

# Two Discussions Prepared for the 2005 Annual RRC Conference

## Discussion One:

\$100 Bills on the Sidewalk:  
Suboptimal Savings in 401(k) Plans  
Suboptimal Savings in 401(k) Plans

## Discussion Two:

The Effects of Portfolio Choice  
on Retirement Wealth Outcomes  
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on Retirement Wealth Outcomes

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# Discussion One

## \$100 Bills on the Sidewalk: Suboptimal Savings in 401(k) Plans

by

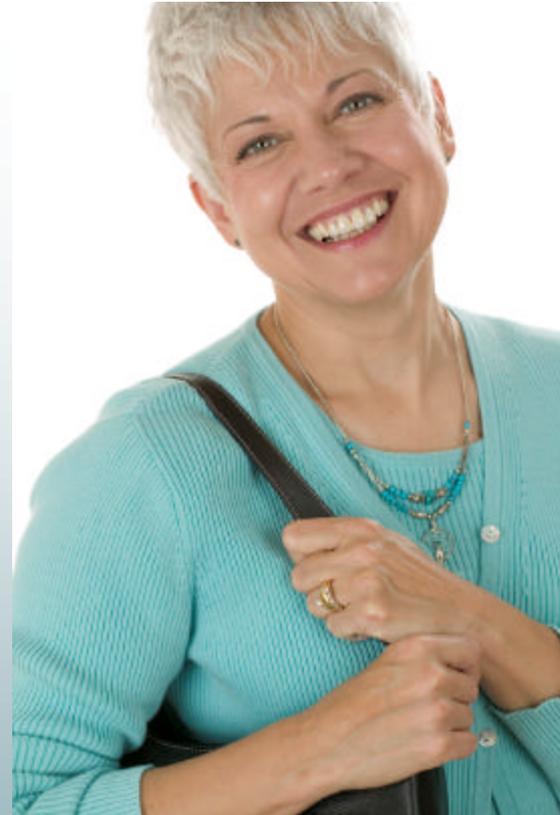
James J. Choi, David Laibson, and Brigitte C. Madrian

# Goals of this Paper

- To study a subset of 401(k) participants who have the opportunity to take advantage of an arbitrage opportunity, called **“the withdrawal strategy”**
  - ▶ These participants are:
    - over 59 ½ years old
    - permitted to make discretionary, penalty-free, in-service 401(k) withdrawals
    - offered an employer match
- To investigate through a combined survey/field experiment whether providing information to eligible individuals about “the withdrawal strategy” will cause them to take advantage of this opportunity

# Summary of the “Withdrawal Strategy”: Authors’ Assumptions

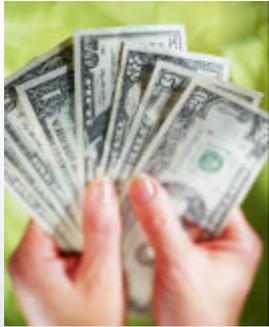
- 60-year-old employee who does not contribute to her 401(k) plan
- Company matches contributions dollar-for-dollar up to 5% of her salary
- Bi-weekly salary is \$2,000



# Summary of the “Withdrawal Strategy”

401(k) Account

1.



Con  
\$2,0  
weel

2.



Em

3.

In one year, participant has an extra \$2,600 in  
their 401(k) account



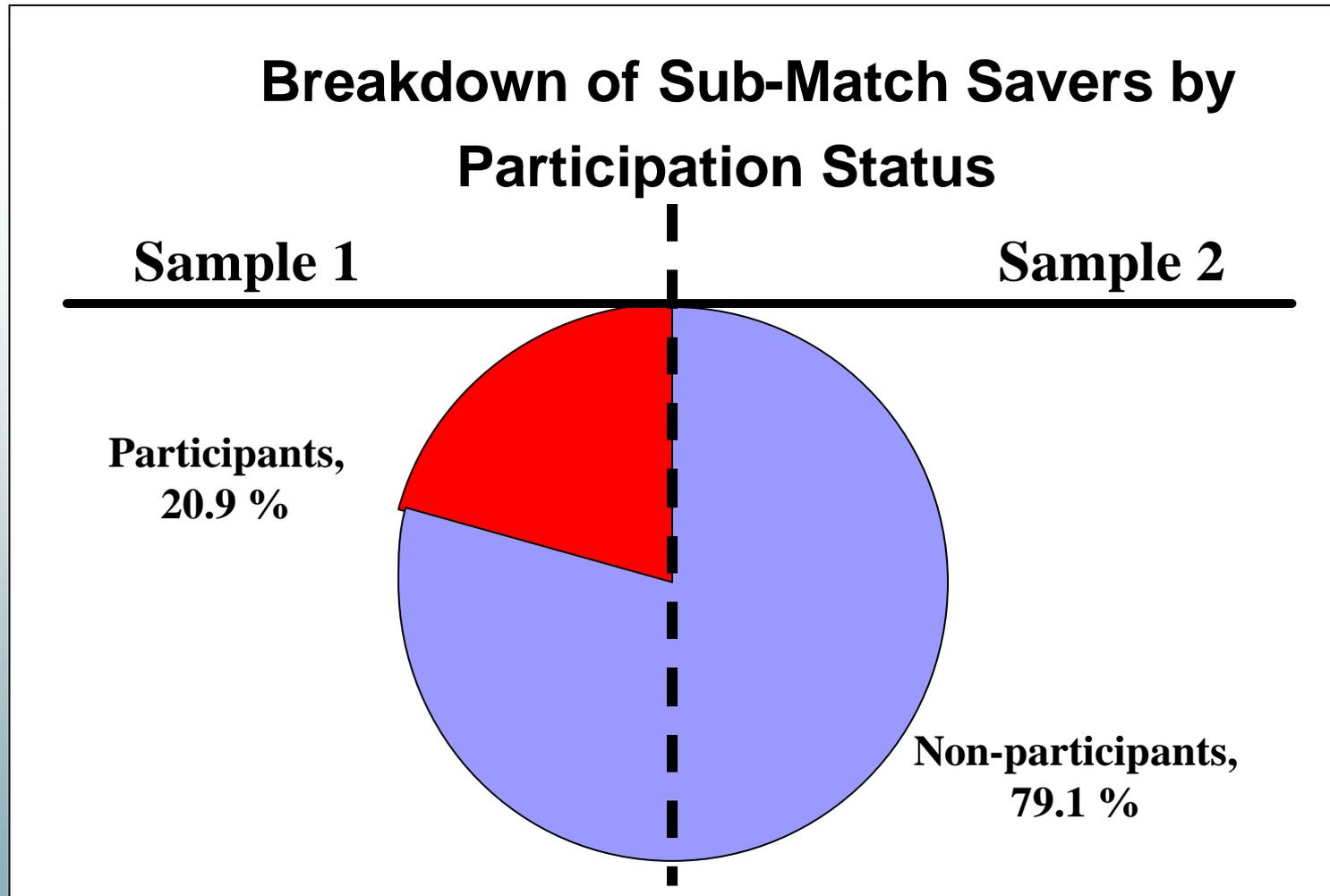
# Important Findings of the Paper

- Over half of the participants (56.7%) over 59 ½ years old contributed below their match threshold
- The average foregone match in 1998 was over \$256 (1.3% of pay)
- The field experiment demonstrated that providing information about the foregone match did not successfully increase subsequent contribution rates
  - ▶ Sub-match savers in the treatment group only increased contribution rates by 1/10 of one percent compared to the control group

# General Discussion of the Findings

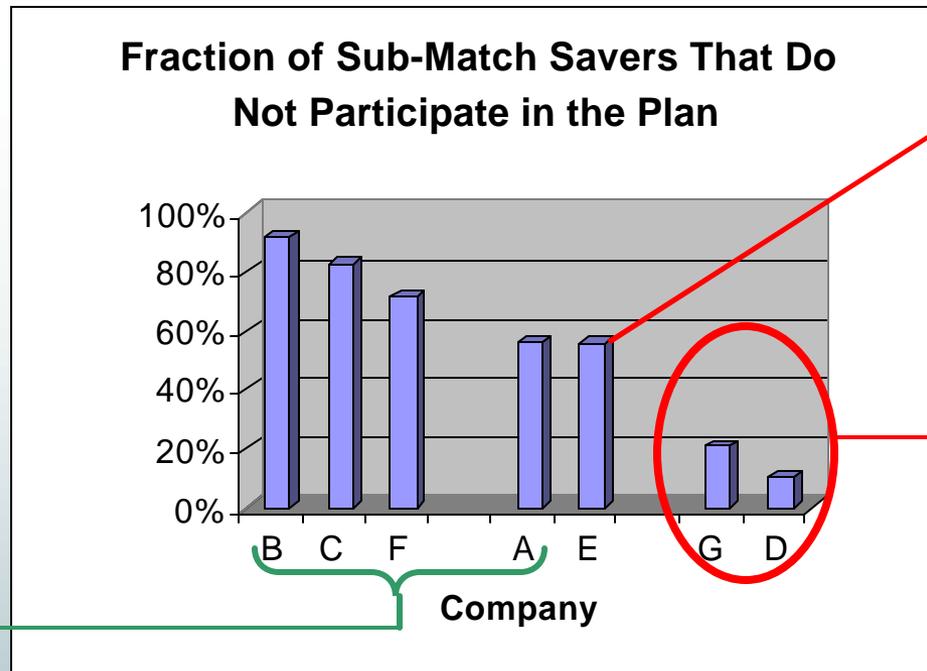
- This paper was well thought out and executed
- The authors should be commended for identifying a unique arbitrage opportunity that clearly dominates other savings strategies
- This paper demonstrates the value that survey/field experiments add to standard empirical analysis
- The survey results improve our understanding of the behavioral motivations behind this investment decision
- The results of the field experiment highlight the challenges faced by financial education programs and the need for further research in this area

# Question 1: Does Participation Status Affect the Predictors for Foregoing Matching Contributions?



■ **Suggestion: Repeat the probit analysis** using two separate samples conditioned on the participation status

## Question 2: If liquidity is not the main reason (as the survey results suggest), then why are participants contributing below the threshold?



Company E Match:  
75% on first 2%;  
50% on next 3%

Company D and G Match:  
100% on first 3%;  
50% on next 3%

Companies B,C,F, and A:  
One Tier Matching Formula  
Varying % on the first 3-6%

Some possible explanations include:

- Explanation 1: They are auto-enrolled and anchoring to a default contribution rate below the threshold **X Does not apply to the firms studied in this paper**
- Explanation 2: They are anchoring to the first tier threshold of their firm's multi-tier matching formula
- Explanation 3: They are contributing at what they think is the match threshold
- ...or...

## Explanation 4: They are below the threshold because of inertia and the method they used to set their contribution rate?

- Previous research demonstrates that even small barriers can result in suboptimal behavior
- How the participant initially sets their contribution rate could require frequent adjustments of their contribution rate in the future
- Some plans give the choice of setting contribution rates as a fixed dollar amount **or** as a percent of salary

*"The amount of the salary reduction shall be \$\_\_\_\_\_ per pay period (fixed dollar amount) or \_\_\_\_\_% (percent of salary), which will produce a total contribution that does not exceed..."*

*-Excerpt taken from the College of William and Mary 403(b) Contract*

# Potential Problems with Fixed Dollar Declarations

- Two common events require additional administrative work by employees to maintain their preferred contribution rate
  - ▶ **Event One: Salary Increases** => If the participant wants to contribute at exactly the match threshold and the total dollar limit on contributions is not a concern, they must fill out a new contribution form every time their salary increases
  - ▶ **Event Two: Total Dollar Limit Increases** => If the participant chooses to contribute at the total dollar limit and this limit increases, they must fill out a new form to increase their contributions to the new limit
- This added “work” may result in people under saving over time ... even if they initially took full advantage of their match or contribution limit
- Evidence from a VERY unscientific and informal survey at W&M supports the theory that **event two** leads to under saving

# Back of the Envelope Example: Inertia and Fixed Dollar Declaration

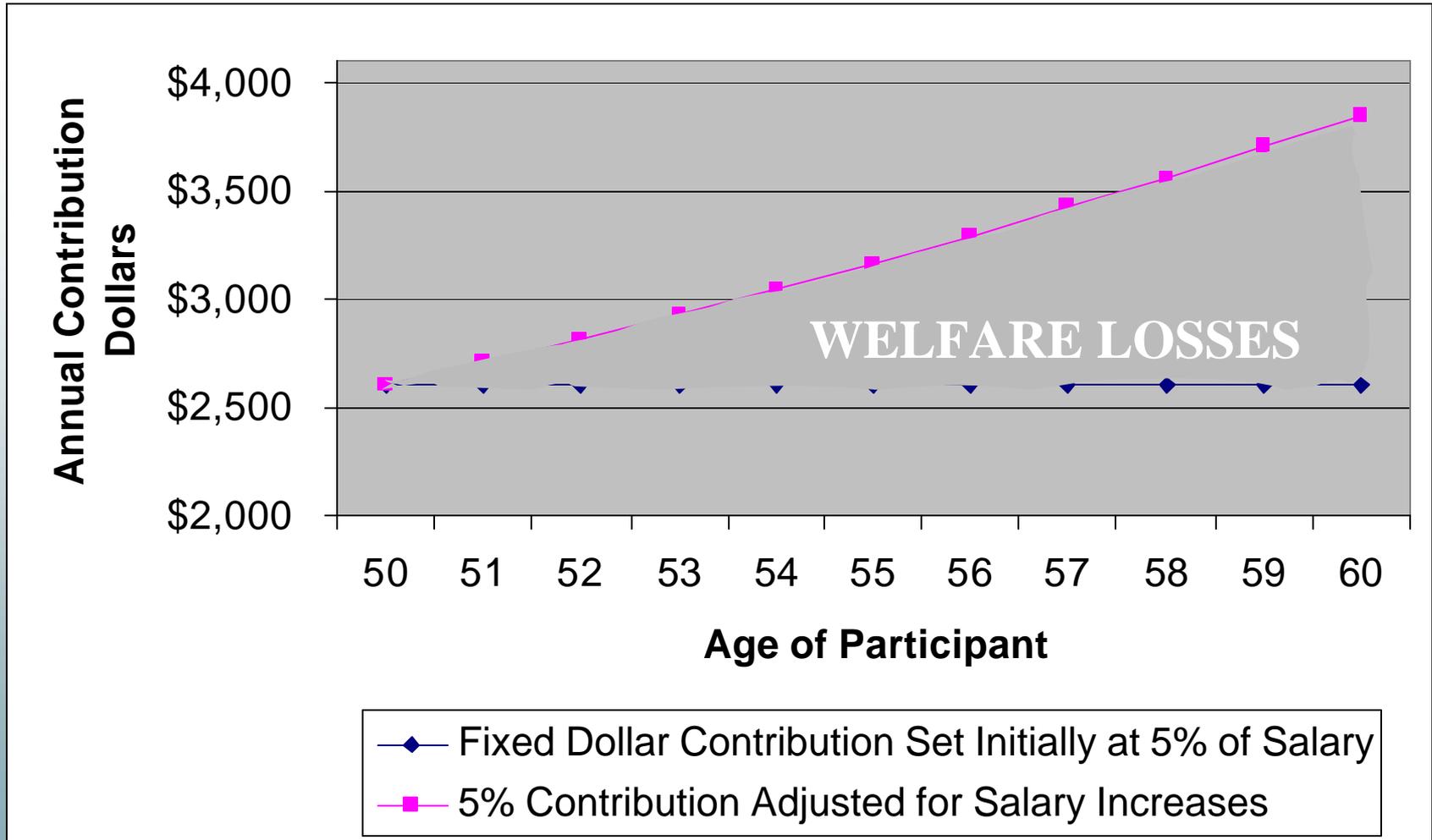
## Employee Assumptions

- Aged 50
- Initial Salary: \$52,000
- Salary Increases by 4% Every Year
- The employee initially sets his contributions to the match threshold
- The employee does not make any changes to his 401(k) elections once he joins

## Plan Assumptions

- Employee may choose to set his contribution rate using either a “fixed dollar” or a “percent of salary” declaration
- Company matches contributions dollar-for-dollar up to 5% of his salary

# Contribution Levels Over Time Based on Contribution Declaration Method



# Could the method for setting the contribution rate be a factor in this paper?

- **Important Question 1:** Do any of the seven plans have the option to select a fixed dollar contribution or a % of salary contribution amount?
- **Important Question 2:** If so, is it possible to determine whether the participants chose their contribution rates as a fixed dollar amount or as a % of their salary?
  - ▶ **Testable Question:** Does the declaration method make a difference in the participant contribution rates relative to the threshold over time? Exploit the data from 1998-2002
  - ▶ **Suggestion for the Probit Analysis:** If several of the studied firms do offer this option, the authors should consider
    - including a control variable for this option in their probit regressions
    - including an individual level variable to proxy for how active the participant is in his plan

# Question 3: Can We Learn More from the Survey Data?

- The authors write “The primary purpose of the survey was to see how much undersavers would increase their 401(k) contributions if the benefits of the employer match and the penalty-free, discretionary withdrawal rules were explained to them.” (p. 16)
- The main purpose of the survey is successfully accomplished but more might be learned from further analysis of the responses
- Although the average results of many of the survey questions are provided in the text, a summary of the **distributions** of all the responses in total and broken down by contribution rate (below or above the threshold) would be interesting
  - ▶ Furthermore, breaking down the responses of the sub-match savers by participation status could yield interesting results

# Examples of Interesting Survey Questions to Explore Further

- There are several questions that address plan knowledge in the survey. From these questions, the authors could **construct a “plan knowledge” score**  
....and ...
  - ▶ **test the difference** in this score between sub-match savers and those above the match
  - ▶ **study** how salary and education level relate to the plan knowledge score

# Suggestions for a More Detailed Analysis of Survey Question 30

**Question 30:** Does your answer to the previous question make you interested in raising your contribution rate to 6% so you won't lose any more employer match money?

- ▶ Yes, I plan to do so in the next \_\_\_\_ weeks
- ▶ No, I'm already contributing 6% or more before-tax to the 401(k) plan
- ▶ No, my losses aren't large enough
- ▶ I don't know

Interesting statistics to calculate from **Question 30**...

- ▶ How many people answered yes and subsequently did change
- ▶ How many people answered yes and subsequently did not change
- ▶ How many incorrectly thought they were contributing 6%
- ▶ How many people answered **Question 21** "I plan to maintain my 401(k) contribution rate" then answered "yes" to Question 30 after learning about the arbitrage strategy?

**Procrastination**

**Lack of plan knowledge**

**Evidence that the information changed intentions**

# Minor Comments

- **Add a New Variable:** Add an interaction variable to the probit regression for participants who are married and male based on Sunden and Surette's (1998) findings
- **Confirm Selection Effect:** The authors assert that the fraction of participants failing to exploit the 401(k) match begins to increase in older participants because of a "selection effect generated by low savers who are less able to afford to retire and thus remain in the labor force longer" (p. 11)
  - ▶ The authors can use their five year panel of data to test whether low savers are staying longer

# More Minor Comments

- **Caution using Self-Perceived Knowledge:** Be careful about using the self-rated financial literacy measure as a proxy for general financial knowledge
  - ▶ We found that the correlation between tested financial knowledge and a self-rated financial knowledge measure varied based on education level, salary and profession

Group Name (N)	Correlation
High School or Less (34)	.10
Graduate Degree (98)	.59
Professor (31)	.77
Maintenance (26)	.17

Source: Agnew and Szykman (2005)

## Discussion Two

# The Effects of Portfolio Choice on Retirement Wealth Outcomes

by

**Jeffrey R. Brown and Scott J. Weisbenner**

# Goals of the Paper and General Discussion of the Preliminary Findings

- This is an ambitious project that examines the number of fund options offered in 401(k) plans over time
- The research questions addressed today were:
  - ▶ How have the number and mix of options offered by 401(k) plans evolved?
  - ▶ How does an increase in the choice set affect portfolio allocations?
  - ▶ What implication does this likely have for retirement wealth?
- Based on the preliminary results presented, this research looks very promising

# Research Ideas to Consider

- To answer the following questions, breakdown the active funds into subclasses:
  - ▶ Are certain types of funds more likely to be added in a given year?
  - ▶ Is there evidence that plan sponsors are adding “hot” funds?
- Does the typical offering of funds vary by industry?
  - ▶ Do financial firms offer higher quality (or lower fee) funds than non-financial firms?
- Consider surveying the firms and asking them what factors motivated their fund choices
- Expand the data to the present
  - ▶ Investigate whether the recent attention paid to fees has caused 401(k) plans to change their options
- Econometric issues to consider
  - ▶ inertia
  - ▶ “aggregation bias”
  - ▶ potential bias produced by contributions made by higher salaried employees