The future is not what it used to be: Developments in retirement investments

by Laura Starks
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Outline

- Changes in retirement plans in the United States
- Retirement income and risks
- Asset allocation choices
- Behavioral finance influences
Disclosure

- I conduct research on institutional investors, mutual funds and retirement issues.

- I am an independent director for funds offered by one of the largest private retirement providers in the United States.

- I serve on the investment advisory committee for a large public pension fund.

- I have done consulting work for mutual funds and for plan sponsors.
Common retirement plans in the U.S.

- **Social security**
- **Employer sponsored**
  - Defined benefit (DB plan)
    - Benefit at retirement defined by formula generally based on last few years of salary and tenure at firm
    - Employer takes on investment risk
  - Defined contribution (e.g., 401k, 403b, 457)
    - Contribution defined
    - Portable
    - Choice of employee – contribution, asset allocation
    - Employee takes on investment risk
- **Individual retirement account (IRA)**
Coverage of DB versus DC plans

% of workers of medium & large businesses in U.S.
Coverage of DB versus DC plans

% of workers of state & local governments in U.S.

- **DB plans**
- **DC plans**

Graph showing the percentage of workers covered by DB and DC plans from 1987 to 2010.
Growth in U.S. retirement assets (outside of social security)

Trillions


Total

Defined benefit & other

Defined contribution IRA

Data source: www.ici.org
69% of U.S. households have a tax-advantaged retirement account
What is sufficient income in retirement?

Average % of age 65 household expenses at older ages

Source: Employee Benefit Research Institute Issue Brief February 2012
Life expectancy for retirement income

Changes over time in the life expectancy of a 22-year-old entering work force:

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Expected Age at Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>1935</td>
<td>68</td>
</tr>
<tr>
<td>1953</td>
<td>72</td>
</tr>
<tr>
<td>1973</td>
<td>74</td>
</tr>
<tr>
<td>1993</td>
<td>77</td>
</tr>
<tr>
<td>2009</td>
<td>80</td>
</tr>
</tbody>
</table>

Year Social security was signed into law: 1953

Data source: http://www.mortality.org/
U.S. Personal Savings Rate

12-month moving average as a % of disposable income

Data source: U.S. Department of Commerce
Definitions

- Disposable income = personal income less personal taxes (current)

- Personal savings = Disposable income less personal expenses

- Personal savings rate = personal savings/disposable income
Stock market return experience

Individuals who have experienced low stock market returns in their lives have:

- Lower willingness to take financial risk
- Lower willingness to participate in the stock market
- Invest a lower percentage in stocks if they do participate
- Are more pessimistic about future stock returns

Relation of differences between older and younger individuals in current stock market participation

Depending on their stock market return experiences

Difference in current stock market participation (Old–Young)

Difference in past stock market returns over previous 50 years less previous 20 years

Data source: Malmiender and Nagel, 2011
Effects of the 2007-2008 financial crisis

Growth in U.S. retirement assets

Trillions

- Total
- Defined benefit & other
- Defined contribution
- IRA

Data source: www.ici.org
Baby boomers are feeling more confident of retirement finances?

According to 2010 and 2012 surveys of still-working adults age 55 or older by Pulte Group:

It will take more than 10 years to be financially ready to retire:

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>46%</td>
<td>14%</td>
</tr>
</tbody>
</table>
Risk factors to retirement income

- Investment risk
- Inflation risk
- Longevity risk
- Risk of a costly unexpected event
- Risk of tax policy changes
- Risk of regulatory or employer changes
Average asset allocation of 401(k) accounts

Source: Investment Company Institute 2012 Factbook (data for 2010)
Average asset allocation of 401(k) accounts

Participants in their sixties

- 34.1% Equity funds
- 7.0% Company stock
- 6.9% Non-target date balanced funds
- 9.1% Target date funds
- 14.7% Bond funds
- 6.2% Money funds
- 16.5% GICs and other stable value funds
- 5.4% Other funds

Source: Investment Company Institute 2012 Factbook (data for 2010)
## Comparison of allocations

<table>
<thead>
<tr>
<th>Fund Type</th>
<th>Participants in their 20’s</th>
<th>Participants in their 60’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>GICs and stable value</td>
<td>4.4%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Money funds</td>
<td><strong>14.2%</strong></td>
<td><strong>37.4%</strong></td>
</tr>
<tr>
<td>Bond funds</td>
<td>7.2%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Equity funds</td>
<td><strong>36.9%</strong></td>
<td><strong>34.1%</strong></td>
</tr>
<tr>
<td>Target date funds</td>
<td>27.0%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Balanced funds</td>
<td>10.4%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Company stock</td>
<td>6.7%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Other funds</td>
<td>4.9%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

Source: Investment Company Institute 2012 Factbook (data for 2010)
But allocations vary within age cohorts

- **Participants in their 20’s**
  - 60% had more than 80% in equities and 9% had zero in equities

- **Participants in their 60’s**
  - 21% had more than 80% in equities and 18% had zero in equities

*Source: Investment Company Institute 2012 Factbook*
What is the current primary investment vehicle?

Target date (lifecycle) funds

- 52% of new employees in their 20’s are putting their retirement savings into target date funds (EBRI).
- 77% of plan sponsors now report that target date funds are their default investment vehicle (Deloitte survey).
- Vanguard estimates that by 2016 over 55% of defined contribution participants will have their entire assets invested in a single target date fund. That percentage is last year was 24%.
Growth in target date fund assets

Billions

- $0
- $50
- $100
- $150
- $200
- $250
- $300
- $350
- $400


Data source: www.ici.org
Current debate on target date funds

To or Through retirement?

- Do you invest in target date funds to the retirement date and then reallocate?

Or

- Do you invest in target date funds through retirement?

Philosophy on this question influences the glide path for target date funds
Glide path in target date funds

Glide path refers to the changes in allocation to equities in the fund as the date gets closer to retirement.

Example set of target date funds from one fund company
Examples of target date fund glide path

Including fixed income assets

From www.ici.org frequently asked questions about target date funds
Another current debate on target date funds

Should your total defined contribution retirement account be invested in one target date fund?

Yes

- Target date fund is a fully balanced portfolio with shifting balances toward retirement date

No

- Target date fund may not have the risk the participant desires. By investing across target date funds, the participant can achieve a more preferred risk-return profile
- Target date fund could be considered a core portfolio from which participant can invest in other portfolios and investments to alter the risk-return profile
Distributions from retirement plans

- **Annuity**
  - Different choices on payouts
    - Single life
    - Joint life survivorship
      - Term certain, 100% survivorship, 50% survivorship
    - Term
  - And more…

- **Lump sum**
Choice of retirement distribution

- Annuity puzzle

  - Theory (based on simple assumptions) suggests that individuals should choose to annuitize part or all of their retirement income, but many people do not do so.

  - Why not?
Factors in choices regarding annuitization of retirement income

- Risk preferences
- Marital status
- Bequest motive
- Life expectancy
- Expected future consumption
- Wealth
- Perceived costs
- Perceived safety of provider
Behavioral finance issues in retirement investment decisions

Some information processing errors and behavioral biases

- Overconfidence
- Attention
- Anchoring
- Optimism/wishful thinking
- Regret avoidance
- Disposition effect
- Framing
- Mental accounting (or mental compartments)

For more details see Barberis and Thaler, Survey of Behavioral Finance
Overconfidence

People overestimate their abilities and judgment

Example
82% of students believe they are in the top 30% of their class
Overconfidence in individual investors

Traders who trade more often lose more money.

Men trade more often than women
And men lose more money than women.
“The investor’s chief problem—and even his worst enemy—is likely to be himself.”

Benjamin Graham
Father of Value Investing
Watch out for overconfidence in your own investment decisions as well as the investment decisions of others.
Anchoring

Example: Stock prices anchored to past values

NASDAQ

NASDAQ 5048.62

Anchoring: Residential real estate prices

Data source: Case-Shiller Index
Anchoring: Residential real estate prices

Data source: Case-Shiller Index
Implications for retirement investing

Be careful what you anchor your expectations to

Both financial and nonfinancial.
Anchoring on retirement date

Richard Thaler gives an example in his Nudges blog that the U.S. government creates an anchor for people to think about retirement as occurring at age 66 or 67 because the government labels those ages as “full” retirement age when the largest amount of social security payment will occur by delaying to age 70.

Optimism and wishful thinking bias

The Lake Wobegon Effect
where all the women are strong, all the men are good looking, and all the children are above average.

People exaggerate probability that their team will win.

People exaggerate probability that the candidate they favor will win.
Implications for retirement investment decisions

- Watch out for optimism and wishful thinking in your decisions.
Prospect of regret pain generates avoidance behavior

People avoid selling stocks that have gone down in value, but tend to sell those that have gone up in value

Termed the “Disposition Effect”
Loss aversion and risk aversion

- One theory - "money in the bank" affects the level of risk aversion.
  - Investors who make money "feel rich" – they exhibit less loss aversion. They may overinvest in the stock market, further pushing prices up.
  - Investors who lose money exhibit higher risk aversion, move out of the market.
Average annual returns

1962-2011

Stocks  10.60%

Bonds  7.24%

How much of your portfolio do you want to allocate to stocks? How much to bonds?
Does viewing it this way affect your decision?

Annual returns on stocks and bonds 1959-2011
Depends on framing

- When shown series of 30 one-year returns, people allocate 40% to stocks and 60% to bonds.

- When shown just cumulative 30 yr. returns, the allocation was 90% to stocks and 10% to bonds.

Benartzi & Thaler (1996)
Mental accounting or mental compartments

Example:

Investors have a "safe" part of their portfolio that they will not risk, and a "risky" part of their portfolio that they can have fun with.
Implications for retirement investment decisions

Does mental accounting explain tax misallocation?

- Investors appear to not consider tax effects in the allocation of their assets between taxable and tax-advantaged accounts.

- Example – holding stocks in retirement accounts while holding bonds in taxable accounts.

- This could be explained as mental accounting.
Naïve diversification

- Some individual investors may have a tendency to diversify in a naïve fashion.

- Evidence exists that some individuals in 401 (k) plans have a tendency to invest 1/n in their investment option choices.

- Are target date funds a solution to this?
Conclusions

- Retirement investment decisions are changing
  - People are living longer – should they be retiring later?
  - Sources of income are changing
  - Retirement investment vehicles are changing
  - Behavioral finance issues may tell us something about making these decisions
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- MIT (Sloan)*
- Chicago (Booth)*
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- Berkeley (Haas)
- UNC (Kenan-Flagler)
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- Michigan (Ross)
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