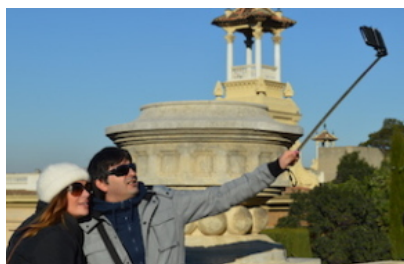

Time for Retirement 'SeLFIES'?

By Robert C. Merton and Arun Muralidhar Thu, Apr 6, 2017

The Nobel Prize-winning economist and his colleague propose a new way to turn DC savings into retirement income. It involves 'Standard of Living Indexed, Forward-Starting, Income-Only Securities' (SeLFIES), an unprecedented government bond.



California, Connecticut and other U.S. states are preparing to introduce pension programs for workers who lack workplace savings plans. Although these programs can improve access to pensions, they perpetuate the troubling trend of transferring responsibility for retirement security from governments and employers to individuals.

This shift in responsibility requires bold new thinking about how portfolios are managed and which instruments are available to investors who are saving for retirement. Our proposed SeLFIES (Standard of Living indexed, Forward-starting, Income-only Securities) would introduce a simple, low-cost, low-risk, and liquid retirement income option to participants who are largely financially unsophisticated. It would make individuals more self-reliant and, by doing so, be advantageous to government.

The challenge

We believe that members of defined contribution (DC) plans should focus on maximizing their funded status or retirement income (not their wealth, as in traditional investment approaches) [1]. This is more difficult to do in DC plans than in defined benefit (DB) plans. Unlike multi-generational defined benefit (DB) plans, DC plans must achieve their objectives in a single lifetime, and it is hard to pool risks because these plans are so flexible. For instance:

- Participation in these plans is likely to be voluntary.
- Participants have clearly stated (e.g., in the case of California) that they would require liquidity.
- Retirement ambitions, risk tolerance and life expectancy vary across age, gender and wealth levels.
- Employment patterns change over time (i.e., the gig economy doesn't tether an individual to one company) and these plans need to be portable across state lines.

Given these circumstances, a new financial instrument is needed to enable financial security for retirees in the current environment.

The innovative SeLFIES design

DC investors seek to ensure a guaranteed, real income, ideally from retirement to death. They want to lead a lifestyle comparable to their pre-retirement lifestyle. But investing in existing risky assets (stocks, bonds, or REITs) doesn't provide a simple cash flow hedge against desired retirement income. For example, viewed through the retirement income lens, a portfolio of traditional, 'safe' government securities, unless heavily financially engineered, would be risky because of the potential cash flow and maturity mismatch between traditional bonds and the desired income streams.

We think governments should issue a new 'safe' bond instrument, which we call SeLFIES. These would ensure retirement security and the government is a natural issuer [2]. A default-free bond offers certainty for DC retirement portfolios:

- A commitment to pay over a particular time horizon (how/when one is paid).
- A specific cash flow (what is paid). DC investors require a guaranteed cash flow that protects their real purchasing power in retirement. Two simple innovations could create the 'perfect' instrument.

The first innovation addresses 'how/when one is paid.' SeLFIES create forward-starting, income-only bonds. Forward-starting means that these bonds do not start paying immediately, but rather at some future date. Coupons-only payments would start at retirement and last for a period equal to the average life expectancy at retirement (e.g., U.S. bonds would pay for 20 years) [3].

Investors who are saving for retirement don't need coupon payments while still employed (the payments would have to be re-invested and create interest rate risk) or a stub principal payment at the end. They need a smooth stream of real cash flows. That's why SeLFIES are forward-starting and coupon-only. They pay people when and how they need it, blending accumulation and decumulation by incorporating the retiree's desired annuity-like cash flow profile in the payout phase.



The second innovation addresses 'what is paid' by indexing the bonds to per capita consumption. With longevity increasing, cumulative increases in the standard of living can leave a retiree feeling 'left behind,' just as inflation causes nominal fixed income retirees to experience a decline in standard of living. Instead of a Treasury inflation-protected securities (TIPS)-like adjustment, focused solely on inflation, SeLFIES would cover both the risk of inflation and the risk of standard of living improvements. (Right, Robert Merton).

SeLFIES foster self-reliance

SeLFIES would pay the holder annually for 20 years, starting at a fixed future date with a fixed amount (say \$5), indexed to aggregate per capita consumption [4]. Today's 55-year-olds would buy the 2027 bond, which would start paying SeLFIES coupons upon retirement at 65 in 2027, and keep paying for 20 years, through 2047.

SeLFIES greatly simplify retirement investing by allowing participants to be self-reliant in managing their portfolios. These innovations allow anyone to plan his or her retirement—without requiring a forecast of expected returns, optimizers/retirement calculators, or even intermediaries.

For example, if investors want to guarantee \$50,000 annually to maintain their standard of living risk-free for 20 years in retirement, they could buy 10,000 SeLFIES (\$50,000 divided by the \$5 real coupon) over their working lives. The complex decisions of how much to save, how to invest, and how to draw down are simply folded into a calculation of how many SeLFIES to buy.



In addition to being simple, liquid, easily traded, and with low credit risk, SeLFIES can be bequeathed to heirs, unlike high-cost, inflexible and illiquid annuities. The inheritability of SeLFIES overcomes investor fears that premature death will "leave money on the table." Buying SeLFIES would be similar to creating an individual DB plan, with a guaranteed pay-out determined by the number purchased. Further, investments in these bonds would be portable across states.

SeLFIES could become the safe asset in target-date strategies, in lieu of inflation-linked or GDP-linked bonds. They could also be used as safe, liability-hedging assets in dynamically managed target-income strategies—allowing investors to target a higher retirement standard of living or higher income by investing in risky assets early in their life cycles, then investing in SeLFIES dynamically to lock in their gains. (Left, Arun Muralidhar).

Further, simple account statements would illustrate the level of real, locked-in retirement standard of living, based on the number of bonds purchased. In today's DC plans, statements that focus on wealth accumulation give investors no sense of their retirement standard of living or how they can achieve their retirement objectives.

The design of SeLFIES would provide plan sponsors with a low-cost, low-risk default option for participants, and a safe harbor from legal risk. Furthermore, the insurance industry could use SeLFIES to improve their ability to hedge liabilities and to offer new low-cost annuities.

Longevity risk protection

As governments struggle to finance infrastructure, bonds with steady payments and forward-starting (deferred) payment dates offer an effective mechanism to finance such needs. Cash flows from SeLFIES offer governments an effective way to collect monies today for upfront capital expenditures for infrastructure projects, and pay these back in the future, once the projects generate revenues.

There are other benefits. Many U.S. DC corporate and endowment pension plan sponsors are being sued for allegedly costly or risky investment and pay-down options. There is a danger that, in response, many sponsors may choose not to offer any plans (DB or DC) to avoid legal risk. This would force more employees to make their own arrangements, and the resulting uncertainty would raise the cost to governments of ensuring retirement security among the aged.

SeLFIES can't do everything. They can hedge interest rate, inflation, and standard of living growth risks, but they will not solve issues like insufficient savings, insufficient income growth (which locks in a low standard of living in retirement), or the cost of hedging longevity risk. For longevity risk protection, individual plan participants could purchase long-deferred annuities that pay out beyond age 85. The deferred annuity approach, combined with SeLFIES, would hedge individual longevity risk while preserving financial flexibility and control, and can be incorporated into a well-designed target income product.

Dr. Robert C. Merton, recipient of the 1997 Alfred Nobel Memorial Prize in Economic Sciences, is the School of Management Distinguished Professor of Finance at the MIT Sloan School of Management. He is also resident scientist at Dimensional Fund Advisors, a Texas-based global asset management firm.

Dr. Arun Muralidhar, author of "50 States of Grey and Rethinking Pension Reform" (with the

late Franco Modigliani), is adjunct professor of finance at George Washington University, academic scholar advisor at the Center for Retirement Initiatives at Georgetown University, and founder of MCube Investment Technologies and AlphaEngine Global Investment Solutions.

Footnotes

1. R.C. Merton (2014). The Crisis in Retirement Planning, Harvard Business Review, July–August 2014.
2. Governments frequently serve the function of completing financial markets. Two examples related to meeting retirement funding needs are Japan's issuing of a 40-year ultra-long bond in 2007 to provide a hedging instrument for pension funds and insurance companies, and UST issuing TIPS in 1997 to allow hedging of inflation risk.
3. See A. Muralidhar (2016). An Inventive Retirement Solution. Investment & Pensions Europe, June 2016.
4. A variation of this idea was first addressed in Robert C Merton (1984). On Consumption Indexed Public Plans. Financial Aspects of the US Pension Systems. Eds. Z. Bodie and J. Shoven, National Bureau of Economic Research, Cambridge, MA.

© 2017 Robert C. Merton and Arun Muralidhar. Used by permission.