

Savings Decisions, Savings Defaults, and Savings Outcomes

by

Brigitte Madrian

References

References

- The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior, Madrian and Shea (2001)
- For Better or Worse: Default Effects and 401(k) Savings Behavior, Choi, Laibson, Madrian and Metrick (2001)
- Defined Contribution Pensions: Plan Rules, Participant Choices, and the Path of Least Resistance, Choi, Laibson, Madrian and Metrick (2002)
- Benign Paternalism and Active Decisions, Choi, Laibson, Madrian and Metrick (2002)

Overview

Overview

- 401(k) Primer
- Evidence on default effects in 401(k) savings plans
 - Automatic enrollment
 - Automatic cash distributions
 - Matches in company stock
- Explanations—standard and behavioral
- Preferences vs. procrastination for delayed 401(k) enrollment
- Conclusions: promoting savings behavior through plan design

Automatic Enrollment

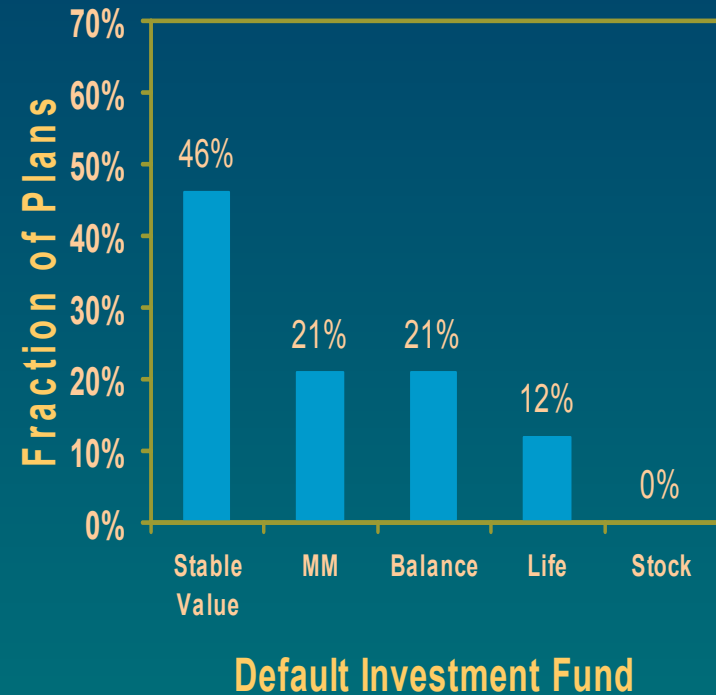
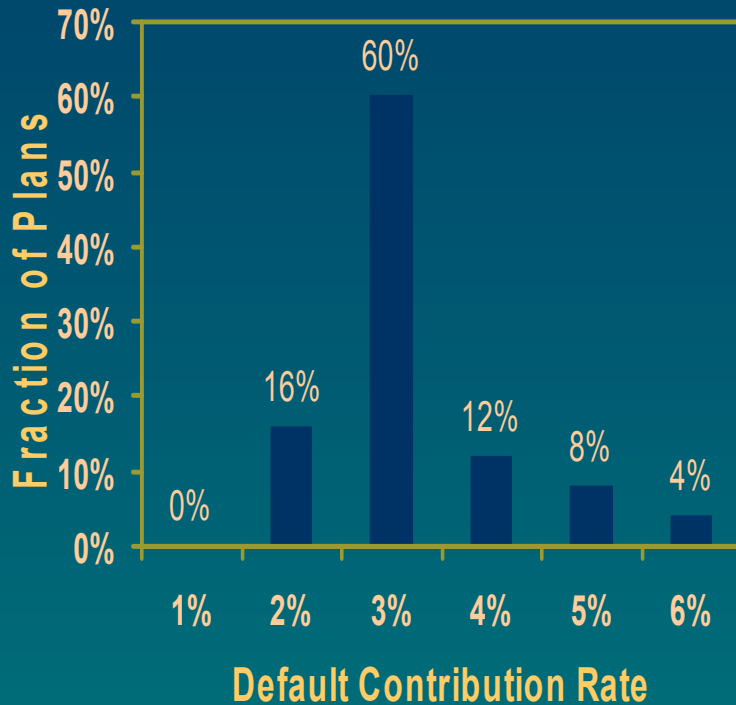
401(k) Primer

- Voluntary employer-sponsored defined contribution savings plan
- Limited government regulation
 - Some impact on employer decisions vis-à-vis plan design
 - Limits on maximum savings contributions—non-binding for vast majority of employees
- Substantial variation in plan design across firms
 - Plan design endogenous to the firm
 - From the employee's perspective, plan design could be taken as exogenous
 - From the employee's perspective, changes in plan design almost surely exogenous
- “Typical” 401(k) plan

Automatic Enrollment Primer

- How does automatic enrollment work?
- Why do companies adopt automatic enrollment?
- How do companies implement automatic enrollment?
- Treasury/DOL rulings

Default Contribution Rates and Investment Funds in Companies with Automatic Enrollment



The Effects of Automatic Enrollment in Theory

The Effects of Automatic Enrollment in Theory

- **View 1:** Automatic enrollment doesn't change the economic fundamentals of the planning problem → automatic enrollment should not influence savings outcomes
- **View 2:** Automatic enrollment manipulates the way the savings decision is framed → automatic enrollment can impact savings outcomes

Data

Automatic Enrollment in Three Companies

| | Company A | Company B | Company C |
|--------------------|---------------------|---------------------------------|--|
| Industry | Office Equipment | Health Insurance | Food |
| Date implemented | January 1997 | April 1998 | A) January 1998 B) November 1999 |
| Employees affected | Hired 01/1997+ | Hired 04/1998 + | A) Eligible 01/1998+ B) Not participating and eligible before 01/1998 |
| Opt-out period | 60 days | 30 days | 30 days |
| Default rate | 2% | 3% | 3% |
| Default fund | Stable value | Money market | Stable value |
| 401(k) match | 67% up to 6% of pay | 50% up to 6% of pay | 50% up to 6% of pay |
| Other changes | Investment funds | 1-year to immediate eligibility | 1-year to immediate eligibility if age<40 |

Identifying the Effects of Automatic Enrollment

Identifying the Effects of Automatic Enrollment

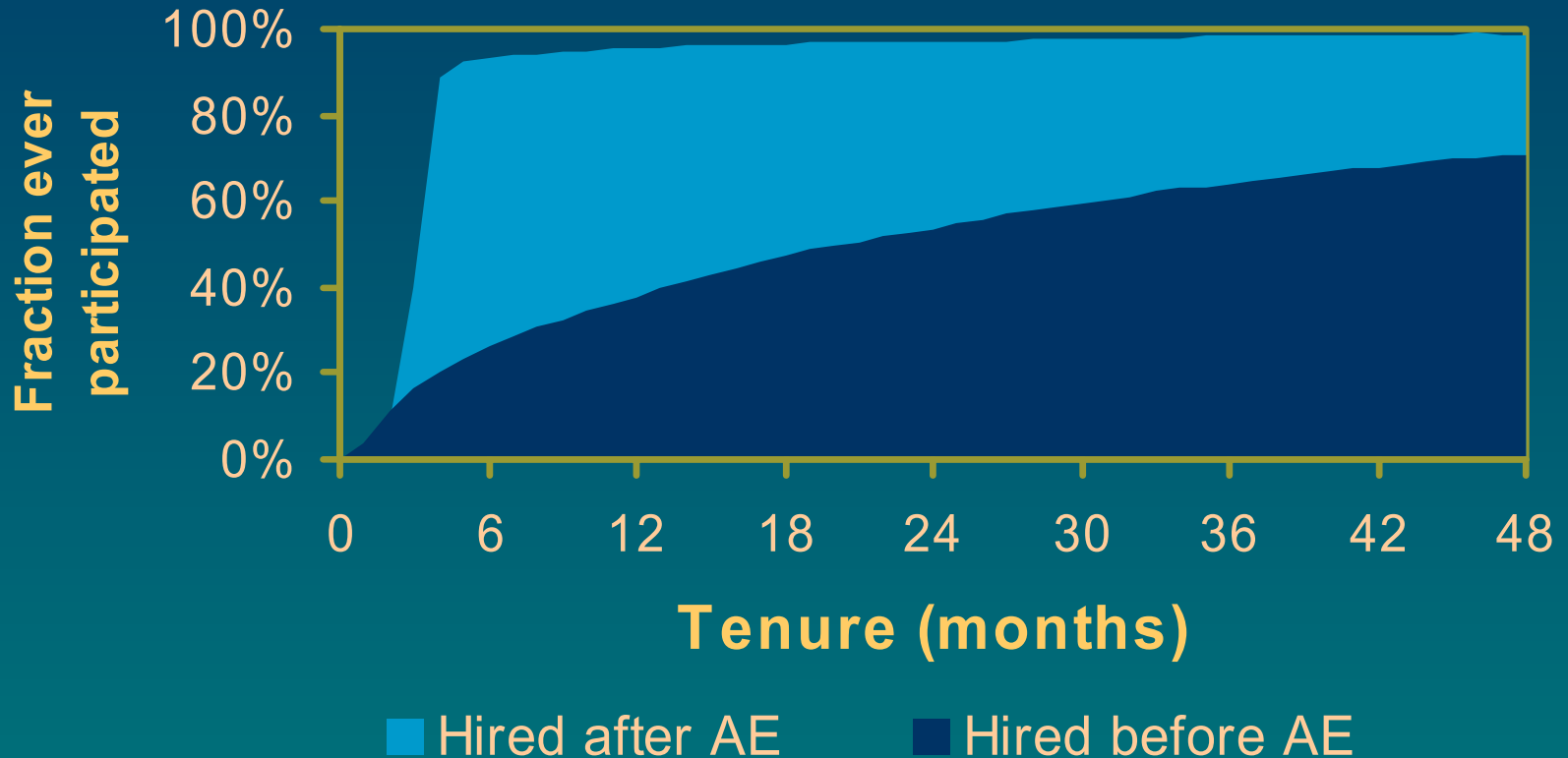
- **Strategy:** Compare the 401(k) savings outcomes of employees who were hired before and after automatic enrollment at equivalent levels of tenure
- **Note:** Controlling for tenure is important—401(k) savings outcomes impacted by tenure

The Effects of Automatic Enrollment in Practice

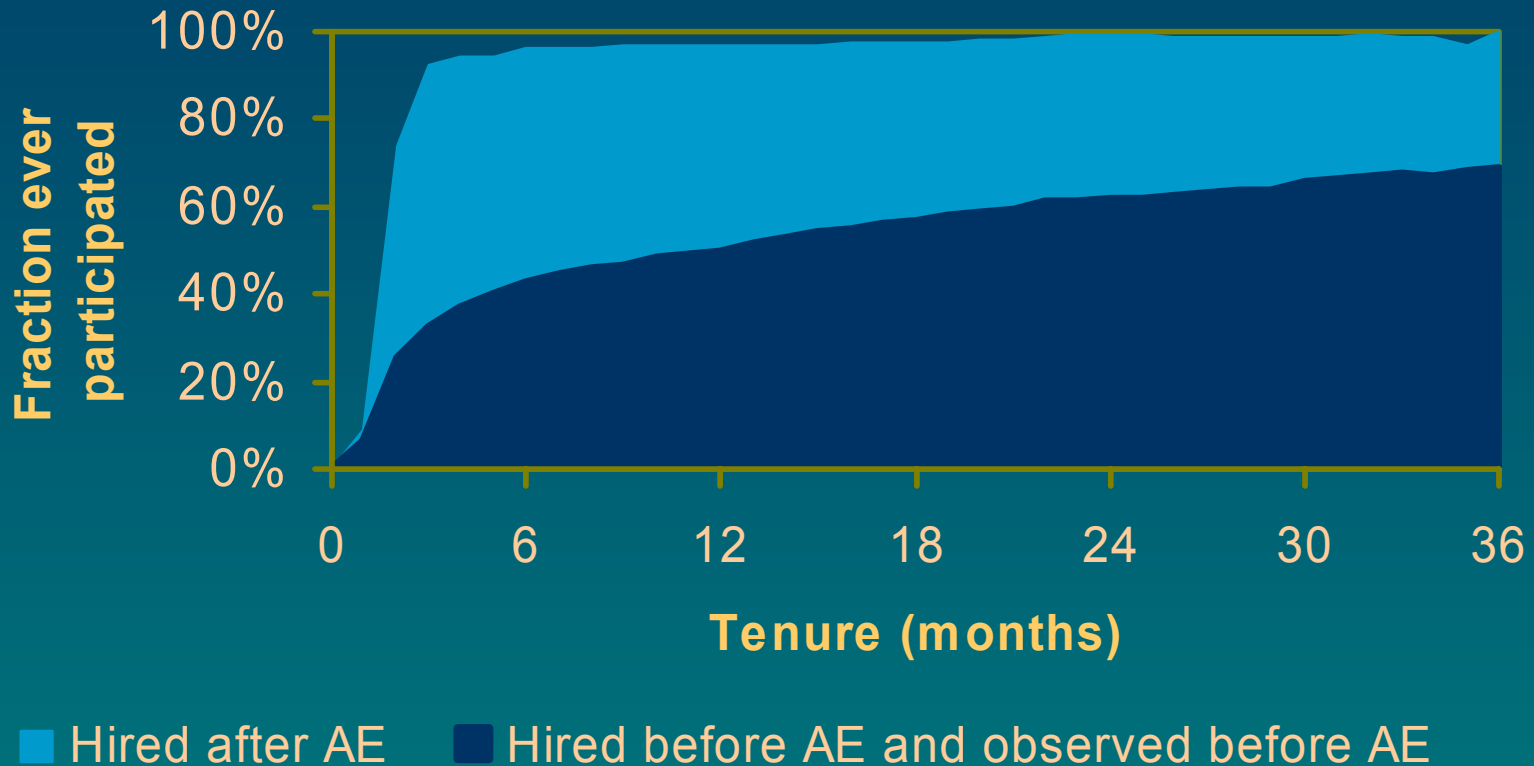
The Effects of Automatic Enrollment in Practice: 401(k) Participation

- Dramatic increase in 401(k) participation rates
- Biggest increases for
 - Low tenure employees
 - Young employees
 - Lower paid employees
 - Black and hispanic employees

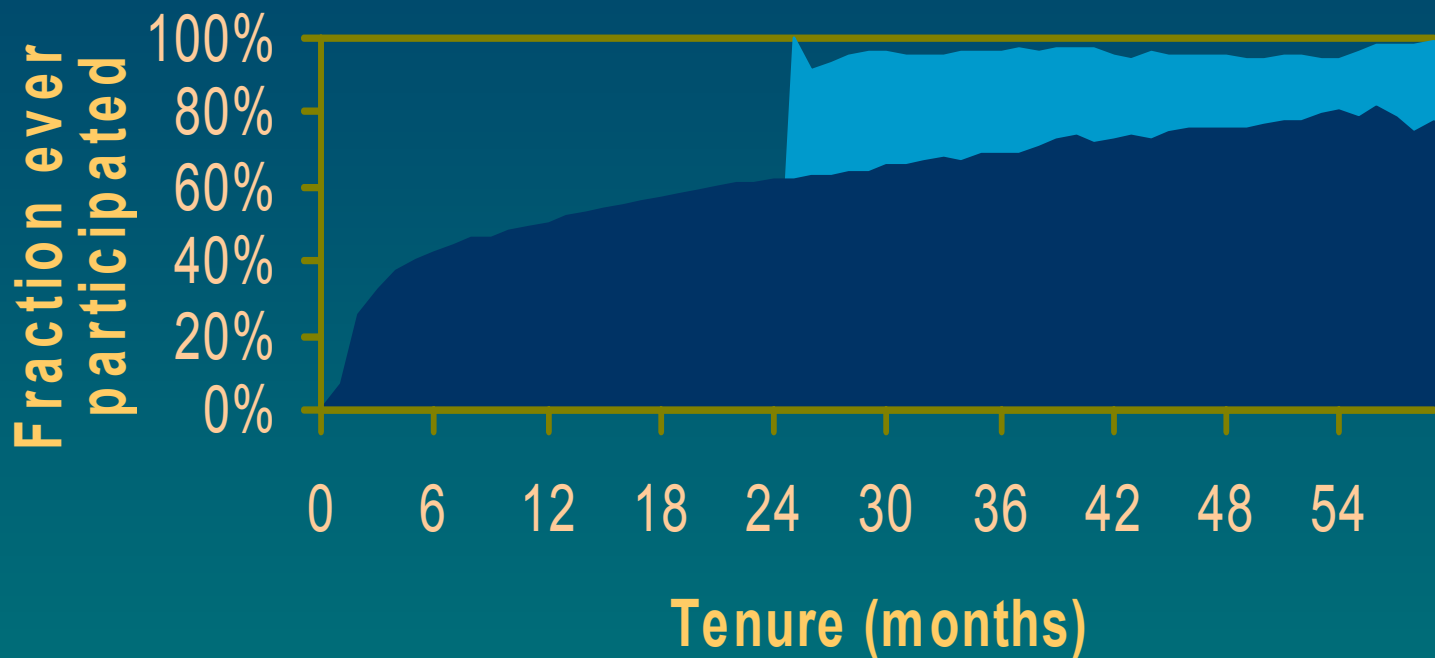
401(k) Participation by Tenure: Company A



401(k) Participation by Tenure for Employees Aged 40+ at Hire: Company C

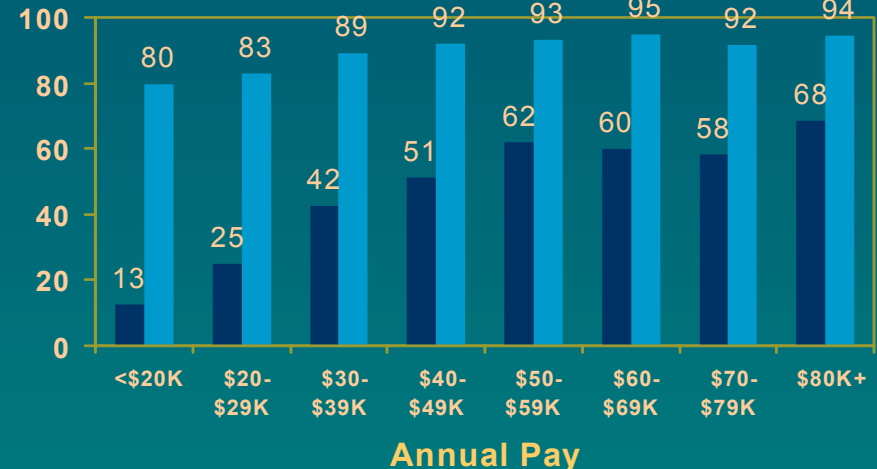
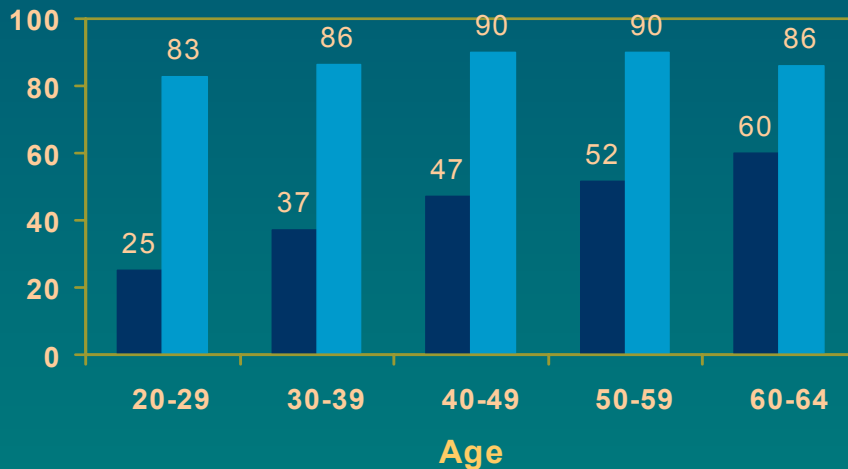
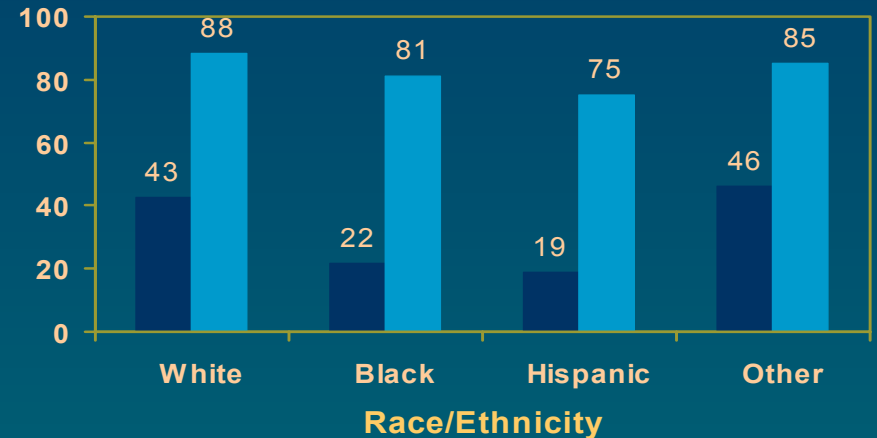
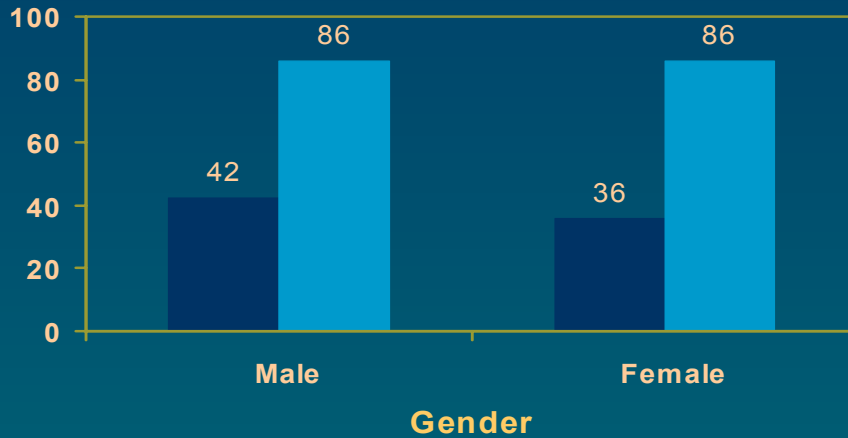


401(k) Participation by Tenure for Employees Aged 40+ at Hire: Company C



- Hired before AE and observed after AE
- Hired before AE and observed before AE

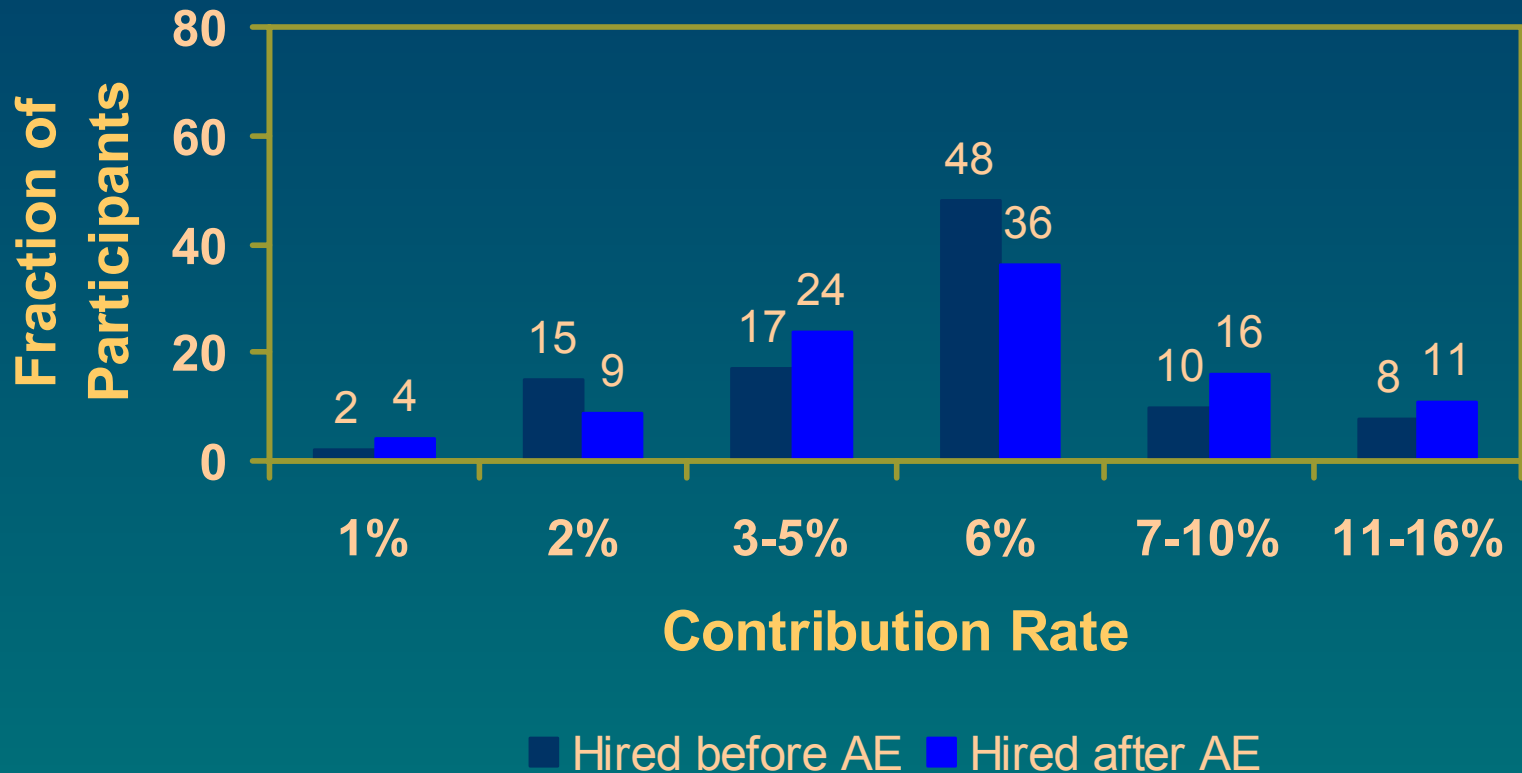
The Effect of Automatic Enrollment on 401(k) Participation by Demographic Characteristics



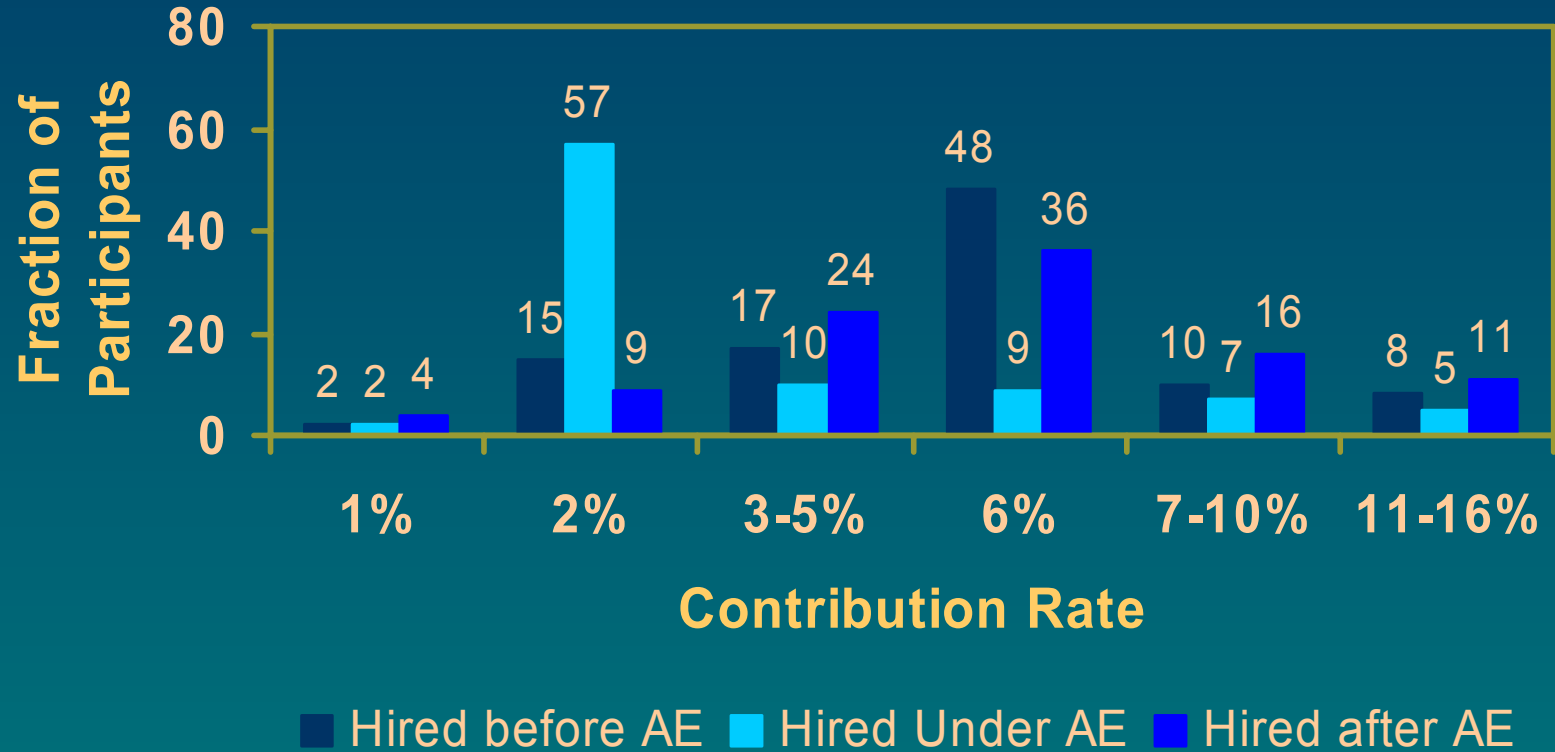
The Effects of Automatic Enrollment in Practice: 401(k) Contribution Rate

- Substantial fraction of participants under automatic enrollment contribute at the default deferral rate
 - Induced participants: non-participation → default rate
 - Would-be participants: higher rate → default rate
- Fraction of participants at the default rate decreases with tenure

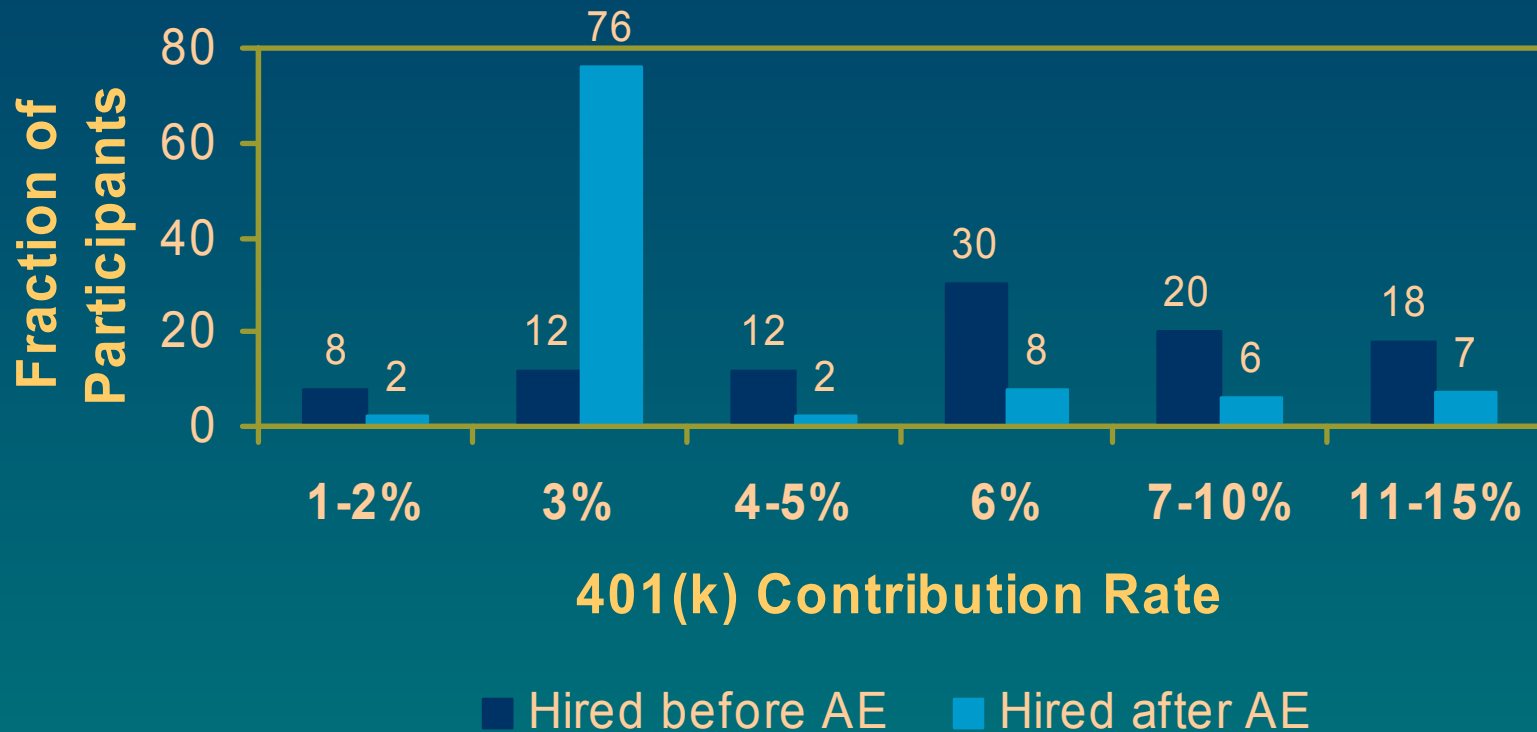
401(k) Contribution Rates by Tenure: Company A



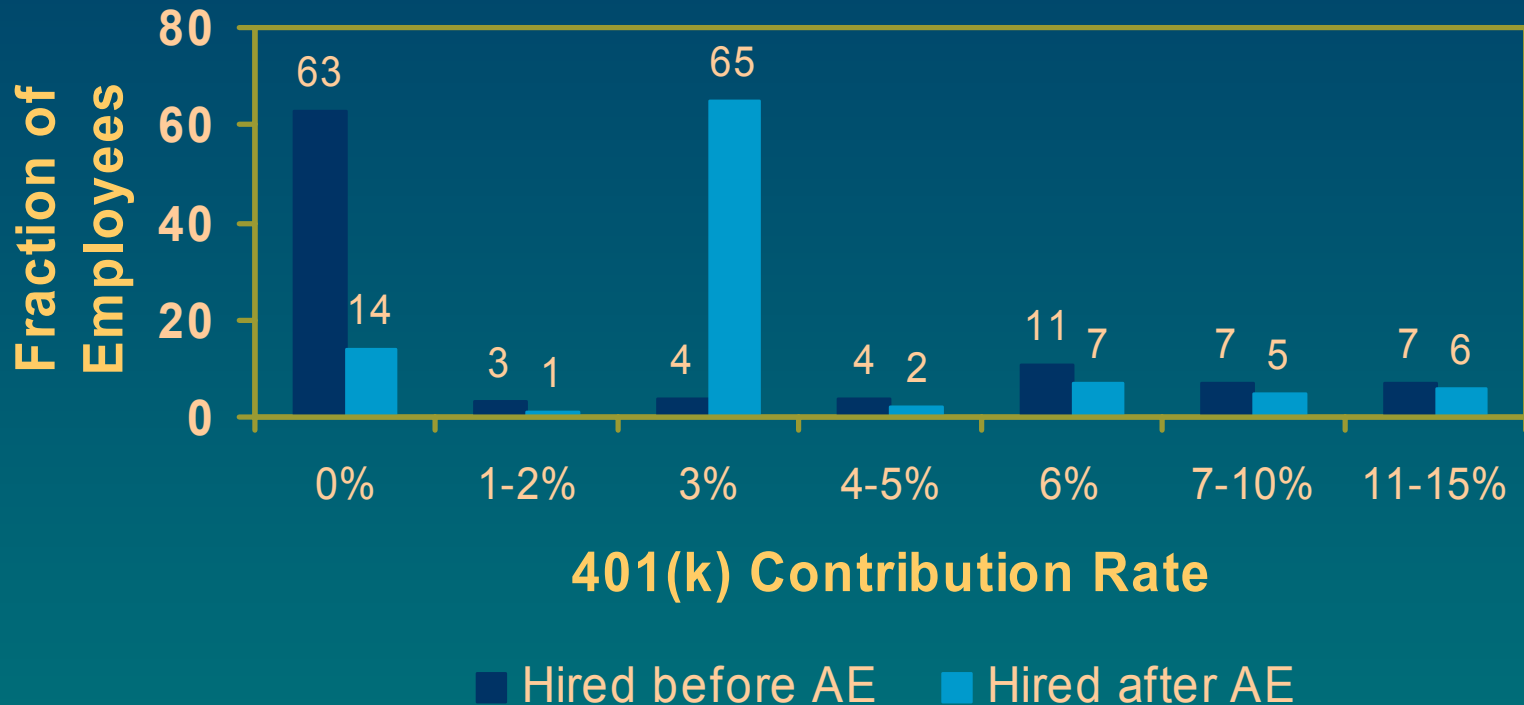
401(k) Contribution Rates by Tenure: Company A



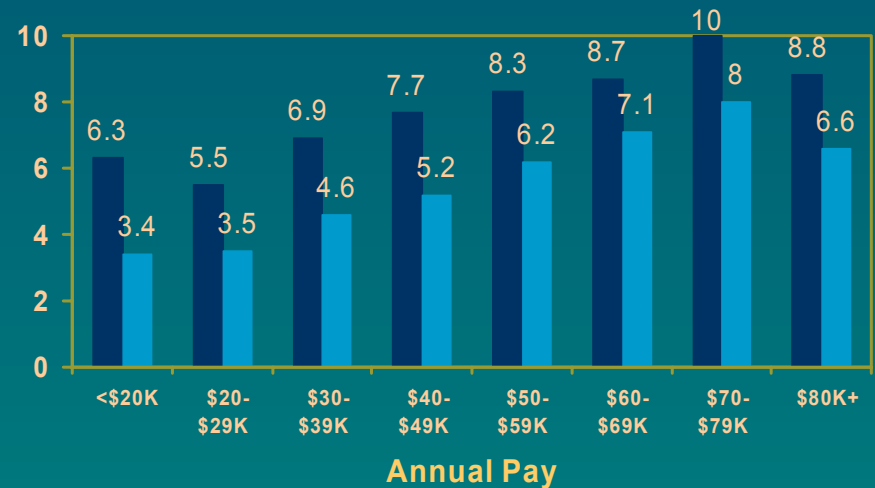
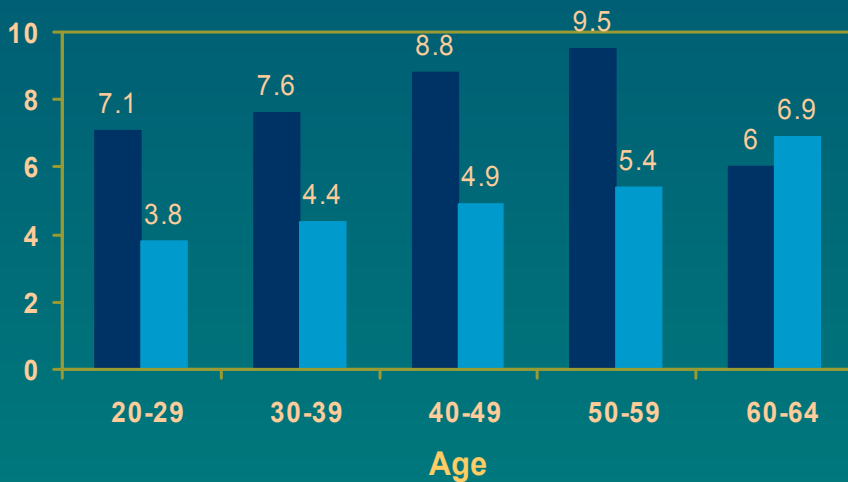
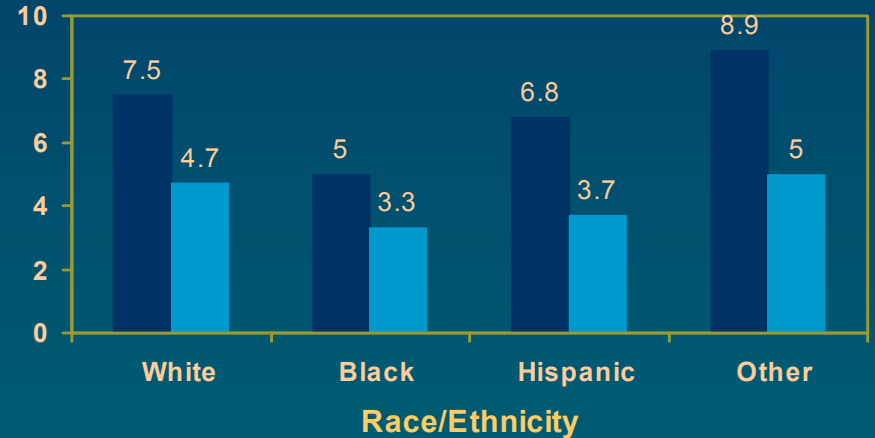
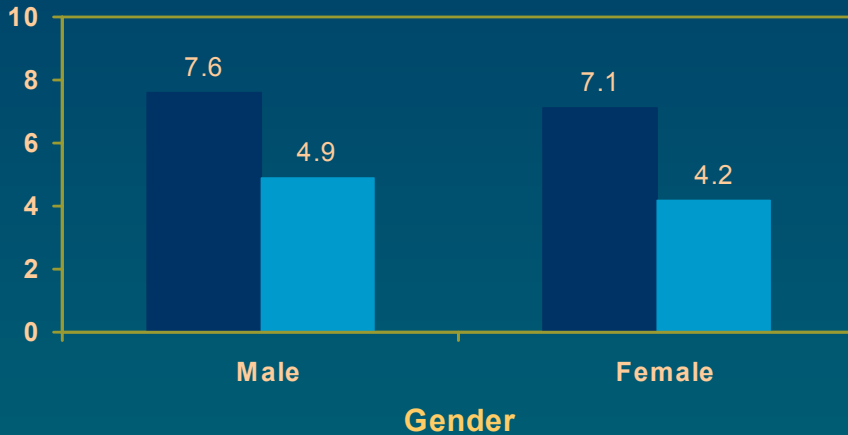
401(k) Contribution Rates for Participants with Equivalent Tenure: Company B



401(k) Contribution Rates for Employees with Equivalent Tenure: Company B



The Effect of Automatic Enrollment on 401(k) Contribution Rates by Demographic Characteristics



Accounting for Demographic Characteristics in Assessing the Impact of Automatic Enrollment

Difference in savings outcomes for employees hired after vs. before automatic enrollment for employees with tenure of 3-15 months (Company B)

| | 401(k) Participation Rate | 401(k) Contribution Rate |
|-----------------------------------|---------------------------------|--------------------------------|
| Raw difference | +48.5% | -2.9% |
| Regression-adjusted difference | +50.4% | -2.2% |

The Effects of Automatic Enrollment in Practice: Asset Allocation

- Substantial fraction of participants under automatic enrollment have assets entirely allocated to the default fund
 - Induced participants: non-participation → default fund
 - Would-be participants: other allocation → default fund
- Fraction of participants with assets wholly allocated to the default fund decreases with tenure

Asset Allocation of 401(k) Participants: Company B



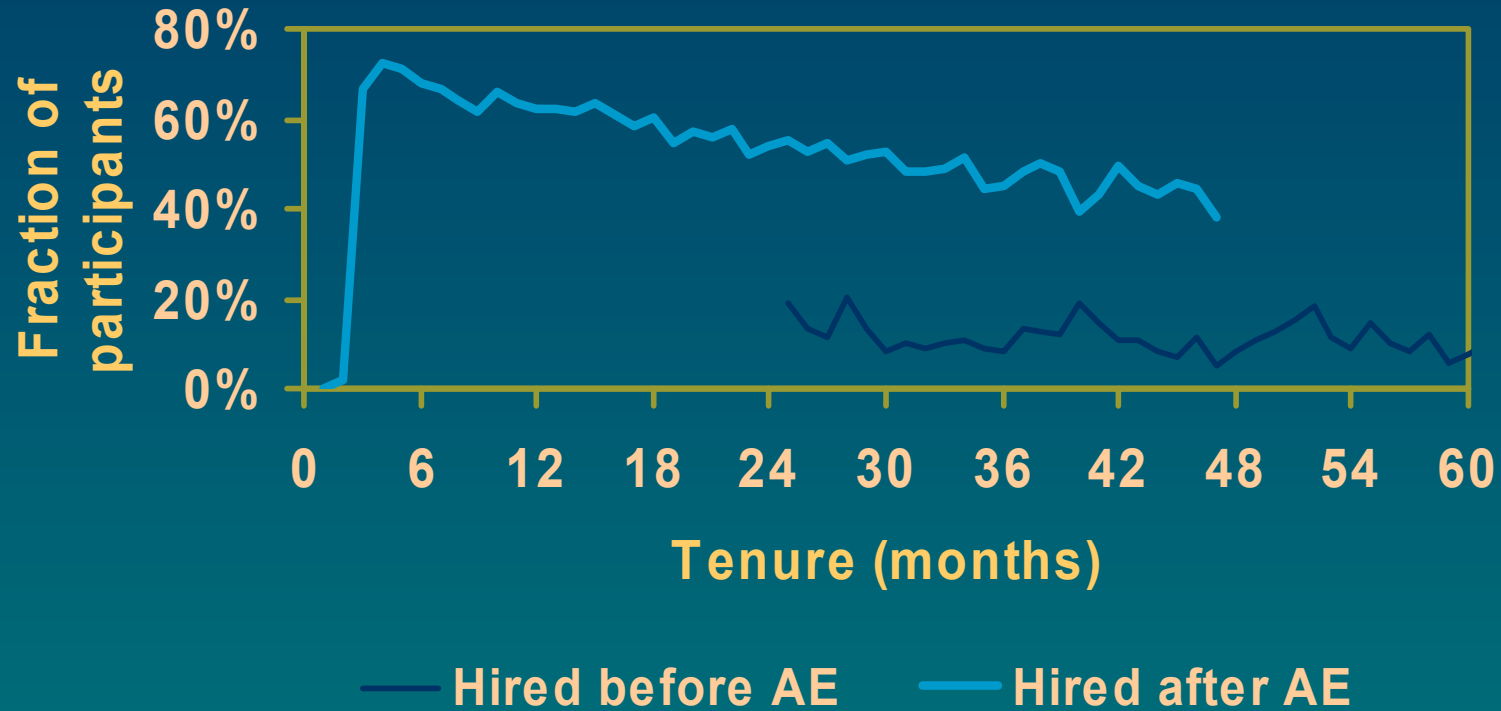
The Effects of Automatic Enrollment in Practice: Persistence of the Default

- Substantial fraction of employees under automatic enrollment stick with the default
 - Participation in the 401(k) plan
 - Saving at the default contribution rate
 - With assets entirely allocated to the default fund

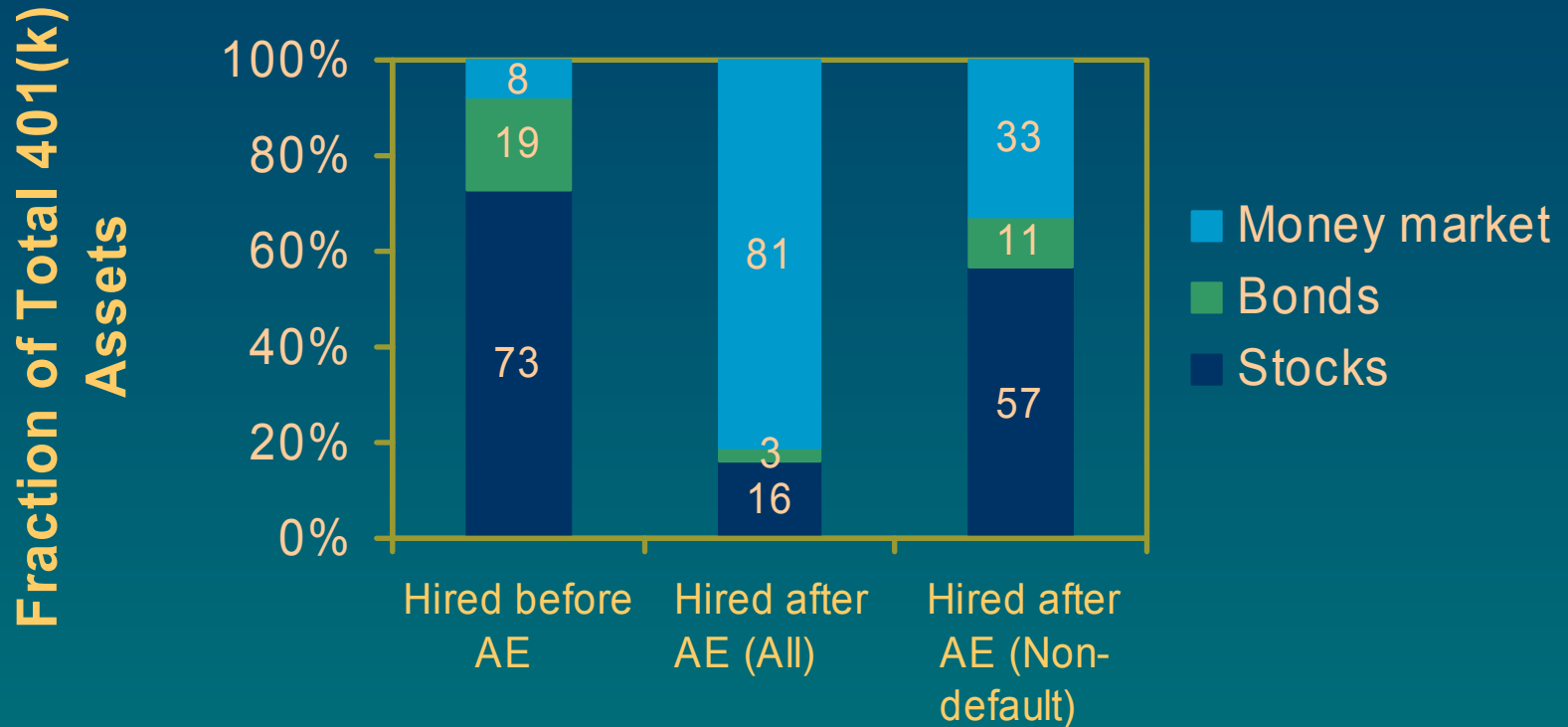
The Effects of Automatic Enrollment in Practice: Persistence of the Default

- Older and higher-paid participants most likely to opt-out of the automatic enrollment defaults immediately
- Over time, participants continue to opt-out of the automatic enrollment default; higher-paid participants do so more quickly
- Default fund allocation is more sticky than the default contribution rate
- Movements away from the default fund are incomplete
- The default fund also impacts the asset allocation choices of employees not subject to automatic enrollment

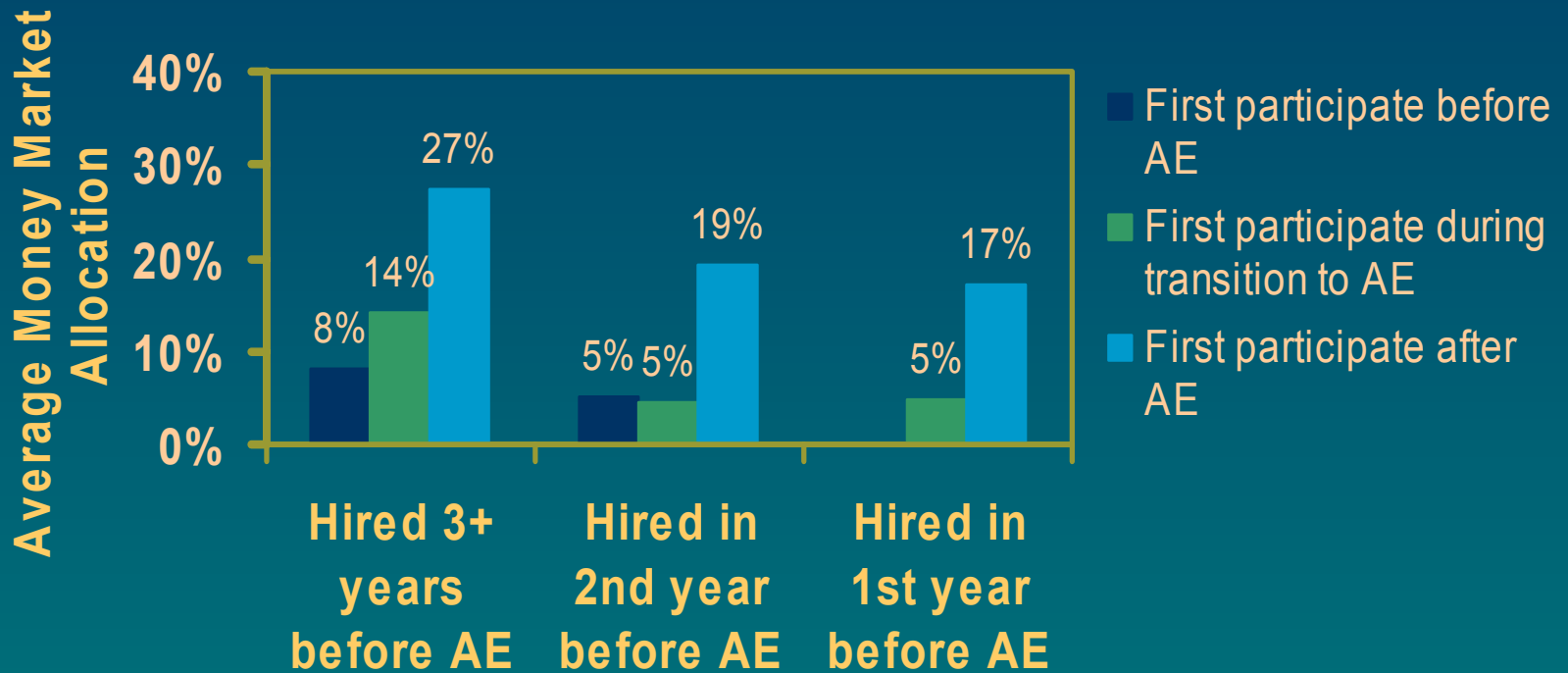
Default Savings Behavior and Tenure: Company A



Asset Allocation of 401(k) Participants: Company B



Asset Allocation by Date of Initial Participation for Employees Not Subject to Automatic Enrollment (Company B)



Explaining the Findings

Automatic Enrollment and 401(k) Savings Behavior: Summary of Key Findings

- AE dramatically increases 401(k) participation
- 401(k) participation increases with tenure without AE; relatively constant with AE
- Default savings behavior under AE
- Default savings behavior declines with tenure
- Movements away from the default are incomplete
- The defaults have some impact on asset allocation of participants not subject to automatic enrollment

Explanations: Status Quo Bias

- Status quo bias resulting from employee delay in making/implementing an “optimal” savings decision
- Consistent with:
 - High 401(k) participation under AE
 - Initially low but increasing 401(k) participation rates without AE
 - Default savings behavior under AE
 - Movements away from the default over time

Explanations: Status Quo Bias

- Transactions costs → status quo bias
 - Direct costs of effecting a change
- When will transactions costs lead to delay?
 - Benefit of delay—put-off incurring transaction costs
 - Cost of delay
 - ❖ Foregone tax benefits
 - ❖ Employer match
- Evidence
 - The higher paid enroll in the 401(k) plan more quickly without AE
 - The higher paid move away from the default more quickly under AE

Explanations: Status Quo Bias

- Transactions costs → status quo bias
 - Complexity of the decision → indirect cost of learning about and evaluating the savings options
- AE decreases the complexity of the 401(k) savings decision by decoupling the participation decision from the investment decision
- Evidence
 - Increasing participation with tenure without AE consistent with time needed to collect and evaluate complex decision
 - Participation/tenure gradient steeper for younger employee who are less financially literate
 - No delay in opt-out decision under AE—simple comparison of non-participation vs. participation at the AE default

Explanations: Status Quo Bias

- Self-control problems → status quo bias
 - Individuals persistently put off enrolling in the 401(k) plan until tomorrow, mistakenly believing that they will in fact follow through instead of engaging in further delay
- Difficult to empirically disentangle rational, transaction cost motivated delay from behavioral, self-control motivated delay
- Suggestive evidence
 - 401(k) participation rate without AE fails to reach that under AE even at very high levels of tenure
 - Persistence of the default contribution rate under AE by employees who leave employer match dollars on the table—hard to rationalize delay here as resulting from complexity or relatively minor direct transactions costs

Explanations: Status Quo Bias

- Simplification strategies → status quo bias
 - When faced with a complicated array of choices, agents will try to reduce the choice set by ignoring some options altogether
 - The default, however, is unlikely to be dismissed
 - This gives the default an asymmetric position relative to other outcomes
- Evidence
 - Stickiness of default contribution rate
 - Stickiness of default investment allocation
 - Incomplete movements away from the default investment allocation when AE participants do make changes

Explanations: Anchoring

- 401(k) participants anchored by default options
 - Defaults serve as an initial reference point
 - Movements away from a reference point tend to be incomplete
- Without AE
 - No investment allocation reference
 - Match threshold serves as a contribution rate reference
- Evidence
 - 401(k) participants under AE who have made 401(k) changes still have a higher fraction of assets invested in the default fund than do participants hired before AE
 - Match threshold is the modal contribution rate before AE

Explanations: Advice

- 401(k) participants view defaults as investment advice on the part of plan sponsors
 - Participating in the plan is the “best thing to do”
 - The default contribution rate is the “best thing to do”
 - The default investment fund is the “best thing to do”
- Evidence
 - 401(k) participants hired before AE have a higher fraction of assets invested in the AE default fund if they first became plan participants after AE relative to employees with similar tenure who first became participants before AE

Other 401(k) Defaults:
Automatic Cash Distributions
and Matches in Company Stock

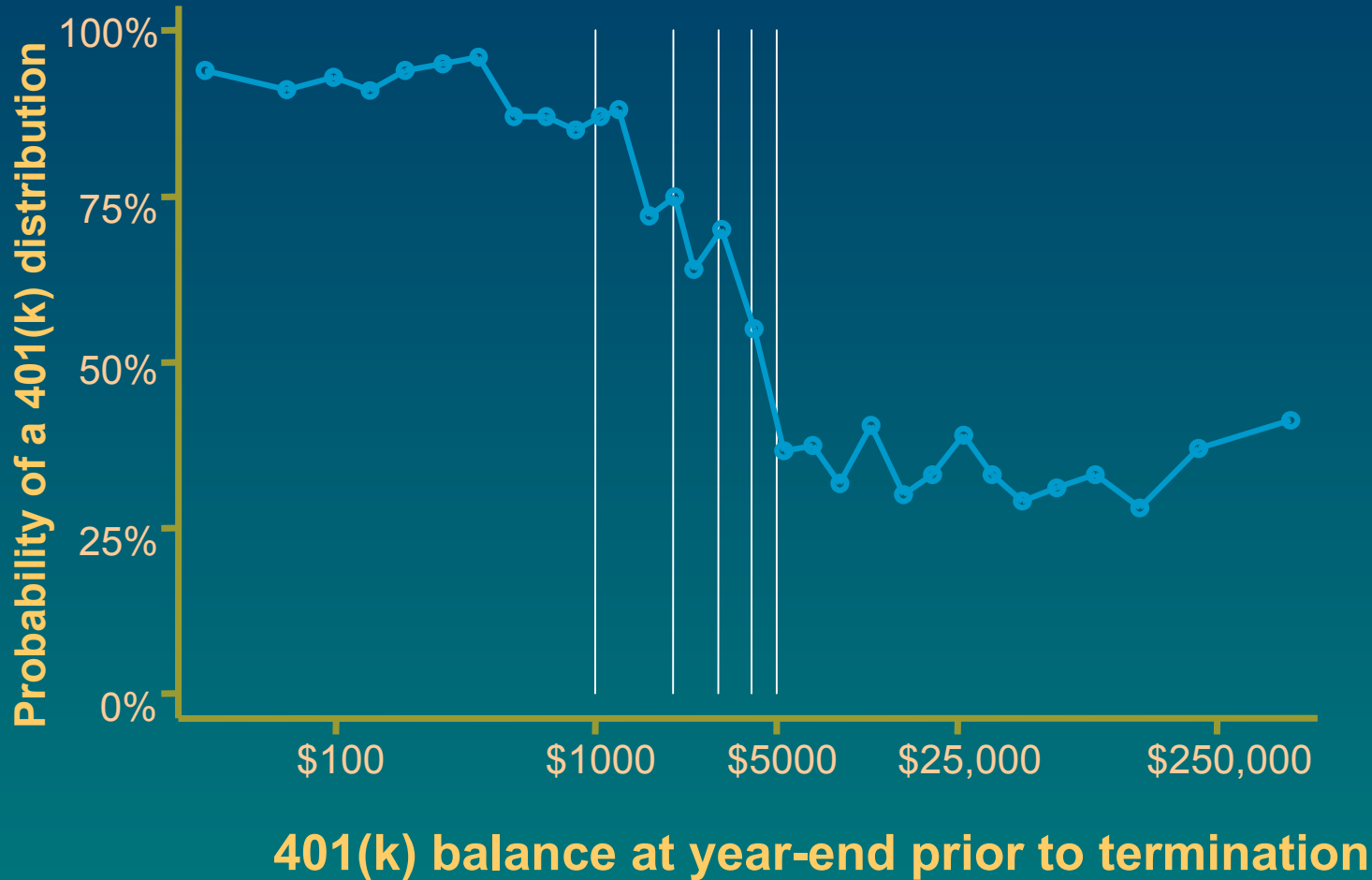
What Happens to 401(k) Balances When Employment Terminates?

- Large balances (>\$5000)
 - Default: balances remain at the former employer
 - Terminated employees can request a cash distribution or rollover into an IRA or other qualified plan
 - Empirically, balances tend to remain at the former employer

What Happens to 401(k) Balances When Employment Terminates?

- Small balances (<\$5000)
 - Employers can choose to retain small balances unless terminated employees chooses otherwise
 - **OR**, employers can choose to compel a cash distribution if the former employees do not request some type of rollover
 - **Default: Cash distribution**
 - Empirically, cash distributions of small balances tend to be consumed rather than rolled over into another form of retirement savings

Balance Size and the Likelihood of a 401(k) Distribution for Terminated Employees: Company D



Automatic Cash Distributions: Bottom Line

- The default treatment of employers largely determines what happens to the 401(k) balances of terminated employees
 - Large balances (>\$5000) stay with the former employer
 - Small balances (<\$5000) that are subject to an automatic cash distribution are consumed

The Employer Match and Company Stock

- Many companies match employee contributions
- Investment allocation of the match:
 - Option A: employees direct investment allocation
 - Option B: match in company stock but allow employees to immediately diversify
 - Option C: match in company stock but place restrictions on when employees can diversify
 - Age restrictions
 - Tenure restrictions
 - Holding period restrictions

Procrastination vs. Preferences
as Explanations for Delays in 401(k)
Enrollment

401(k) Enrollment Patterns

- Without automatic enrollment, 401(k) participation rates increase with tenure but at a decreasing rate
 - At low levels of tenure, fairly low participation rates
 - Increasing 401(k) participation rates as tenure increases
 - At high levels of tenure, fairly high and stable participation rates
- Do these enrollment patterns reflect procrastination, or preferences?

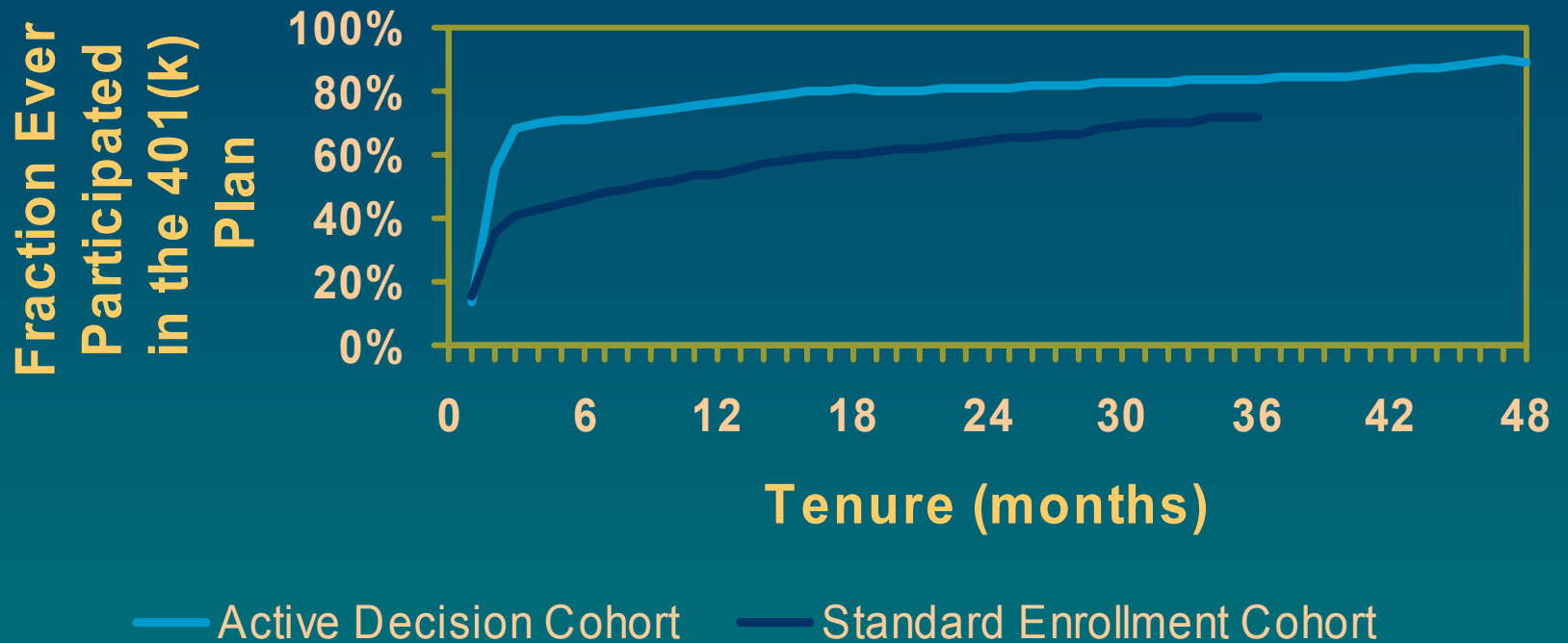
Requiring an *Active* 401(k) Savings Decision

- Company D
- For employees hired from 1/1/1997 to 9/1/1997
 - Immediate eligibility
 - Initial 30-day enrollment period; subsequent enrollments on January 1 of each calendar year
 - During 30-day enrollment period, **must either elect or decline 401(k) participation** (form)

Requiring an *Active* 401(k) Savings Decision

- Company D
- For employees hired after 11/24/1997
 - Immediate eligibility
 - Daily enrollment
 - **Affirmative election required**—elimination of the form requiring either an affirmative or a negative election of 401(k) participation

Requiring an Active Savings Decision and 401(k) Participation



The Effects of Requiring an Active 401(k) Savings Decision

- Employees initiate 401(k) participation much earlier when required to make a decision vis-a-vis when they can delay making a decision
 - Delays in 401(k) enrollment largely result from procrastination and not from preferences for later vs. earlier 401(k) enrollment
- Other 401(k) savings outcomes (e.g., contribution rates, investment allocation) not markedly different

Conclusions

Conclusions

- Seemingly “neutral” plan design options can, in fact, not be neutral at all if they affect how employees perceive problems and evaluate alternatives, even if the alternative themselves remain the same
- Defaults Matter
 - Status quo effects
 - Framing effects
 - Advice effects
- Defaults can impact outcomes in economically meaningful ways
- Governments and other institutions can potentially improve economic outcomes by choosing “optimal” defaults

Conclusions

- Promoting individual decision-making can reduce a tendency to procrastinate
 - Deadlines
 - Requiring a choice
- In the context of 401(k) savings
 - Increases participation vis-a-vis standard process
 - Participation not as high as with automatic enrollment
 - Little impact on other aspects of savings outcomes (contribution rates/investment allocation)
- More generally, promoting decision-making avoids much of the “paternalism” associated with specifying a default