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Retirement Investing: The State of The Art Part II

CONFERENCE SUMMARIES

Zvi Bodie
Bodie Associates
Facts and Fallacies about Investing for Retirement

Discussant: Kenneth Blay, Invesco

This paper considers several fallacies about investing for retirement, analyzes why they are thought to be true, and replaces them with a true version. Among the fallacies are these:

- The longer your time horizon—years to retirement date—the more you should invest in stocks.
- The best way to control risk is to diversify.
- Annuities are complicated and usually overpriced.
- The difference in starting cash income between a nominal and a real (CPI-linked) income annuity is a measure of the cost of inflation protection.

Sanjiv Das and Dan Ostrov
Santa Clara University
Goals-Based Wealth Management with Multiple Goals

We develop a dynamic programming methodology to maximize investor outcomes over multiple goals. Our algorithm optimally chooses whether or not to cash-out a part of the portfolio to implement a sequence of goals (such as upgrading a home, college fees, an income stream in retirement, etc.). We may also optimally choose to implement partial goals. Our model is able to solve a problem over a huge number of goals, something that is infeasible with Monte Carlo

approaches currently in use by practitioners in the wealth management industry.

Hayne Leland
A&P Capital, LLC
Towards Replacing the Defined Benefit Plan: Assured Retirement Income Provided by a Liquid Investment Fund

Discussant: Bernard R. Horn, Polaris Capital Management, LLC

Traditional corporate defined benefit plans provided retirees with stable retirement income. While defined contribution plans now permit low-fee wealth accumulation, the conversion of wealth to stable nominal or real income during retirement remains uncertain, opaque and expensive. Complicated, illiquid, and high-fee products dominate the landscape. The goal of acquiring low-fee, predictable future income in retirement has remained elusive.

The paper describes a relatively simple, liquid, and low-cost type of fund that can meet this challenge. The key features are: 1) A minimum assured annual income (real or nominal) for a significant period, typically 20 years, beginning at a future target date. (Like target date funds, funds in this family can have different target dates). The assurance is fully collateralized by government-backed securities (unique in being able to sustain a multi-trillion dollar market). 2) Maximal exposure at all times to a higher-return risky portfolio, subject to meeting the income assurance. The higher return provides capital beyond what is required to deliver the assured income to use as the investor desires. Just two examples are a) to increase annual retirement income, or b) to extend payments for the retiree's life span through the purchase of a deferred longevity annuity. 3) The liquidity that allows investors the flexibility to change assured levels of income at any time, with minimal cost. 4) A significant "behavioral nudge" arising from clarity about future income levels. Each share will provide a minimum income of $1 per year for each of the 20 years following the target date. An investor will know future assured income simply by knowing the number of shares s/he owns.

While a strategy to provide the features above is relatively straightforward for a single investor, a deeper challenge is to create a fund that provides these features to all investors, regardless of when shares are purchased. We consider the nature of asset management that achieves all these features in a single fund and believe it can be done while qualifying for QDIA status.

Deborah Lucas
MIT Golub Center for Finance and Policy
How Much Can Collective DC Plans Improve Risk-Sharing?

Collective Defined Contribution (CDC) plans have been suggested as an attractive and sustainable alternative to public sector DB plans. A CDC plan is a hybrid structure, designed to provide more predictable retirement benefits than a traditional DC plan while operating at the lower cost of a DB plan. It does this by sharing investment risk across worker cohorts and centralizing asset management. We develop a model of an unsubsidized CDC plan, and use it to characterize the risk-sharing rules and investment policies that maximize a "scheduled benefit" for retirees that is almost always achieved or exceeded. We compare the outcomes under the CDC system with those from an otherwise similar options-augmented DC model, where participants have access to self-financing strategies that involve trading in one-year put and call options. The ability to effectively trade long- dated options in the CDC framework delivers a somewhat higher scheduled benefit than can be achieved by self-insuring in an options-augmented DC plan. However, under current contribution policies, the

scheduled benefit in the CDC plan falls short of what most would consider an adequate retirement income.

Arun Muralidhar
Mcube Investment Technologies
Retire In-Home: A New Way to Use a Home to Guarantee Retirement Income

Discussant: Martin Landry and Jennifer Hutchins, 1st Global/Blucora

There is a growing retirement crisis and most of the focus has been on the fact that individuals are not saving enough for retirement, may not have access to pension schemes, and find it difficult to choose from a wide range of retirement products. One solution that has been considered is to improve access to Reverse Mortgages (RMs) so that individuals can convert their (possibly) single largest asset into a through-death income stream. However, current RMs are complex with constraints on who can use them, and with multiple parties to the transaction to hedge residual risks. As a result, a limited number of institutions (and that too with government support) offer such products. These challenges may have also limited the use of RMs for the typical individual saving for retirement and are unlikely to solve the larger crisis. We suggest a new approach - "Retire In-Home" (Retire through Income from one's Home) that leverages recently proposed tradeable instruments to improve retirement security and hedge against standard-of-living risks. These include a bond called BFFS/SeLFIES, designed to secure real retirement income for a fixed term (with potentially a second new bond, called a LIVE bond, designed to protect individuals against longevity risk if individuals do not want to purchase deferred annuities because of annuity challenges). Further, the paper also shows how a new investor segment could be tapped to expand financing for such transactions as recommended by Prof. Robert C. Merton.

This paper demonstrates how Retire In-Home could simplify this market and allow even the most financially unsophisticated individual to participate in this transaction. The paper works through three cases: (a) when death is known (or a term income); (b) when longevity risk is hedged with deferred annuities; and (c) when longevity risk is hedged with LIVE Bonds. The paper concludes with extensions including accounting for up-front lumpsum payments, forward-starting contracts and even multi-occupant situations.

Matthew O'Hara
BlackRock
Inflation and Target Date Funds: Definitive Insights into Inflation-Hedging

Discussant: Shane Shepard, Research Affiliates

LifePath's lifecycle consumption framework seeks to help individuals support a lifetime of spending from the finite amount of income they earn during their careers. While inflation would intuitively seem to be a concern within a lifecycle framework, there has been little research into inflation and inflation hedging in a consumption and asset allocation context.

This paper seeks to establish that returns for most commonly invested asset classes and income growth outpace inflation, both of which help hedge inflation, especially for young investors, and examines the opportunity cost of introducing a hedging asset class too early. As investors age and financial assets increase, hedging assets against inflation shocks becomes more attractive. We identify at what point to begin hedging as well as the appropriate allocation to hedging assets for older and retired investors. The paper describes innovations to our target date fund methodology, including the introduction of inflation regimes and the development of an inflation asset class for optimization purposes.

Jonathan Parker
Massachusetts Institute of Technology
Belief Disagreement and Portfolio Choice

Discussant: William Kinlaw, State Street Associates

Using a proprietary dataset of the portfolio holdings of millions of anonymized households with trillions in wealth, we test the central tenet of rational-expectations theories of asset pricing and portfolio choice that agents believe in a common model and update their beliefs identically in response to public signals against alternative theories in which agents hold different models of the world and update beliefs heterogeneously. We identify households that ex ante are likely to believe in different models of the world using political party affiliation (probabilistically inferred from zip code), and our public signal is the unexpected outcome of the US election of November 2016. Relative to Democrats, Republican investors actively increase the share of equity and market beta of their portfolios following the election. Inconsistent with the effect being driven by differences in hedging needs with common beliefs, the results are robust to controls for age, wealth, income, state, and even county-employer fixed effects.