | \*\*\* | 2.04E-05 |   |
| Professional services | 0.00079 | \*\*\* | -0.00124 | \*\*\* | -0.00047 | \*\*\* |
| Management, administration and waste management | -0.00017 | \*\*\* | -0.00036 |   | -2.3E-05 |   |
| Education | 5.46E-05 |   | 0.000919 |   | 7.47E-05 |   |
| Health care and social assistance | 0.000377 | \*\*\* | 2.33E-05 |   | 3.18E-06 |   |
| Arts and entertainment | -0.00021 | \*\*\* | -4.2E-06 |   | -1.6E-06 |   |
| Accommodation and food | -0.00057 | \*\*\* | -0.00012 |   | -1.3E-05 |   |
| Other services | -2.8E-05 |   | -5E-05 |   | -5.6E-07 |   |
| Public administration | 0.000128 | \*\*\* | 0.001139 | \*\* | 0.000103 | \*\* |
| Firmsz 1-24 workers | -0.00798 | \*\*\* | 0.009344 | \*\*\* | 0.001382 | \*\*\* |
| Firmsz 25-99 workers | 0.001486 | \*\*\* | 0.000607 |   | -0.00018 |   |
| Firmsz 100-499 workers | -0.00035 | \*\*\* | -0.00115 | \*\* | 8.78E-05 | \*\* |
| Firmsz 500-999 workers | -0.00031 | \*\*\* | -0.0008 | \*\* | 5.82E-05 | \*\* |
| Firmsz 1000+ workers | 0.001187 | \*\*\* | -0.00583 | \*\*\* | -0.00015 | \*\*\* |
| Part-time | -0.00126 | \*\*\* | -0.00031 |   | -5.9E-05 |   |
| Full-time | -0.00126 | \*\*\* | 0.002104 |   | -5.9E-05 |   |
| Number of Weeks Unemployed | -0.00398 | \*\*\* | 0.000138 |   | 0.000114 |   |
| Non Metro Area | 7.32E-05 |   | 0.001181 | \* | -0.00017 |   |
| Metro Area | 7.32E-05 |   | -0.00557 | \* | -0.00017 |   |
| Self employed | 0.000138 |   | -0.00226 | \*\*\* | 2.35E-05 |   |
| Wage and salary worker | -4E-05 |   | 0.006835 | \*\* | -1.8E-05 |   |
| Government worker | 0.000323 |   | 0.001987 | \*\*\* | 3.83E-05 |   |
| Married | -0.00066 | \*\*\* | -0.00185 |   | 8.34E-05 |   |
| Separated, divorced or widowed | 7.21E-06 |   | 0.000238 |   | -3E-06 |   |
| Never married | -0.00059 | \*\*\* | 0.000252 |   | 0.000044 |   |
| Gini index for the state | -0.00705 | \*\*\* | -0.11309 |   | -0.00325 |   |
| The share of workers age 25-64 with two years of college education or more in the state | 0.006329 | \* | -0.02605 |   | -0.00367 |   |
| The percentage of employees working in small firms (99 employees or less) in the state | -0.00147 |   | -0.01255 |   | -0.00028 |   |
| The percent of the population age 25-64 who is under 40 years of age in the state | 0.018355 | \*\*\* | 0.220771 | \*\* | -0.02132 | \*\* |
| Unemployment rate for age group 25-44  | -0.03838 |   | 0.037302 |   | 0.040005 |   |
| Unemployment rate for age group 45-54 | 0.070629 | \*\* | -0.07815 | \*\*\* | -0.10788 | \*\*\* |
| Unemployment rate for age group 55-64 | -0.00103 |   | 0.023122 |   | 0.025735 |   |
| Trend in Unemployment rate for age group 25-44  | 0.004048 |   | -0.00736 |   | -0.00928 |   |
| Trend in Unemployment rate for age group 45-54 | -0.00474 |   | 0.007248 |   | 0.009264 |   |
| Trend in Unemployment rate for age group 55-64 | 0.003936 |   | -0.00169 |   | -0.00657 |   |
| Unionization | -0.00203 | \*\* | 0.018919 |   | -0.0028 |   |
| Intercept |  |  | -0.08991 |   |  |  |
| *Data:* Current Population Survey, March Supplement, 2001-2003 and 2010-2012. *Notes*:\*\*\* denotes significance at the 1% level or better, \*\* denotes significance at the 5% level or better, and \* denotes significance at the 10% level or better*.* |

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| Table 6. Second step calculation of cluster robust standard errors |
|  | 2000-2002 | 2010-2012 |
| State Specific Intercept | Coef. | Std. | t | Coef. | Std. | t |
| Gini | -2.21 | 1.34 | 0.11 | -3.65 | 1.45 | 0.02 |
| Educated | 0.72 | 0.63 | 0.27 | 1.00 | 0.56 | 0.08 |
| Small firm | -0.68 | 0.79 | 0.40 | -0.85 | 0.77 | 0.28 |
| Young Pop | -1.41 | 1.23 | 0.26 | 0.04 | 1.04 | 0.97 |
| Unemployment rate for 25-44 | -1.17 | 5.27 | 0.83 | 1.70 | 2.21 | 0.45 |
| Unemployment rate for 45-54 | 8.83 | 4.83 | 0.08 | -2.01 | 2.59 | 0.44 |
| Unemployment rate for 55-64 | -1.37 | 2.26 | 0.55 | 1.10 | 2.75 | 0.69 |
| Trends in unemployment for 25-44 | -7.83 | 6.42 | 0.23 | 0.11 | 3.94 | 0.98 |
| Trends in unemployment for 45-54 | -7.32 | 5.34 | 0.18 | -3.05 | 5.22 | 0.56 |
| Trends in unemployment for 55-64 | 3.54 | 3.62 | 0.34 | -6.53 | 4.04 | 0.11 |
| Unionization | -0.14 | 0.51 | 0.79 | 0.66 | 0.46 | 0.16 |
| Intercept | 1.63 | 0.80 | 0.05 | 1.50 | 0.77 | 0.06 |
| Observations | 48 |  |  | 48 |  |
| Adjusted R-Squared | 0.16 |  |  | 0.23 |  |
| *Data:* Current Population Survey, March Supplement, 2000-2002 and 2010-2012.  |

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| Table 7. Probit regression results using longitudinal data from the 2008 panel of the SIPP, waves 3 and 11. |
| Sponsorship status for those who were sponsored for a retirement account through their employer in April-July 2009, by December 2011-March 2012 | Coef. | Std. Error |   |
| No change in education (omitted category) |   |   |   |
| *Changed education* |   |   |   |
| HS / some college | 0.542 | 0.435 |   |
| Trade School / associates degree | 0.170 | 0.261 |   |
| BA | -0.139 | 0.228 |   |
| Professional Degree | -0.421 | 0.238 | \* |
| No change in occupation (omitted category) |   |   |   |
| *Changed occupation* |   |   |   |
|  Management Occupations  | 0.157 | 0.131 |   |
|  Business Operations Specialists  | -0.185 | 0.230 |   |
|  Financial Specialists  | -0.483 | 0.288 | \* |
|  Computer and Mathematical Occupations  | -0.065 | 0.212 |   |
|  Architecture and Engineering Occupations  | -0.297 | 0.332 |   |
|  Life, Physical, and Social Science Occupations  | -0.266 | 0.333 |   |
|  Community and Social Services Occupations  | 0.258 | 0.334 |   |
|  Legal Occupations  | -0.462 | 0.791 |   |
|  Education, Training, and Library Occupations  | 0.406 | 0.246 |   |
|  Arts, Design, Entertainment, Sports, and Media Occupations  | -0.436 | 0.372 |   |
|  Healthcare Practitioners and Technical Occupations  | 0.034 | 0.264 |   |
|  Healthcare Support Occupations  | 0.223 | 0.364 |   |
|  Protective Service Occupations  | -0.547 | 0.525 |   |
|  Food Preparation and Serving Related Occupations  | 0.921 | 0.298 | \*\*\* |
|  Building and Grounds Cleaning and Maintenance Occupations  | 0.640 | 0.198 | \*\*\* |
|  Personal Care and Service Occupations  | 0.756 | 0.227 | \*\*\* |
|  Sales and Related Occupations  | 0.401 | 0.148 | \*\*\* |
|  Office and Administrative Support Occupations  | 0.107 | 0.116 |   |
|  Farming, Fishing, and Forestry Occupations  | 0.522 | 0.689 |   |
|  Construction Trades  | 0.215 | 0.257 |   |
|  Extraction Workers  | 0.974 | 0.674 |   |
|  Installation, Maintenance, and Repair Workers  | 0.344 | 0.215 |   |
|  Production Occupations  | 0.300 | 0.208 |   |
|  Transportation and Material Moving Occupations  | 0.045 | 0.120 |   |
| No change in industry (omitted) |   |   |   |
| *Changed industry* |   |   |   |
| Agriculture, Forestry, Fishing, Hunting  | (omitted) |   |   |
|  Mining  | -0.658 | 0.473 |   |
|  Construction  | 0.359 | 0.332 |   |
| Manufacturing  | 0.311 | 0.150 | \*\* |
| Wholesale trade  | 0.422 | 0.185 | \*\* |
| Retail tradee  | 0.065 | 0.175 |   |
| Transport, Warehousing, Utilities  | 0.437 | 0.183 | \*\* |
| Info svcs | 0.317 | 0.206 |   |
|  Finance, Insurance, Real Estate, rental svcs  | 0.162 | 0.192 |   |
| professional, scientific, management, administration, waste management  | 0.502 | 0.109 | \*\*\* |
|  Education, health care, social assistance  | 0.011 | 0.196 |   |
|  Arts, Entertainment, recreation, accomodation, food svcs  | 0.668 | 0.254 | \*\*\* |
| other svcs, except public admin  | 0.771 | 0.236 | \*\*\* |
|  public admin  | -0.298 | 0.247 |   |
| No change in firm size (omitted) |   |   |   |
| *Changed firm size* |   |   |   |
| Firm size increased | 0.084 | 0.097 |   |
| Firm size decreased | 0.585 | 0.045 | \*\*\* |
| No change in classification of worker |   |   |   |
| *Changed classification* |   |   |   |
| Private sector employee | 0.209 | 0.116 | \* |
| Government employee | -0.109 | 0.165 |   |
| Self Employed | 1.420 | 0.133 | \*\*\* |
| Number of months spent unemployed since April-July 2009 | 0.028 | 0.007 | \*\*\* |
| No change in union coverage (omitted) |   |   |   |
| *Changed union coverage* |   |   |   |
| Lost union coverage | -0.116 | 0.131 |   |
| Gained union coverage | -0.292 | 0.139 | \*\* |
| No change in part-time status (omitted) |   |   |   |
| *Changed part-time status* |   |   |   |
| Became full time worker | 0.019 | 0.075 |   |
| Became part time worker | 0.007 | 0.062 |   |
| No change in marital status (omitted) |   |   |   |
| *Changed marital status* |   |   |   |
| Married | -0.245 | 0.127 | \* |
| Divorced | -0.331 | 0.229 |   |
| Widowed | -0.115 | 0.129 |   |
| Single | 0.773 | 0.331 | \*\* |
| Change in hours | -0.005 | 0.003 | \* |
| *Changes in State level variables* |   |   |   |
| Change in state GINI coefficient | -0.463 | 1.925 |   |
| Change in The share of workers age 25-64 with two years of college education or more in the state | -0.548 | 1.630 |   |
| Change in The percentage of employees working in small firms (99 employees or less) in the state | -0.551 | 1.918 |   |
| Change in The percent of the population age 25-64 who is under 40 years of age in the state | -2.926 | 1.645 | \* |
| Change in Unemployment rate for age group 25-44  | 2.106 | 2.806 |   |
| Change in Unemployment rate for age group 45-54 | -0.257 | 2.370 |   |
| Change in Unemployment rate for age group 55-64 | 2.898 | 2.089 |   |
| Change in state level unionization rate | -0.456 | 0.938 |   |
| Intercept term | -1.516 | 0.096 | \*\*\* |
|   |   |   |   |
| Observations | 9629 |   |   |
| R-Squared | 0.10 |   |   |
| Results are for a probit regression, where the dependent variable is Dependent variable: 0- if the respondent was sponsored and continues to be sponsored, 1- if the respondent was sponsored but lost sponsorship. Standard errors are adjusted for clustering at the state level. Data are for respondents in the SIPP 2008 panel who were ages 25-64 and employed in wave 3 and who remained in the sample through wave 11 and were employed in wave 11. \*\*\* denotes significance at the 1% level or better, \*\* denotes significance at the 5% level or better, \* denotes significance at the 10% level or better. |
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2. Author’s calculations from the 1992-2010 HRS shows the decline is from 59% to 53%, while the SCF shows a drop from 61% in 2001 to 56.6% in 2010The HRS tracks how many respondents age 51+ have a pension through their employer, while the SCF asks whether anyone in the household has a pension of any type. These are different, strictly speaking, from the CPS question, which looks at what fraction of workers report that their employer or union provides pension coverage, even if they do not participate. The SCF and HRS confirm this trend and dispel concerns that this is a CPS data effect. [↑](#footnote-ref-2)
3. Note that while an employee may report their employer sponsors retirement plans for some employees, it does not mean that the employee is eligible to participate in such an account, or for that matter that the employee participates in it. In other words, the sponsorship rate calculated from the CPS data probably overestimates the availability of pension account through an employer. [↑](#footnote-ref-3)
4. Because they are not limited to current employers, the sample overweighs higher income households who are more likely to have a pension account from work, and the data is at the household level, any downward trend in the CPS sponsorship rate will be more muted in the SCF. [↑](#footnote-ref-4)
5. The standard factors in a retirement-account sponsorship model are worker characteristics that determine demand for retirement accounts and firm characteristics that determine supply of retirement accounts. Research on the determinants of pension sponsorship has found that an increasing share of women, higher paid and higher educated workers and larger firms were key factors in explaining whether an employer sponsored a retirement account in the 1980s. Over time, industrial share, changes in production processes, and the availability of defined contribution – 401(k) type plans became more important factors explaining retirement account coverage changes in the 1990s. [↑](#footnote-ref-5)
6. Except for Gini, which is calculated for 1999 and 2010. [↑](#footnote-ref-6)
7. The state GINI coefficient is calculated from the household income distribution. [↑](#footnote-ref-7)
8. We anticipate that unemployment rates will have a different impact on bargaining power depending on whether the trend in unemployment rates is positive or negative. [↑](#footnote-ref-8)
9. X2012\*2012 – X2001\*2001= X2001\*d+ 2001dX + dX\*d [↑](#footnote-ref-9)
10. Also called the explained component [↑](#footnote-ref-10)
11. Also called the unexplained component [↑](#footnote-ref-11)
12. It is clear from our questions that 2000-2002 should be the base period. The threefold decomposition is the only version of Oaxaca Blinder that allows us to use 2000-2002 as the base period for both the endowment and the coefficient effects. [↑](#footnote-ref-12)
13. A detailed decomposition of the coefficient and the interaction effects relies on estimated probit coefficients (betas); since the betas differ depending on the choice of omitted category, there is no unique detailed decomposition of the coefficient and the interaction effects. The Yun (2005) method transforms the coefficients making them invariant to the choice of omitted category, and therefore, it allows us to conduct a detailed decomposition of the coefficient and the interaction effects. [↑](#footnote-ref-13)
14. Note that the clustering does not impact the consistency of the probit estimates. Assuming the model is correctly specified, the probit coefficients are accurate, and therefore the decomposition exercise is unaffected. [↑](#footnote-ref-14)
15. The results from this method are not fully comparable to the probit coefficients we estimated originally, because the model we used constrained the intercept term to be the same across states, whereas in the current exercise, each state has its own intercept term. [↑](#footnote-ref-15)