How Lessons from Behavioral Finance Apply to New Retirement Systems

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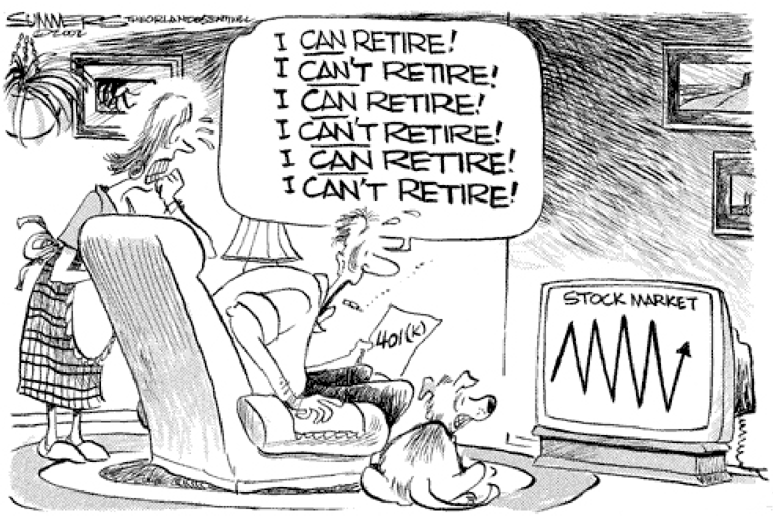


Approaches to Providing for Income Needs in Retirement

- **Option 1**: Let people fend for themselves
- **Option 2**: Strong-armed paternalism—forced saving
  - Traditional Social Security systems
  - Defined benefit pension plans
- **Option 3**: Encourage people to save appropriately
  - Defined contribution pension plans
  - Voluntary personal account Social Security systems

Weighing the Options: Risks

	Risks to Society	Risks to Business	Risks to Individuals
Do nothing	High	Low	High
Social Security	Medium	Low	Medium
Defined Benefit	Medium	High	Medium/Low
Defined Contribution	Medium	Low	Medium/High

Weighing the Options: Requirements

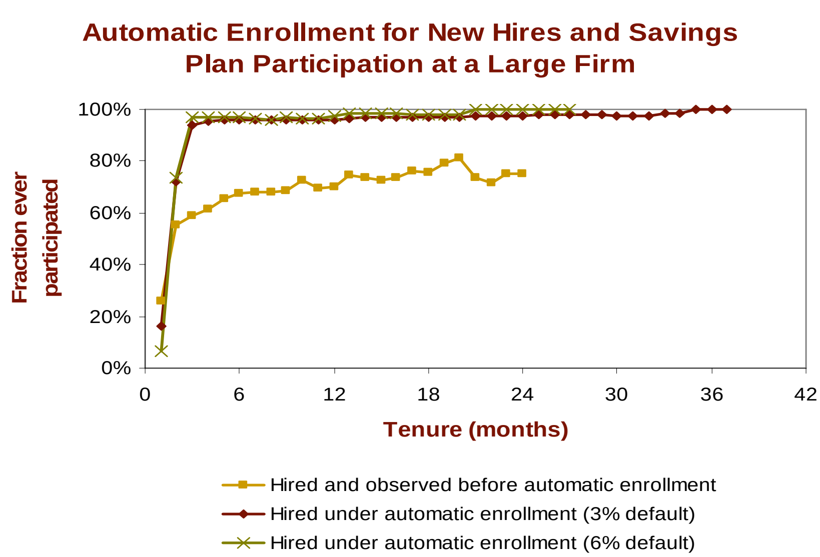
	Societal/Institutional Requirements	Individual Requirements
Do nothing	• None	• Amount to save • How to invest
Social Security	• Level of benefits • Funding of benefits	• When to claim benefits
Defined Benefit	• Level of benefits • Funding of benefits • How to invest	• None
Defined Contribution	• Plan design	• Amount to save • How to invest

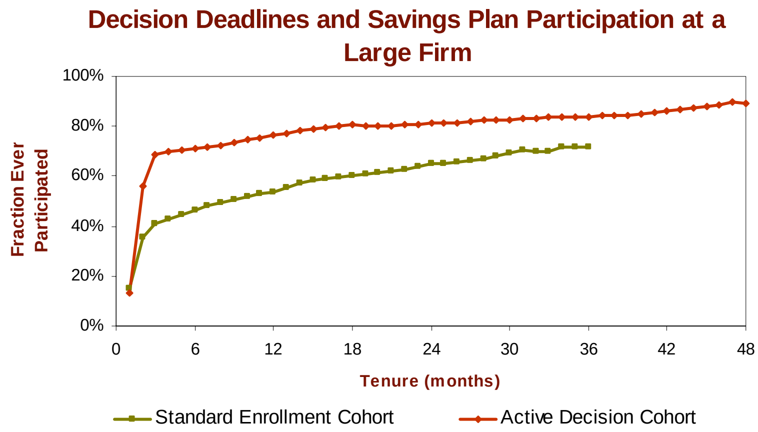
Which Approach is Best?

- Who should bear the risks?
  - Financial market risk?
  - Mortality risk?
  - Risk of poor decisions or malfeasance?
- Who should bear the costs?
  - Financial costs?
  - Cognitive costs?
- Diversification—multi-pronged approach may be best

Improving Defined Contribution Savings Schemes: Participation

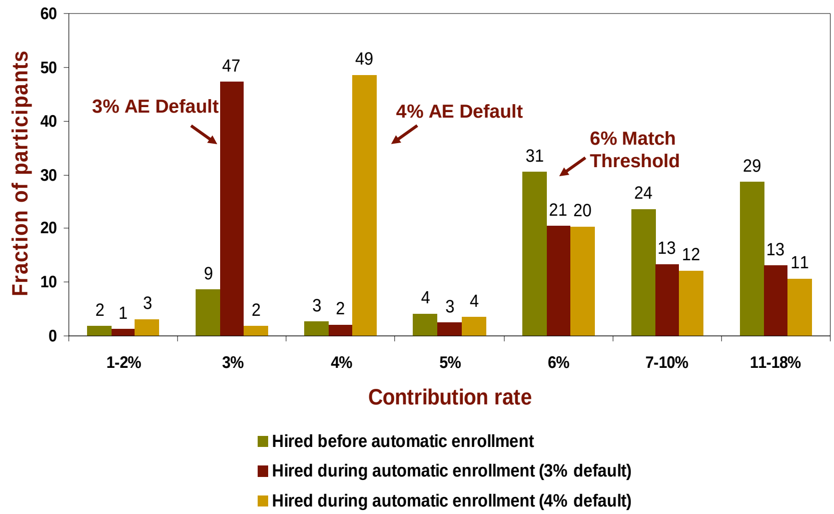
- Problem: Participation rates in voluntary schemes far from universal
- Why?
  - Lack of financial literacy
  - Complexity of decision-making task
  - No deadline for taking action
- Solutions
  - Automatic enrollment
  - EZ enrollment
  - Decision deadlines





Improving Defined Contribution Savings Schemes: Savings Rates

- Problem: Savings rates too low
- Why?
  - Other financial commitments
  - Procrastination
  - Present-biased preferences
- Solutions
  - Sensible contribution rate defaults
  - Sensible match design
  - Contribution escalation



The Effect of Contribution Escalation on 401(k) Savings

	401(k) Contribution Rate		
	Before meeting with planner	After 4 raises	Increase
GROUP A			
▪Willing to save more now	4.4%	8.6%	**+4.4%**
▪Not offered escalation			
GROUP B			
▪Unwilling to save more now	3.5%	13.6%	**+10.1%**
▪Offered escalation option			

Source: Thaler and Benartzi (2004)

Improving Defined Contribution Savings Schemes: Allocations

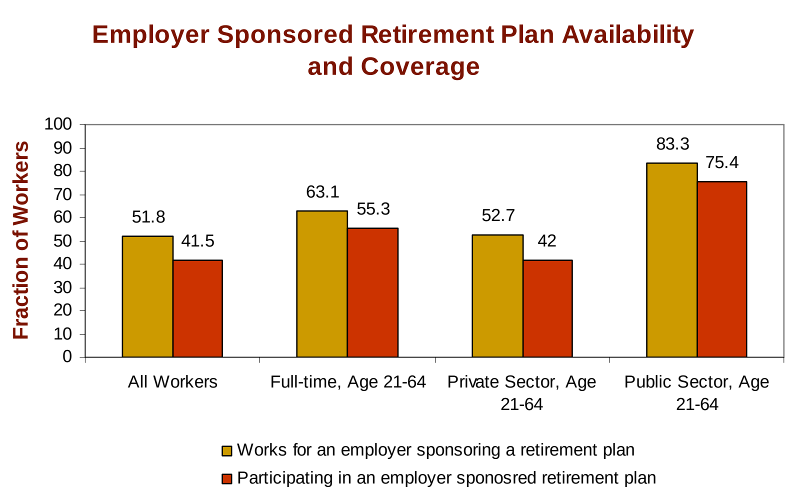
- Problem: Inappropriate asset allocation
- Why?
  - Lack of financial literacy
    - Procrastination
    - Endorsement effects
    - Insensitivity to fees
  - Behavioral biases
    - Mental accounting
    - Familiarity
    - Naïve diversification
    - Reinforcement learning

Improving Defined Contribution Savings Schemes: Allocations

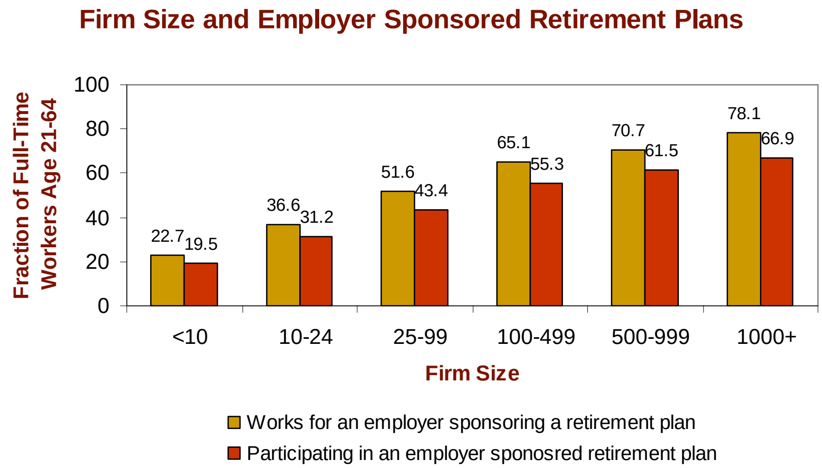
PROBLEM	SOLUTION
•Employer stock	•Get rid of it!
•Mental accounting	•Managed accounts
•Naïve diversification	•Managed accounts
•Too many funds	•Tiered fund menus •Target retirement date funds
•Inertia	•Sensible defaults •Automatic rebalancing

Improving Defined Contribution Savings Schemes: Coverage

- Problem: Sizeable fraction of workers don't have access to workplace retirement plans
- Why?
  - Economies of scale/fixed costs
    - Complexity
    - Regulatory compliance
    - Financial literacy of small business owners



Source: EBRI tablulations from the March 2008 Current Population Survey



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- Why?
  - Economies of scale/fixed costs
    - Complexity
    - Regulatory compliance
    - Financial literacy of small business owners
- Solutions
  - Uniform tax-favored retirement savings plan
  - Automatic IRA
  - State-sponsored savings vehicles

Improving Defined Contribution Savings Schemes: Annuitization

- Problem: Inadequate annuitization of retirement wealth
- Why?
  - Financial literacy
  - Complexity—not like traditional insurance products
  - Underestimation of longevity risks
  - Anticipated regret
  - Desire for flexibility
  - Irreversibility and option value
  - Present-biased preferences
  - A bird in the hand is worth two in the bush

Financial Literacy and Annuities

- GE Financial/Opinion Research Corp (2003)
  - 45% of respondents did not know what an annuity is
- Insurance Information Institute (2004)
  - 40% of women and 31% of men did not know what an annuity is
- MetLife Retirement Income IQ Test (2003)
  - Over half of respondents do not understand how annuities work

Financial Literacy and Annuities

- MetLife Retirement Income IQ Test (2003)
  - Respondents are overly optimistic about the amount of money that can be withdrawn each month over a fixed time horizon before no savings would remain
  - Respondents underestimate the costs of nursing home care
  - Respondents underestimate their potential longevity

Financial Literacy and Annuities

- MetLife Retirement Income IQ Test (2003)
  - An individual who reaches age 65 has a life expectancy of age 85. What are the chances he or she will live beyond that age?
    - Correct answer: 50%
    - Fraction with correct answer: 35%
    - Leading incorrect answer: 25%
    - Fraction answering 25% 59%

Financial Literacy and Annuities

- MetLife Retirement Income IQ Test (2003)
  - Considering a 65-year-old couple, what is the likelihood of one or both of them living to the age of 97?
    - Correct answer: 25%
    - Fraction with correct answer: 16%
    - Leading incorrect answer: 10%
    - Fraction answering 25% 64%

Annuitization Elections and Military Downsizing

- Peace Dividend → 25% reduction in military forces (400,000 troops) in the early 1990s
- Voluntary buy-out packages offered
  - Annuity: 2.5% of pay *x* (years of service) for a time period of twice as long as years of service
  - Lump-sum option: 15% of pay *x* (years of service)
- Then-current interest-rate ~ 7%

Annuitization Elections and Military Downsizing: Military Officers

	Years of Service			
	7 years	9 years	12 years	15 years
Lump-sum amount	$34,709	$46,219	$72,006	$94,114
Annuity amount	$5,785	$7,703	$12,001	$15,686

Source: Warner and Pleeter (2001)

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Present-value of annuity:				
7% interest rate	$54,129	$82,908	$147,276	$208,274
10% interest rate	$46,875	$69,497	$118,005	$162,645
20% interest rate	$32,002	$44,485	$71,106	$93,772

Source: Warner and Pleeter (2001)

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10% interest rate	$46,875	$69,497	$118,005	$162,645
20% interest rate	$32,002	$44,485	$71,106	$93,772
Fraction choosing lump-sum	70.7%	52.1%	36.2%	29.8%

Source: Warner and Pleeter (2001)

Annuitization Elections and Military Downsizing: Enlisted Personnel

	Years of Service			
	7 years	9 years	12 years	15 years
Lump-sum amount	$16,655	$22,283	$35,549	$51,216
Annuity amount	$2,776	$3,714	$5,925	$8,536

Source: Warner and Pleeter (2001)

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20% interest rate	$15,356	$21,447	$35,105	$51,003

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10% interest rate	$22,492	$33,506	$58,259	$88,510
20% interest rate	$15,356	$21,447	$35,105	$51,003
Fraction choosing lump-sum	95.1	94.8	88.1	74.3

Source: Warner and Pleeter (2001)

Improving Defined Contribution Savings Schemes: Annuitization

- Problem: Few retirees annuitize any part of their retirement wealth
- Solutions
  - “Behavioral” annuities
    - Guarantees (life insurance component)
    - Step-up potential
    - Flexible withdrawals
  - Challenge
    - “Benchmarking” and transparency

Improving Defined Contribution Savings Schemes: Annuitization

- Problem: Few retirees annuitize any part of their retirement wealth
- Solutions
  - Get annuity options into defined contribution savings plans
    - Payroll deduction
    - Endorsement
    - “Dollar cost averaging” over interest rates
    - Annuitization defaults
      - High opt-out rates still possible…
      - Optimal default?
      - “Behavioral” annuities
    - Deferred annuity as employer match

Improving Defined Contribution Savings Schemes: Annuitization

- Problem: Few retirees annuitize any part of their retirement wealth
- Solutions
  - Tax deduction/credit for annuitization
    - Taxpayers bear part of the risks from inadequate annuitization
    - Tax incentive that offsets risks to taxpayers makes economic sense

Improving Defined Contribution Savings Schemes: Annuitization

- Problem: Few retirees annuitize any part of their retirement wealth
- Solutions
  - Frame distribution options (annuitization, structured withdrawals, etc.) in terms of consumption rather than as investments
    - Investment frame → annuity looks risky
    - Consumption frame → annuity looks safe

Improving Defined Contribution Savings Schemes: Annuitization

- Problem: Few retirees annuitize any part of their retirement wealth
- Solutions
  - Diversification—mutual fund analog in the annuity market

Improving Defined Contribution Savings Schemes: Conclusions

- Financial Services Industry: product innovation
- Employers: Design savings plans to “benefit” employees
- Government: Regulatory incentives that
  - Promote product innovation
  - Promote employer adoption of savings plans designed to “benefit” employees
  - Regulation to support secure retirement outcomes