# Defined Contribution Plans for Passive Investors

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July 5, 2004

# Executive summary

- 401(k) savers follow the path of least resistance
  - Automatic enrollment dramatically increases 401(k) participation
  - Requiring employees to make an active decision about 401(k) participation leads to large enrollment increases
  - Mandatory cash distributions from 401(k) accounts tend to get consumed rather than rolled over into IRAs
  - And many other examples…
- Financial education doesn’t fix this problem
- These are big mistakes: low-saving employees leave hundreds of dollars in employer match money on the table each year
- Firms and governments shape our lives by framing our choices
- We list ten principles for good 401(k) design

# Motivating the problem: A survey

**Employees have a hard time carrying out the actions they say they want to take.**

- Survey
  - Mailed to 590 employees (random sample)
  - 195 usable responses
  - Matched to administrative data on actual savings behavior
- Consider a population of 100 employees
  - 68 report saving too little
  - 24 of 68 plan to raise 401(k) contribution rate in next two months
  - Only 3 of 24 actually do so in the next four months

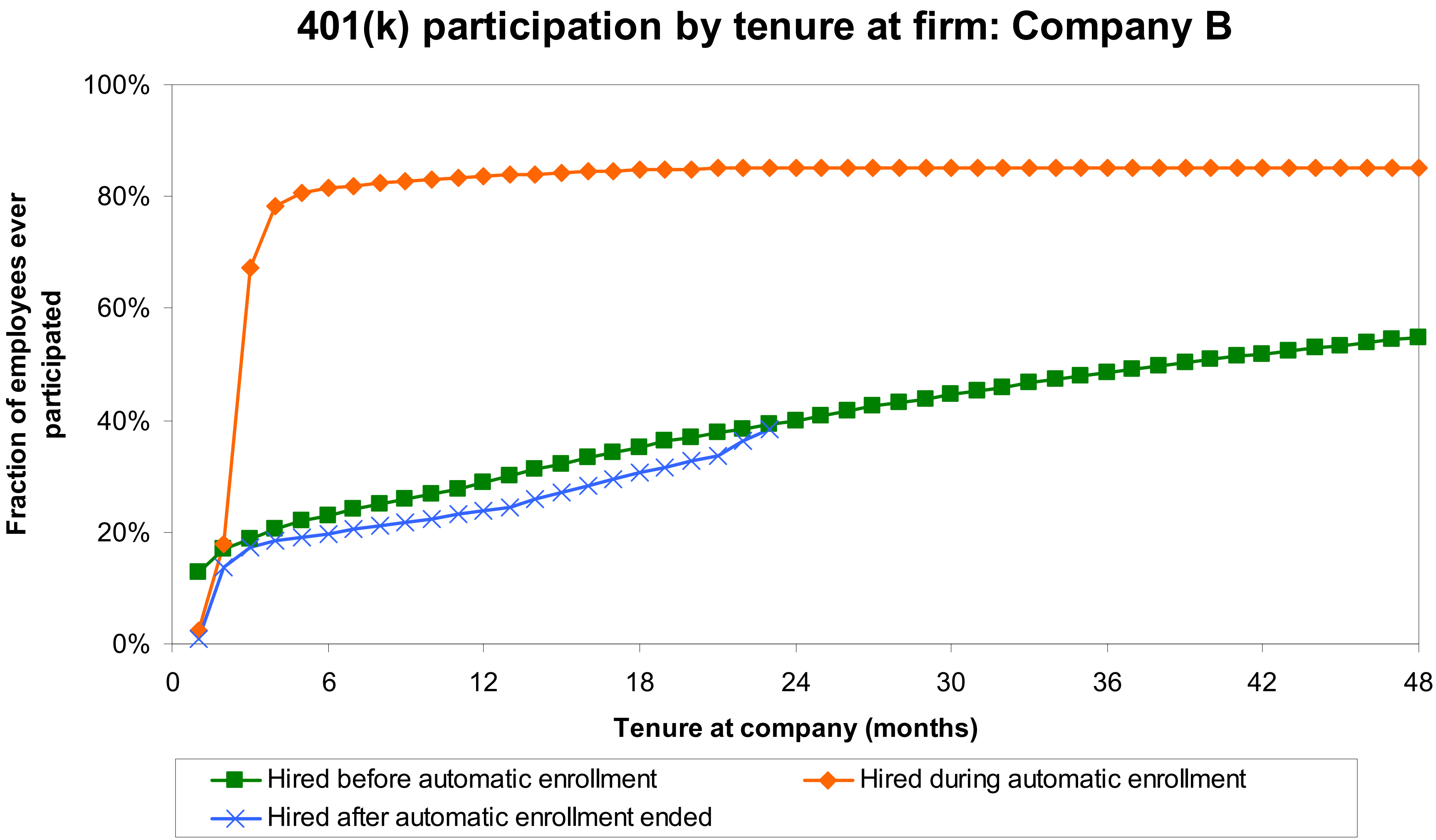
# Most companies require employees to initiate 401(k) enrollment themselves.

- Welcome to the company
- If you want to enroll in the 401(k), call this phone number
- If you don't do anything, you will not be enrolled in the 401(k)

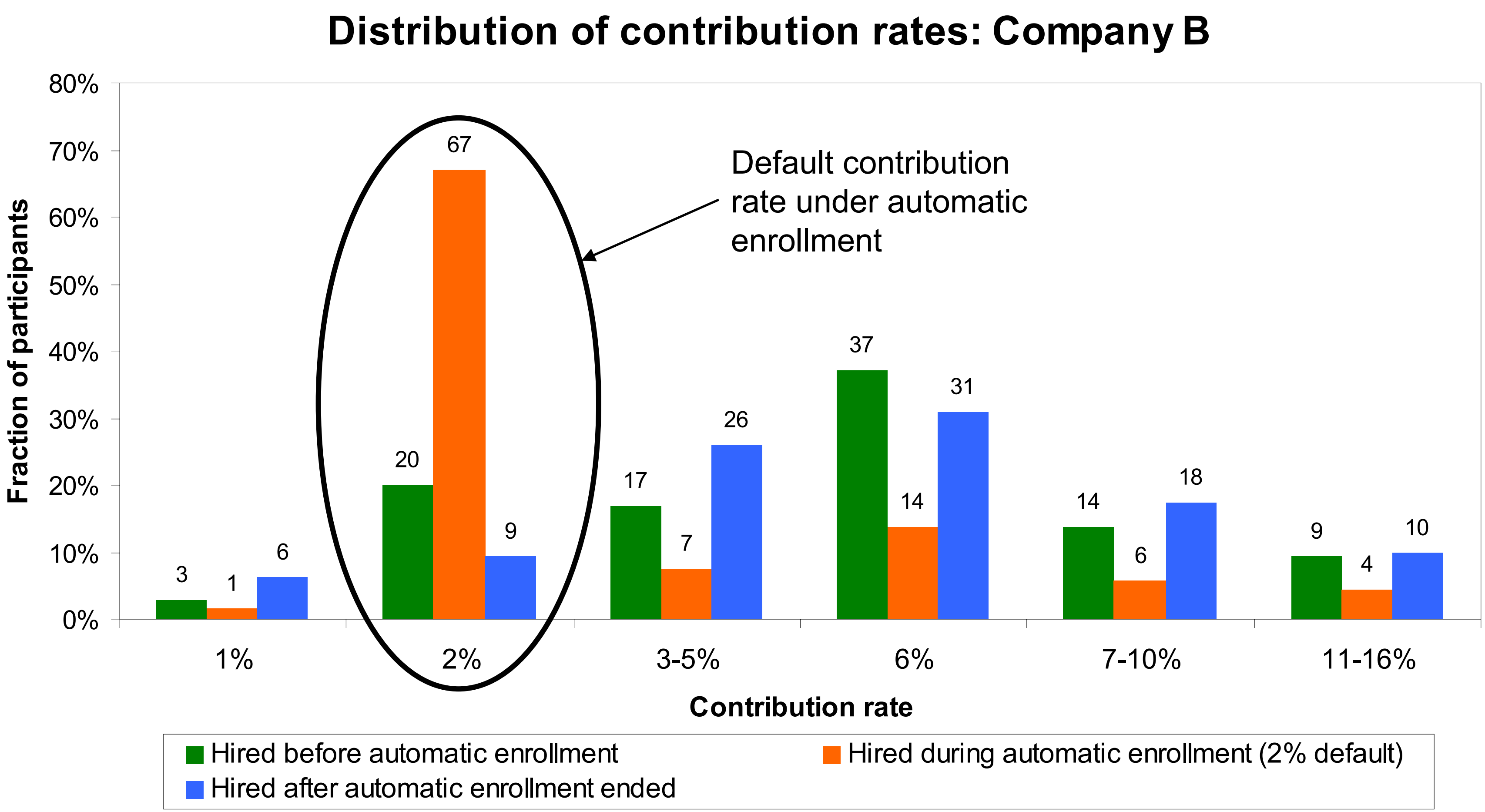
# Automatic enrollment signs employees up for the 401(k) plan unless they opt out.

- Welcome to the company
- If you don't do anything
  - You are automatically enrolled in the 401(k) at a 2% savings rate
  - Your contributions will go into a money market fund
- Call this phone number to opt out of enrollment or change your investment allocations

# Automatic enrollment dramatically increases participation.

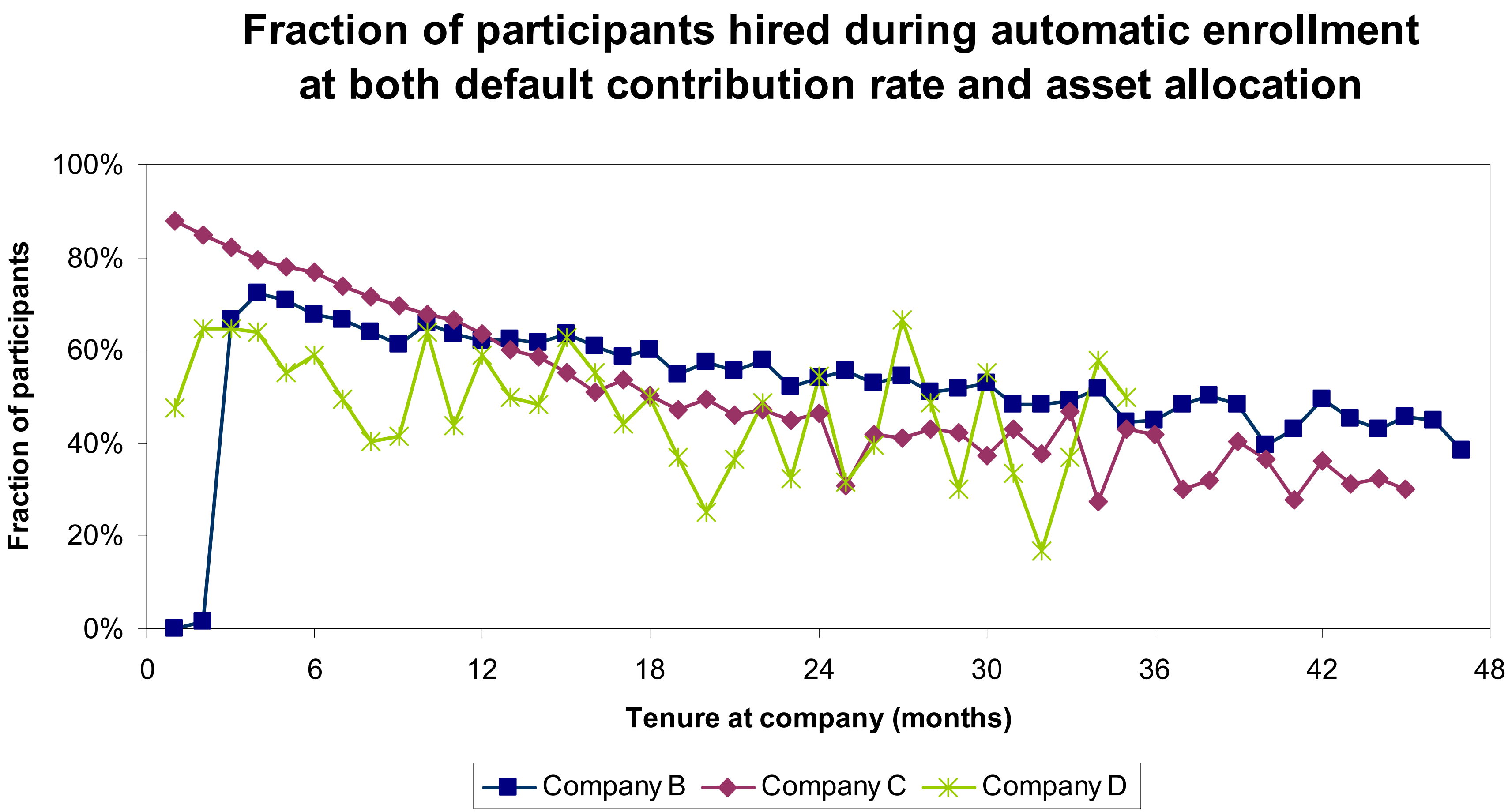


# Employees enrolled under automatic enrollment cluster at the default contribution rate.



## The persistence of defaults

# Participants stay at the automatic enrollment defaults for a long time.



# Automatic enrollment: Conclusions

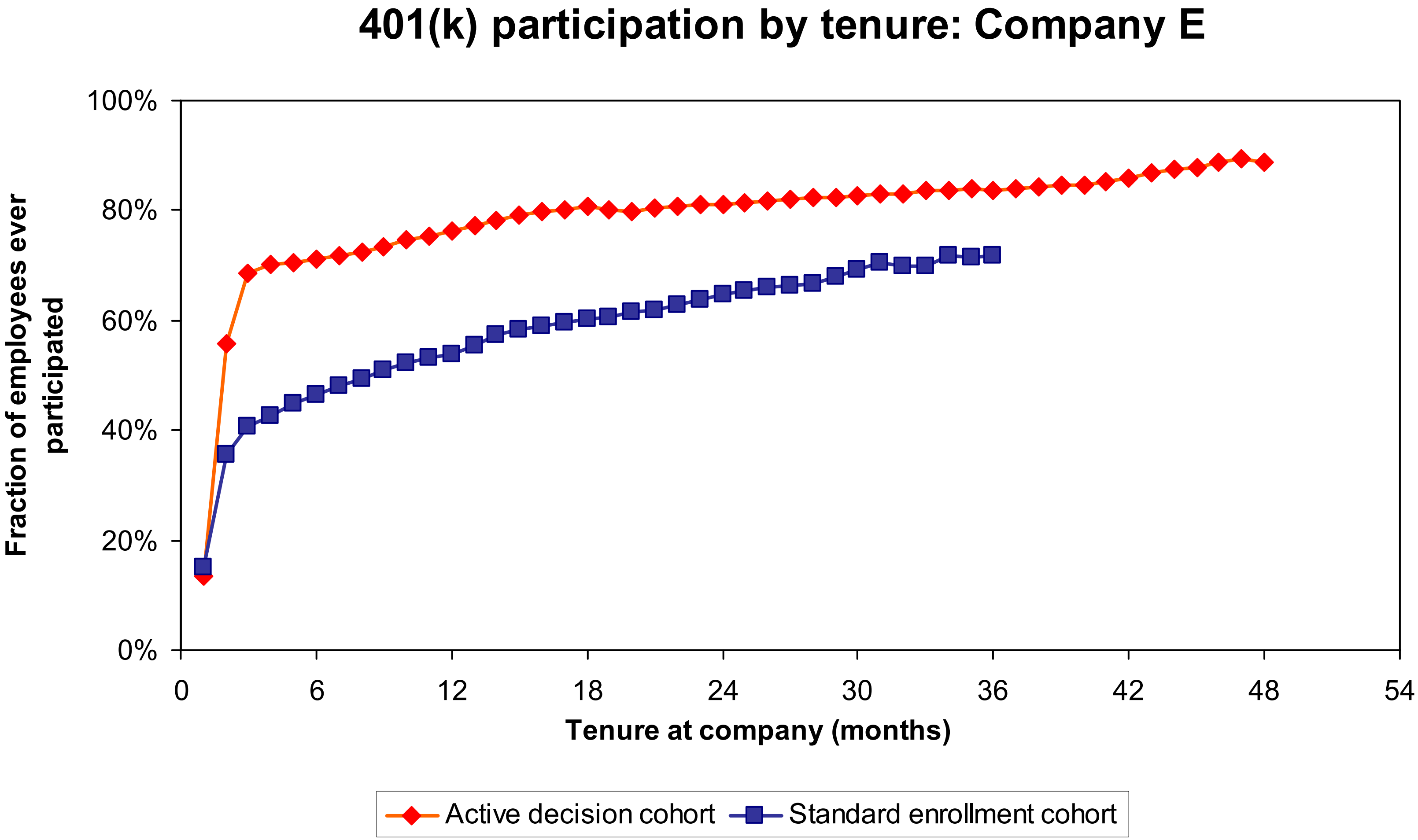
- Automatic enrollment dramatically increases 401(k) participation
- Participants hired under automatic enrollment tend to stay at the automatic enrollment defaults
- Bottom line: Employers need to choose defaults that facilitate retirement savings goals of employees who follow the path of least resistance. Possibilities:
  - Higher initial default contribution rates
  - Contribution rates that ratchet up with tenure by default
  - More aggressive default funds
  - Defaults tailored to each employee
  - Defaults that kick in with a delay

**Active decision mechanisms require employees to make an active choice about 401(k) participation.**

- Welcome to the company
- You are *required* to submit this form within 30 days of hire, *regardless* of your 401(k) participation choice
- If you don't want to participate, indicate that decision on the form and submit it
- If you want to participate, indicate contribution rate and asset allocation on form and submit it
- Being passive is *not* an option

# Active decision effect on participation

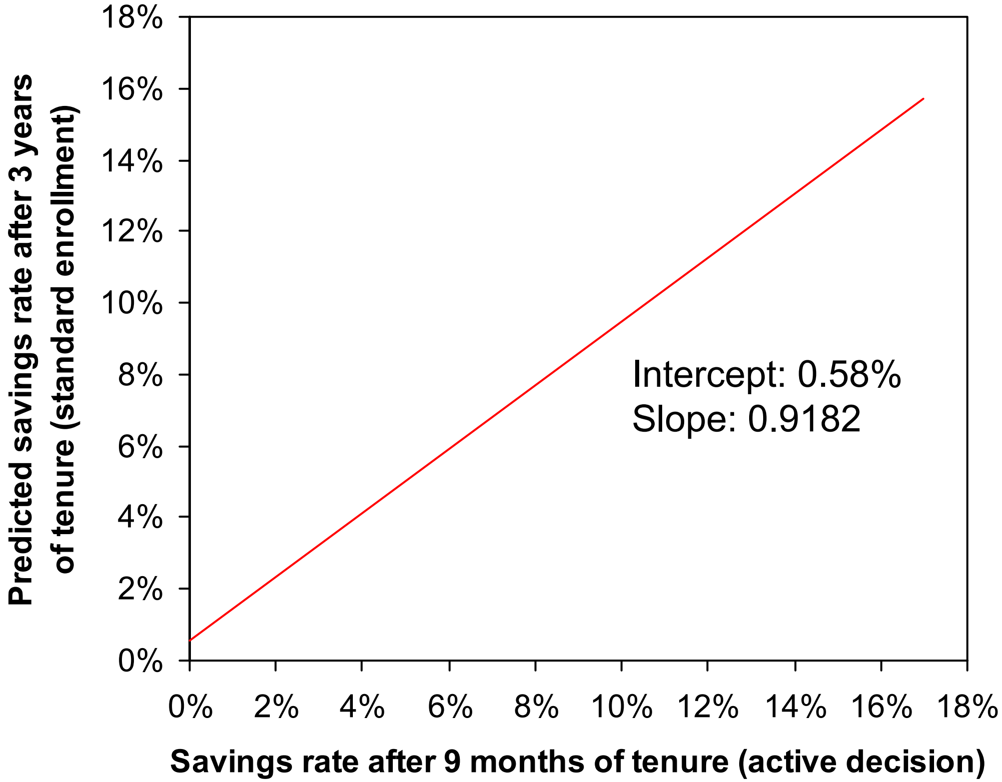
## 401(k) participation increases substantially when employees are not allowed to be passive about savings.



# Active decision effect on savings rates

## Employees savings rates at 9 months after hire are what they would have otherwise chosen 3 *years* after hire.

**Predicted standard enrollment savings rate at 3 years vs. actual active decision savings rate at 3 months**




**Active decision avoids herding employees into a one-size-fits-all default**

# Active decision: Conclusions

- Active decision significantly raises 401(k) participation, but not as much as automatic enrollment
- Active decision doesn’t induce clustering of choices around defaults
- Under active decision, employees quickly choose savings rates that they otherwise would have taken three years to get to
- Because active decision requires that passivity not be an option, it is important that the deadline for indicating a decision is enforced
- Extension: Can require employees to make an active decision about their 401(k) every year, rather than just at hire
- Bottom line: Active decision is an attractive alternative to defaults. At the end of this presentation, we will discuss when one is more appropriate than the other.

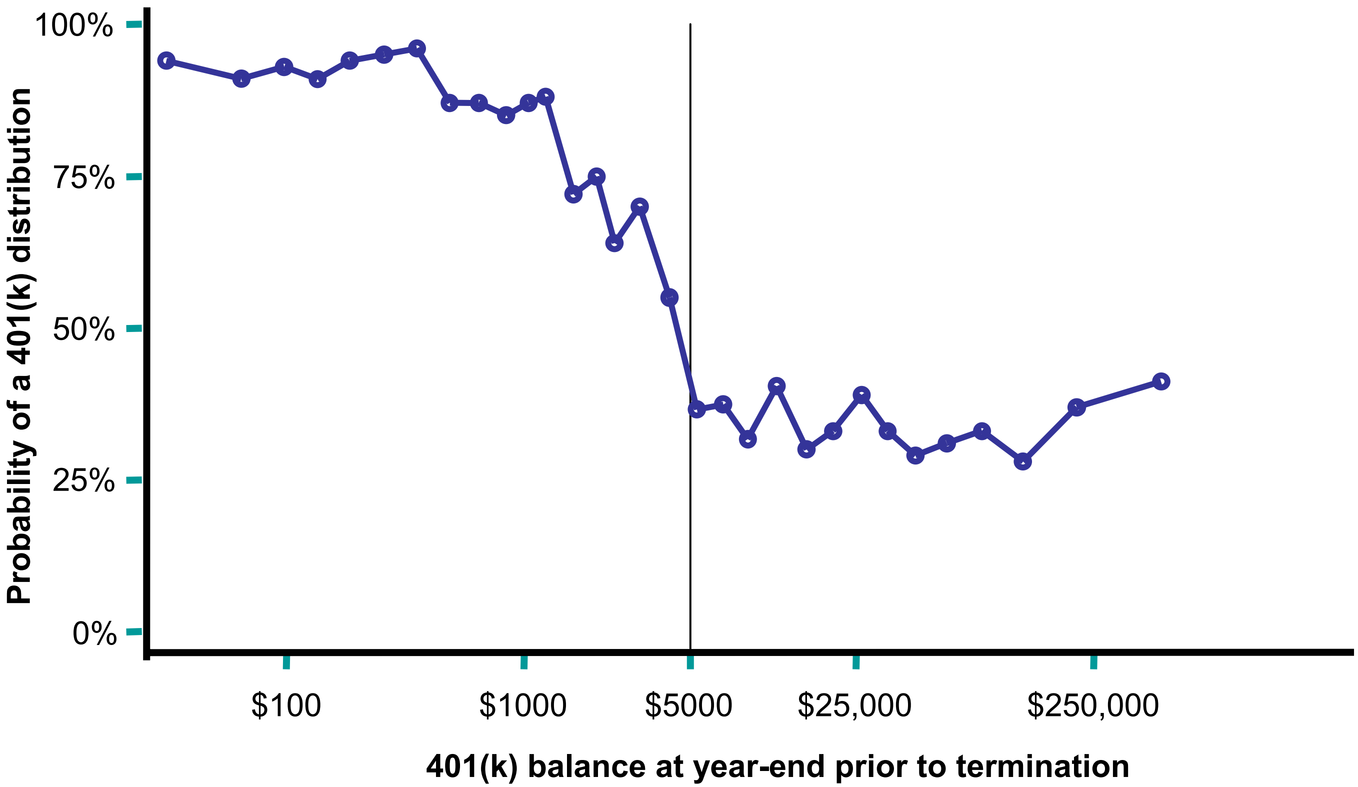
# What happens to 401(k) balances when an employee leaves?

- Large balances (>$5000)
  - Default: balances remain at former employer
  - Terminated employees can request a cash distribution into an IRA or other qualified plan
  - In practice, balances tend to remain at the former employer
- Small balances (<$5000)
  - Employers can choose to retain small balances unless terminated employees choose otherwise
  - **OR** employers can choose to compel a cash distribution if the former employees do not request a rollover into an IRA or another 401(k)

    ⇨ **Default is a cash distribution**
  - In practice, cash distributions of small balances tend to be consumed rather than rolled over into another form of retirement savings

# The probability of a cash distribution that isn't rolled over changes dramatically across the $5,000 balance threshold.

## Balance size and the likelihood of a cash distribution for terminated 401(k) employees: Company D




Note: The probability of a distribution gradually rises as balances fall from $5,000 to $1,000, rather than jumping discretely at $5,000, because the balances on the horizontal axis are balances at the prior year-end. Hence, an account with $4,000 in it at the prior year-end has some probability of being above $5,000 at the time of termination.

# Automatic cash distributions: Conclusions

- The default treatment of employers largely determines what happens to the 401(k) balances of terminated employees
  - Large balances (>$5,000) stay with the former employer
  - Small balances (<$5,000) that are subject to an automatic cash distribution are consumed

- Bottom line: Employers can further promote retirement savings by changing the default treatment of small balances
  - Maintain small balances instead of subjecting them to a cash distribution
  - Lower the threshold for an automatic cash distribution
  - Automatically roll over small balances into an IRA unless terminated employee actively elects otherwise

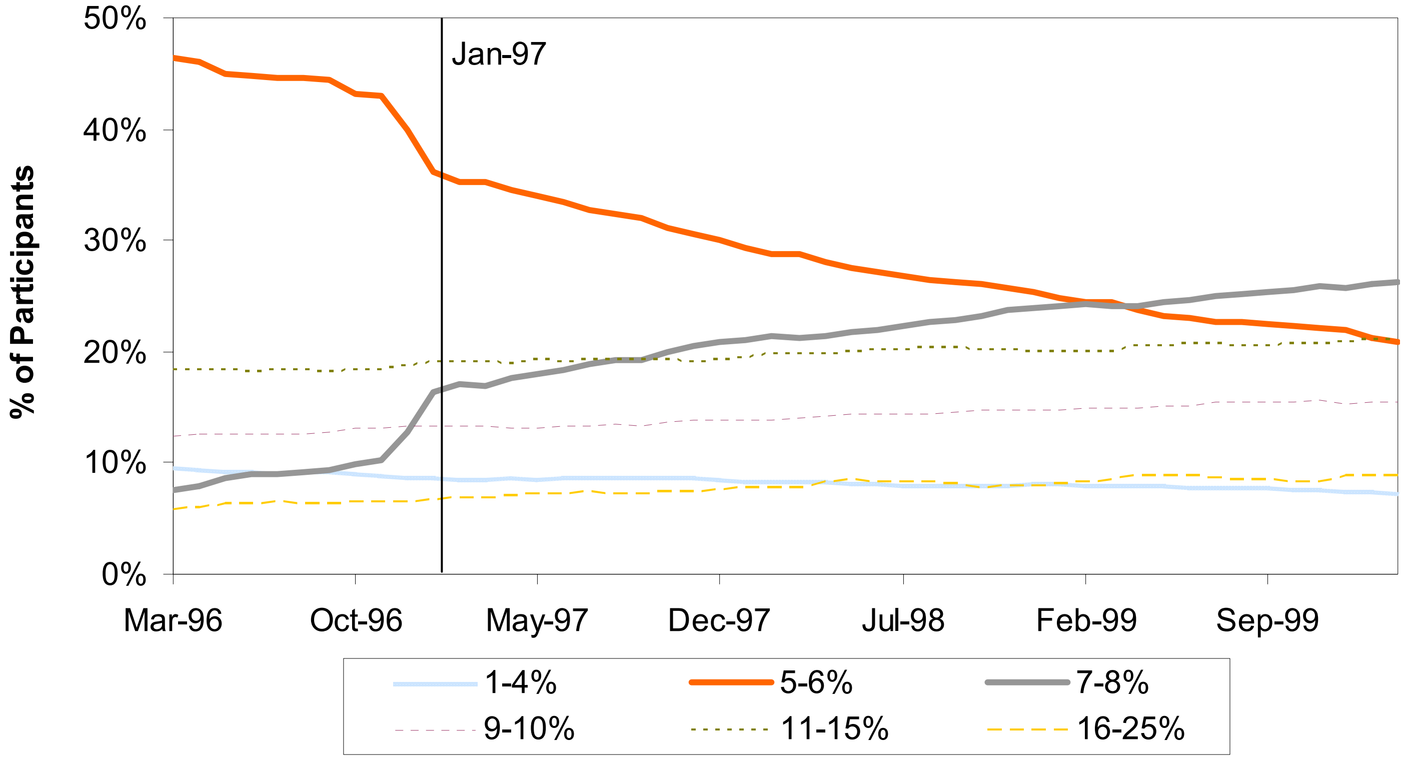
## Employer match threshold and contribution rates

**We present a case study of a company that changed its employer match threshold.**

- Matching at Company G
  - –Through 12/31/1996
    - -50% match rate
    - -Matched contributions up to 6% of salary (5% if unionized)
  - –Increased match threshold on 1/1/1997
    - -50% match rate
    - -Matched contributions up to 8% of salary (7% if unionized)

# Changing the match threshold caused employees to slowly move from the old threshold to the new threshold.

**401(k) contribution rate response to match threshold change: Company G**



# Employer match thresholds: Conclusions

- Changing the employer match threshold moves employees from old threshold to new threshold
  - Proportion of non-threshold contribution rates remains relatively unchanged
- Employee savings rates are sticky: adjustment to new savings rates takes years
- Bottom line: Increasing the match threshold increases employee savings rates, but slowly
  - Match threshold seems to serve as a focal savings rate for many employees
  - Conjecture: 50% match up to 6% threshold will induce higher savings than 100% match up to a 3% threshold

# Other examples of passive decision-making

- Automatic savings escalators increase savings rates (Benartzi and Thaler)

- 401(k) participants often randomly pick mutual funds from their plan menu and allocate money equally among them (Benartzi and Thaler)

- Employer matches made into company stock tend not to get moved into other investments, even when there are no restrictions on diversification

# Can financial education help overcome passivity?

- Problems with most studies of financial education effects:
  - Education is not randomly assigned. So maybe observed effect arises because people who show up to seminars were going to make good decisions anyway.
  - Effect measured by asking people what they remember doing, or what they plan on doing
    - People have very bad memories
    - We have seen that people are not very good at following through on their savings plans

# Company E offered financial education to its employees.

- Seminars presented by a financial education company
- Curriculum: Setting savings goals, asset allocation, managing credit and debt, insurance against financial risks
- Seminars offered throughout 2000
- Linked data on individual employees' seminar attendance to administrative data on actual savings behavior before and after seminar

# The difference in behavior between attendees and non-attendees is positive but small.

| | Seminar attendees | | Non-attendees |
|---|---|---|---|
| | % planning to make change | % actually made change | % actually made change |
| **Those not in 401(k) plan** | | | |
| Enroll in 401(k) Plan | 100% | 14% | 7% |
| **Those already in 401(k) plan** | | | |
| Increase contribution rate | 28% | 8% | 5% |
| Change fund selection | 47% | 15% | 10% |
| Change asset allocation | 36% | 10% | 6% |

# Financial education: Conclusions

- Financial education does affect 401(k) savings behavior
- BUT the effects are not large
- Seminar attendees have good intentions to change their 401(k) savings behavior, but most do not follow through
- Bottom line: financial education alone will not dramatically improve the quality of 401(k) savings outcomes
- We have also studied the effect of the Enron/Worldcom/Global Crossing scandals on employer stock holdings
  - We find minimal diversification out of employer stock in reaction to these news stories

# Many employees fail to pick up large amounts of free money in their 401(k).

- Reaping employer match is a high, instantaneous, and risk-free return on investment

- Therefore, not contributing up to employer match threshold is almost as bad as walking away from free money lying on the sidewalk

- Loss is especially egregious if you are over 59½ years old
  - Have the most experience, so should be savviest
  - Retirement is close, so should be thinking about saving
  - Can withdraw money from 401(k) without penalty, so contributing is riskless

- We study seven companies and find that on average, 39% of employees over 59½ years old are not fully exploiting their employer match
  - Average loss is $460 every year, or 1.6% of salary

# Implications of passive decision making

- For employers
  - Employers have a large measure of control over their employees' savings choices simply by how they structure their 401(k) plans
- For policymakers
  - Government laws and regulations can be used to promote the socially optimal use of defaults

# Ten principles for defined contribution design

1) If an employee decision is not very important, then set a default (e.g. issue cash distributions for balances <$1,000)

2) If employee preferences are nearly homogeneous, set a default

3) If employee preferences are heterogeneous and employees know enough to make good decisions for themselves, require an active decision (e.g. 401(k) participation, 401(k) contribution rate)

4) If employee preferences are heterogeneous and employees don’t know enough to make good decisions for themselves, set a default (e.g. asset allocation)

5) Automatically update decisions (e.g. default rebalancing, default lifecycle portfolio adjustment, default diversification out of employer stock, default contribution rate escalators) or regularly require updated active decisions

# Ten principles for defined contribution design (continued)

6) Replace the employer match with automatic enrollment (or active decision enrollment) and make non-contingent employer contributions to the plan.

7) Only offer mutual funds with low fees (e.g., <50 basis points)

8) Make mutual fund fees salient and easy to understand

9) Don’t offer a large menu of funds or exotic funds

10) Don’t expect financial education alone to solve your employees’ problems

# Government's role

- Require all companies to use either automatic enrollment or active decision enrollment
- Discourage company stock holding…
  - Require all companies to implement default rebalancing out of employer stock
  - Restrict matching in company stock
  - Or ban company stock outright from 401(k)
- Create new regulations encouraging individualized defaults

# Further reading

## This presentation is based on the following papers.


Choi, Laibson, and Madrian (2004). “$100 Bills on the Sidewalk: Violations of No-Arbitrage in 401(k) Plans.” Harvard University mimeo.

Choi, Laibson, Madrian, and Metrick (2004). “Active Decisions: A Natural Experiment in Savings.” Harvard University mimeo.

Choi, Laibson, Madrian, and Metrick (2003). “Optimal Defaults.” *American Economic Review* 93, pp. 180-185.

Choi, Laibson, Madrian, and Metrick (2002). “Defined Contribution Pensions: Plan Rules, Participant Choices, and the Path of Least Resistance.” In James Poterba, editor, *Tax Policy and the Economy* 16, pp. 67-114.

Choi, Laibson, Madrian, and Metrick (2001). “For Better or For Worse: Default Effects and 401(k) Savings Behavior.” In David Wise, editor, *Perspectives in the Economics of Aging*, forthcoming.