The Future of Life-Cycle Investment Products

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Consumer Finance Workshop

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Key Points

- Life-cycle investing will be about choosing among features of products designed for consumers by financial engineers.
- Technological progress will make these products affordable for middle-class consumers, not just the wealthy.
- Investor education will focus on helping consumers choose appropriate product features they can afford.
Overview

We live in a time of great changes in the way Americans save, invest, and manage the risks to their standard of living. Baby boomers are the most prosperous, healthiest, and longest-lived generation of Americans ever. They also face more choices about saving and investing than their predecessors. More choices mean more decisions. Voluntary tax-advantaged accounts are now available for retirement, college tuition, and health care. It seems everyone is talking about personal finance. Should you open an IRA or 401(k) account? An ordinary IRA or a Roth IRA? How much to contribute? How to invest the funds? How to time withdrawals from the account?

Economists have been studying consumers’ optimal saving and investing decisions for many decades. Since the 1950s there has been enormous progress in the underlying theory, and since the 1970s major innovations in the financial markets and advances in technology have facilitated implementation of that theory. Furthermore, in the past two decades, research in behavioral economics and finance has considerably advanced our understanding of how consumers actually make saving and investment decisions. Life-cycle saving and investing have become a science, or at least the foundations have been laid for such a science.

The goal of this conference is to bring together academic researchers, practitioners, and public-sector policymakers to discuss the current state of this science and to explore its implications for households, businesses, and government. By facilitating this dialog, we hope this conference will stimulate the adoption of best practices in the development of both new financial products and future public policies.
The Future of Life-Cycle Saving and Investing
Sponsored by Boston University, Federal Reserve Bank of Boston, and the Research Foundation of CFA Institute

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Session Topics:
Private Wealth Management, Economics, Investment Industry

Specialty Focus Areas:
Private Wealth Management

Package Contents:

- The Role of Government in Life-Cycle Saving and Investing
  Jeffrey C. Fuhrer, Federal Reserve Bank of Boston
  Alicia H. Munnell, Boston College, Retirement Center
  Lans Bovenberg, Netspar, Tilburg University, Netherlands
  John Shoven, Stanford University
Is Personal Finance an Exact Science?

Paul Anthony Samuelson
Professor of Economics
Massachusetts Institute of Technology

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Life-cycle investment products today

- Target-date retirement accounts
- Target-date college tuition accounts
- Health saving accounts
- Common characteristics
  - Specific purpose
  - Specific maturity date
  - Tax advantaged because society wants to encourage saving for this purpose
- Most of the money in these accounts is invested in mutual funds
The trouble with mutual funds

- Not matched to the purpose or the target date of the account
- For a matching strategy, the basic building blocks must be denominated in units that match the purpose and have known maturities.
Economic principles

- No free lunch. The present value of achieving a future target cannot be lowered by taking risk.
- But it can be lowered through contingent contracts that only pay off when needed. Example: life annuities only pay off if annuitant is alive.
The fallacy of time diversification

Probability of shortfall vs. cost of shortfall insurance

Time Horizon in Years

Probability

Fraction of investment

6% risk premium  Cost of shortfall insurance
Examples of matching

- Annuities linked to cost of living to achieve a target standard of living in retirement.
- Contracts linked to college tuition.
- Contracts linked to health care costs.
The role of guarantees

- **Caveat emptor** -- Can a client trust a firm that does not guarantee its products?
- Risk is most efficiently managed by the investment firm, not by the client.
- A guarantee transfers risk from the client to the investment firm.
- If risk is truly small, then the cost of the guarantee will be low.
- If the cost of the guarantee is high, then the risk is obviously *not* small.
Structured investments

- Standard design: Guaranteed minimum plus upside participation.
- Options: Caps, multiple indexes.
- Decomposing a structured investment into bonds, calls, and puts.
Equity Participation Notes

Inputs:
- Volatility: 20%
- Risk-free interest rate: 5%
- Dividend yield: 2%
- Current value of index: 100
- Strike price: 100
- Maturity in years: 5
- Max loss of principal: 0%

Outputs:
- Price of embedded call: 22.01
- Participation rate: 100.5%

Payoff Diagram

Payoff

Index Value at Maturity