Solving Global Challenges Using Finance Science

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Role of Financial Innovation and Finance Science in Economic Growth and Development

- Well-functioning financial system is essential for sustainable economic growth and development –financial innovation drives improvement of the financial system, and finance science, technology, and economic need drive financial innovation

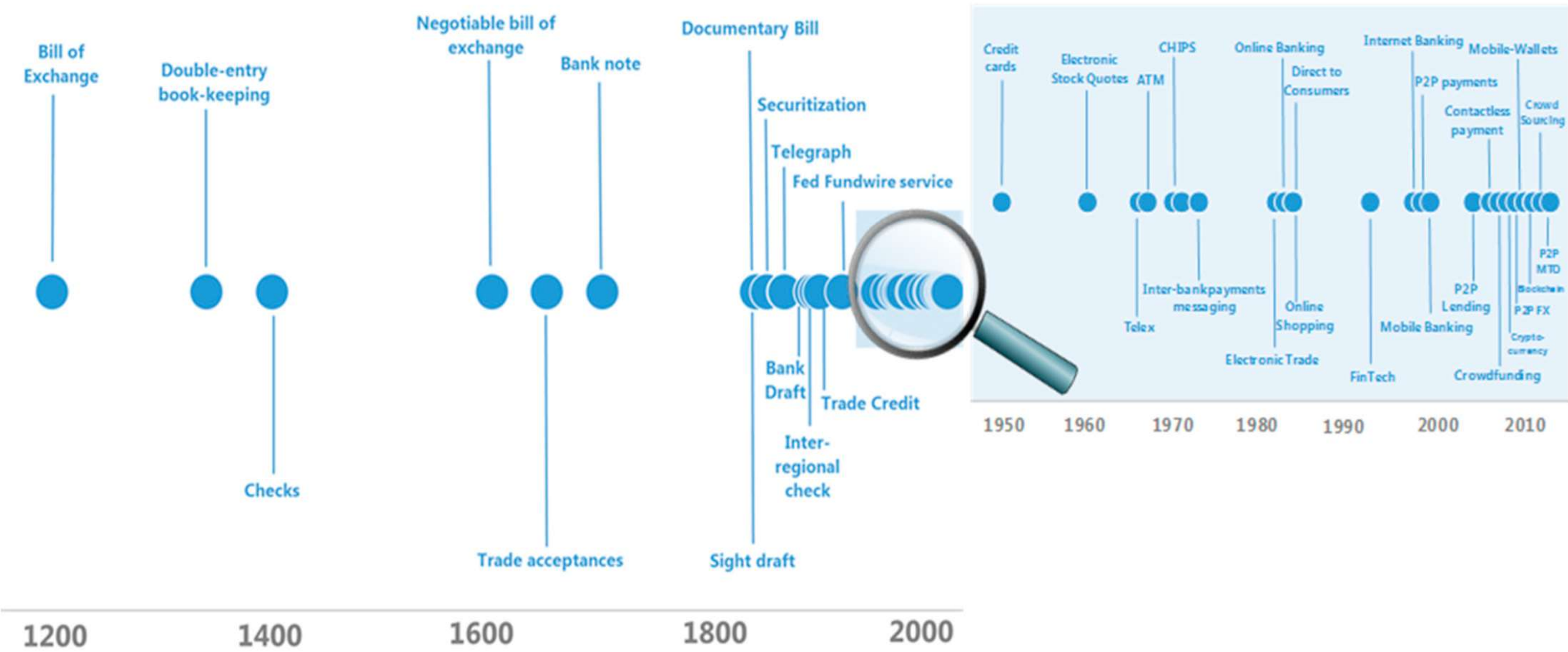
Robert M. Solow "Nobel Perspectives", https://www.ubs.com/microsites/nobel-perspectives/en/robert-solow.html

- Crisis can slow or even reverse financial innovation as in 2008-9. But crisis can also induce implementation of financial innovation which leads to a permanently improved financial system, as in the 1970s-1980s

- When did Finance become a science?   1950s-1960s

- When and why did finance science and finance practice become inexorably connected? 1970s-1980s

Accelerating Pace of Technological Progress in Financial Services



Sources: Arner, Barberis, and Buckley (2017); Quinn and Roberds (2008); World Economic Forum (2015).

How Intangible Innovation from Finance Can Solve Tangible Challenges to Economic Growth, Stabilization, Funding Retirement and Infrastructure

- Implementing more-efficient financial stabilization and growth policies (2019)
  - China Example: Capital controls, governance and local investment government stabilization policies and comparative-advantage strategy for growth, can each be executed without bearing the costly "side-effects" from inefficient diversification and improve stabilization

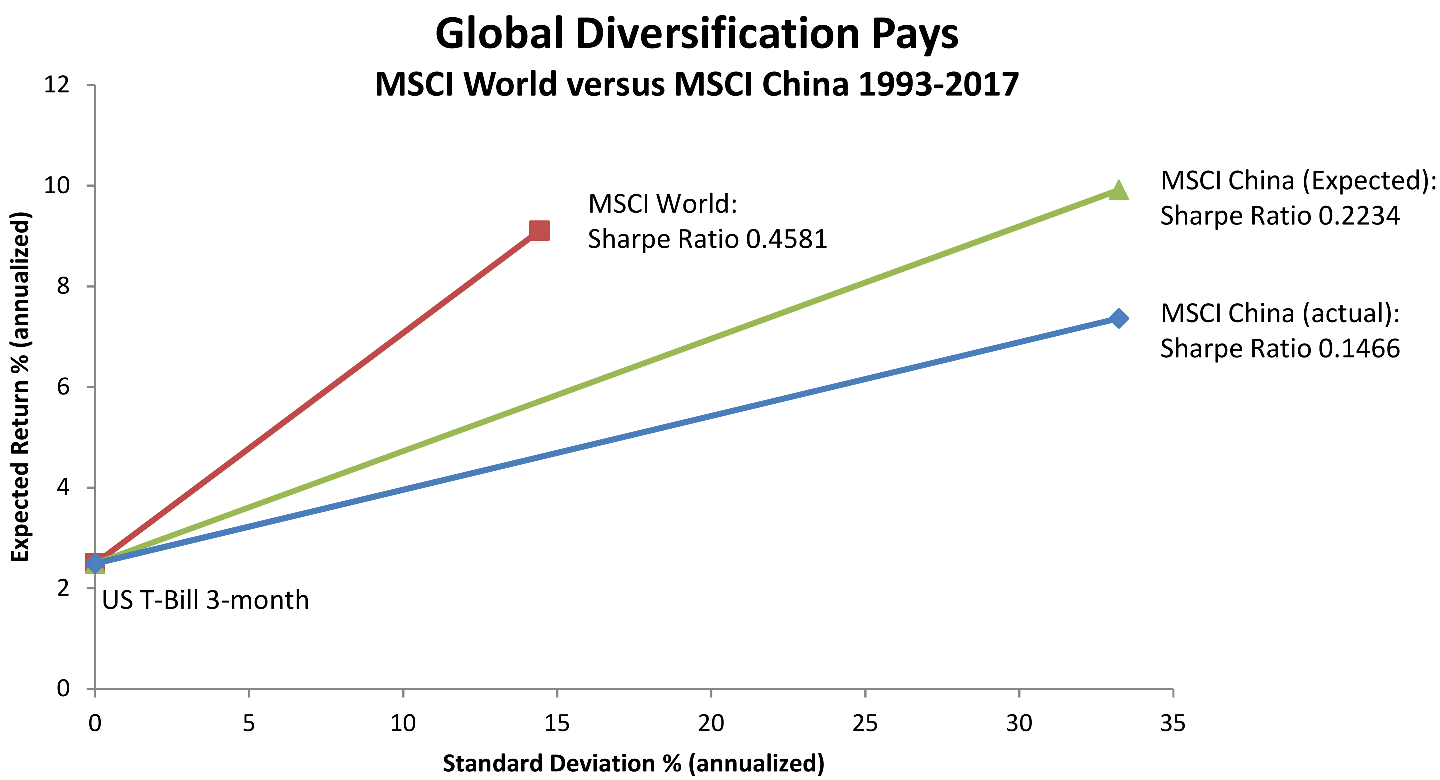
- Addressing multiple policy objectives with a single financial innovation (2019)
  - Global Example: A bond design addresses retirement income solution, efficient funding of infrastructure, reducing the risk and cost of government debt funding and improving core diversification for investors

➢ SeLFIES = standard-of-living indexed, forward-starting, income-only securities

Capital-Controls Stabilization, Governance and Local Investment Policies Have "Side-Effect" Cost of Inefficient Diversification

Cost of Restricting Investing and Risk-Bearing to Domestic Holders Can be Substantial – China as a Case Study

MSCI World versus MSCI China 1993-2017



- Source: MSCI China total return index, MSCI World total return index, U.S. 3 month T-Bill rate, 1993-2015. Returns in USD. "Expected" = expost 0-alpha, conditional on World realized return

Financial Innovation Can Create Improved Policy-Objectives Implementation without the Unintended Cost of Inefficient Risk Diversification by Separating Risk Flows from Capital Flows, Investment and Governance

Before: SWF/ Pension Fund 100% invested in China A Share stocks

China SWF/Pension Fund Return = Return on Chinese A Share stocks

Concentrated Equity Risk

Enter into a Total-Return Swap contract where SWF/Pension Fund

Pays: Return on Chinese A Share stocks

Receives: Return on World stocks

After: Still 100% invested in China stocks as policy requires + swap contract which provides the efficient diversification

China SWF/Pension Fund Return = Return World stocks

Well-Diversified Equity Risk

Note: China only has a cash outflow from the swap when China market outperforms the world markets which are "good times" for China and no need for capital-flight controls and actually receives cash inflow in "bad times". Non-Chinese counterparty gets efficient exposure to China A Shares from a credit-secure counterparty in size. May also help mitigate "asset bubble" risk in local market.

What is a Goal for a “Good” Retirement?

“An inflation-protected income for life that allows you to sustain the *standard of living* you enjoyed in the *latter* part of your working life.”

Standard of living is measured by *income*, and not by *wealth*. Standard-of-living risk is measured by income risk and not wealth risk

Reality everywhere: Individuals will have to take greater responsibility for funding their own retirement in the future than in the past.

SeLFIES is a bond innovation to address this challenge.

What are SeLFIES?

Standard-of-Living indexed, Forward-starting, Income-only Securities

- SeLFIES are government bonds,designed to create a pension-like payout pattern desired by individuals for retirement
- There is a deferred start of payouts until a specified future date (anticipated retirement date) and from that date on there are annual level payouts with indexing, until a specified ending date (longer than life expectancy at retirement)
- SeLFIES would be issued as a series with different annual starting dates. Large bond denominations would be sold at auction and traded in secondary markets as with current practice. Small dominations issued like savings bonds [exchangeable for large denomination SeLFIES]
- The payouts are indexed to aggregate per capita consumption, so that the holder is hedged against both consumption inflation and standard-of-living-change risks
- Robust design to work in any country with a bond market.

E.G. SeLFIES – Standard-of-Living indexed, Forward-starting, Income-only Securities

26-Year Old Planning to Retire at Age 65 (2058) with Goal of $50,000 Retirement Income

- Each 2058 SeLFIES has the following:
  - Starts paying periodic level-payouts of $10/year in 2058 for a fixed period of 20 years, with no principal or "balloon" payout at its maturity in 2078
  - Payouts indexed to per-capita consumption
  - Protects the holder against inflation and standard-of-living changes

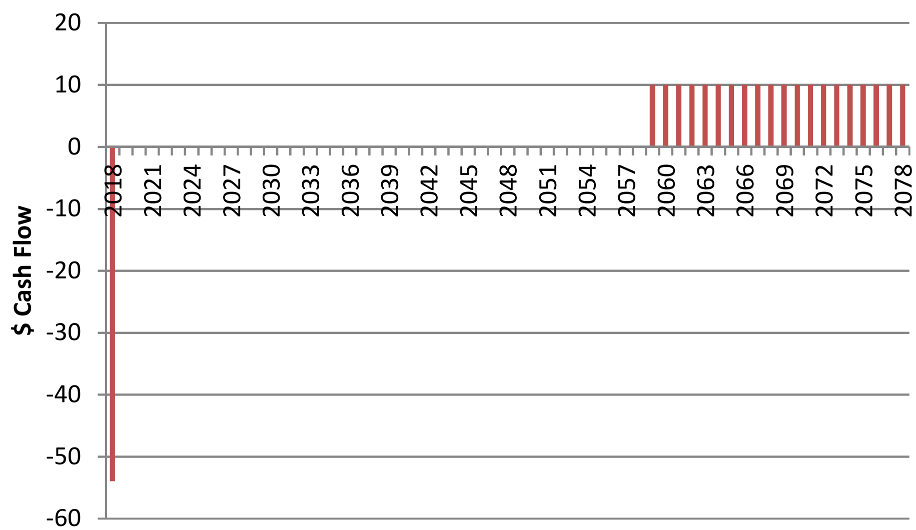
- Super simple to figure out what you need to own to meet your goal
  Goal = $50,000/$10 = need to own 5,000 bonds

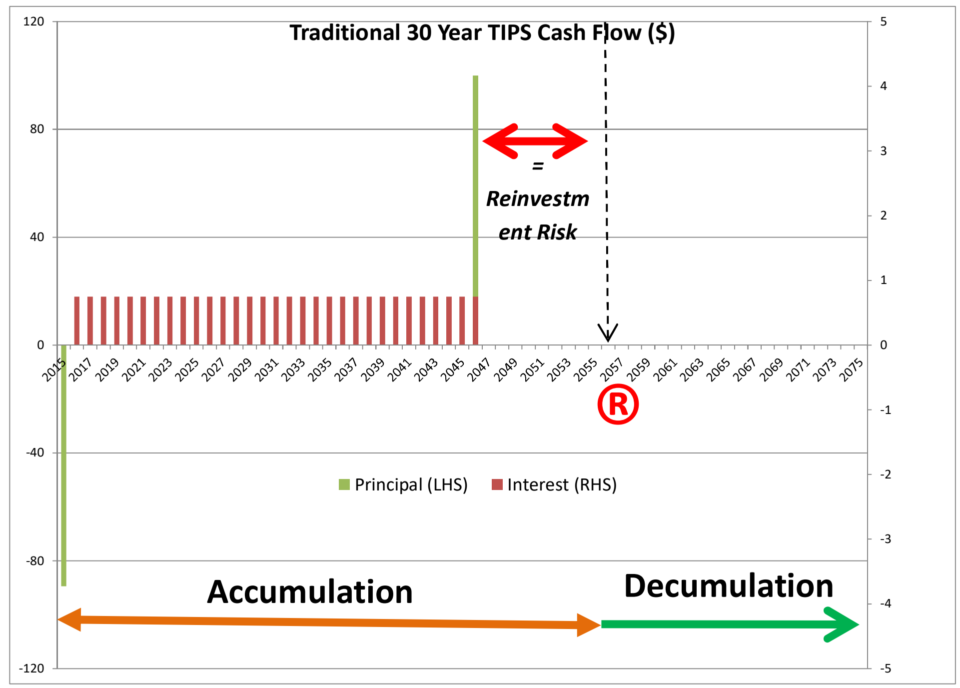
- Super simple to figure out how close you are to your goal
  Where am I? Own 3,000 bonds = $30,000. You are 60% to your goal

- Addresses the challenge of a lack of financial literacy for savers to take responsibility for their own retirement outcomes

Why Do SeLFIES Have a Payout Time Pattern Different from Traditional Bonds with Periodic Coupon Payments and a Principal "Balloon" Payment at Maturity?

Cash Flows of 2058 SeLFIES Match Pension Payouts – No Transactions and No Reinvestment Risk





Why Index Cash Payouts to Consumption Per Capita Instead of Just to Inflation (CPI) ?

Goal for retirement is referenced to sustaining the standard of living experienced in the *latter* part of work life just before retirement –

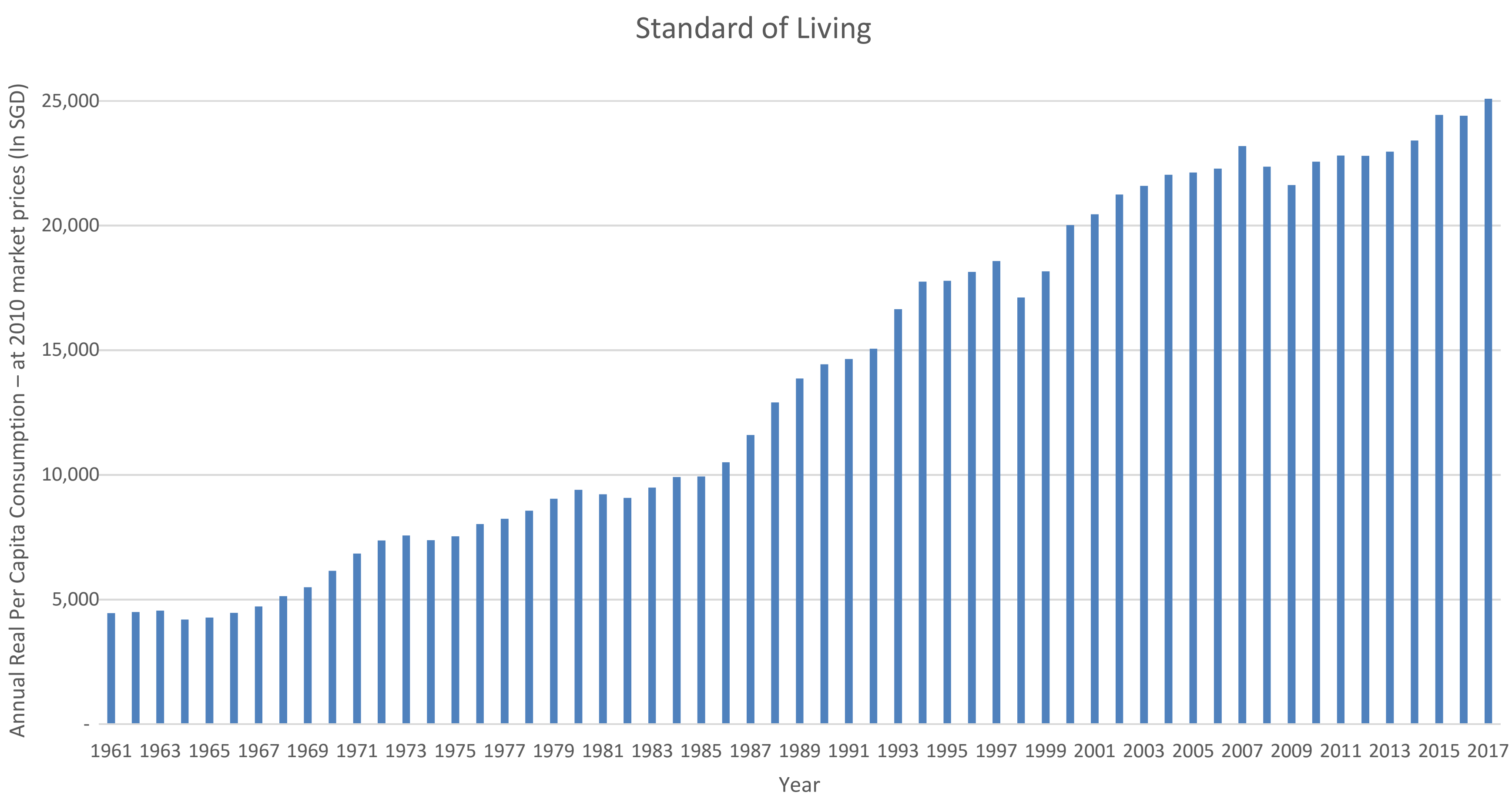
Average Compound Growth Rates: Singapore

Time Period	Consumption per Capita*	Inflation (CPI)**	Standard of Living (SoL)	Goal Short-Fall CPI Only / (CPI & SoL)
2007-2017	3.1%	2.3%	0.8%	0.92 10 Years
1997-2017	3.0%	1.5%	1.5%	0.74 20 years
1987-2017	4.4%	1.8%	2.6%	0.46 30 years
1961-2017	5.7%	2.5%	3.1%	0.18 56 years

*Covers both inflation (CPI) and standard of living (SoL) **Covers inflation (CPI) only

Source: Singapore Department of Statistics
Note: Consumption per Capita is calculated using Private Consumption Expenditure at Current Market Prices (Annual) divided by total population
Inflation is derived from the CPI Index, Base Year 2014 = 100 (Annual)

Standard of Living Growth in Singapore 1961-2017 Annual Inflation-adjusted per Capita Consumption



Growth in Consumption Per Capita versus Growth from Investing in Treasury Bills or the Stock Market

Average Compound Growth Rates: Singapore

Time Period	Consumption per Capita	1-Year T-Bills*	Stock Market Market STI**	Growth Short-Fall STI / (CPI & SoL)
2007-2017	3.1%	0.6%	-0.2%	0.72 10 Years [0.79 T-Bill]
1997-2017	3.0%	1.2%	4.1%	1.22 20 years [0.70 T-Bill]
1987-2017	4.4%	1.7%	4.8%	1.13 30 years [0.45 T-Bill]

Source: Singapore Department of Statistics, Monetary Authority of Singapore, Singapore Exchange
*Based on benchmark average yield of the Singapore Government Securities 1 Year T-Bills
**Based on FTSE Straits Times Index closing price as at 31 December

Who Will be the Users of SeLFIES? Individual Retail and Institutional Investors

- Individuals who are uncovered by any public or private pension plan and must accumulate assets for retirement through personal saving
- Individuals who are covered by a pension plan but the plan benefits are inadequate to provide for a good retirement and they must accumulate additional assets for retirement through personal saving
- Individuals who are covered by a pension plan but at least part of the plan requires their personal decision-making and responsibility as to what to invest the plan assets in, as in a defined-contribution (DC) plan
- Institutional investors such as pension funds and insurance companies who have pension and annuity benefit liabilities, and want to hedge them effectively and at low cost
- General institutional and retail investors who would want an efficient and low-cost core "best-diversified" portfolio, according to finance theory [Consumption Capital Asset Pricing Model, Breeden 1979]

Why Government Should be the Issuer of SeLFIES?

- SeLFIES will have no credit risk and so made very simple for buyers because do not worry about risk of default and all the associated disclosures
- Reliable supplier—to be successful most be prepared to issue bonds in good and bad times and have the capacity to provide large volume on regular basis
- Governments with VAT are “natural” issuers because the bond payments can be hedged by VAT revenues, since VAT is a tax on consumption
- Issuing SeLFIES ensures more domestic holding of government debt, a material benefit, especially for emerging market countries
- A security issued by government to improve financial market “completion” similar to 2007 issuing of JGB 40-year “ultra longs” or 1997 issuing of US Treasury inflation-indexed bonds “TIPS,” could also reduce debt funding cost
- Governments doing infrastructure financing improve maturity-matching of funding for infrastructure investments which reduces re-financing risk and issuing costs; can also be used to management government tax-revenue risk

Addressing Multiple Market Needs and Policy Objectives with a Single Bond Innovation: Retirement Income, Funding Infrastructure, and Improving Investors' Core Diversification… all by Issuing SelFIES

- Principle: match the "best" issuers with the "best" holders and improve to maximize scale and minimize cost
- Retirement funding improvements for individuals and institutions; improve maturity-matching of funding for infrastructure investments to reduce re-financing risk and issuing costs; control government tax-revenue risk; large domestic holding of government debt is more stable funding than foreign holders.
- Pattern of delayed payouts for many years and then level payouts match infrastructure cash inflow pattern and provides a precise match to cash flow needs of retirees, so no further transactions are needed by either issuer or buyer
- Finance science predicts that an asset which is perfectly correlated with aggregate consumption would be an ideal diversification asset for all investors. The Consumption CAPM

Appendix

- Scientific papers underlying China Country Swaps
- Scientific papers underlying SeLFIES
- Survey of professional interest in SeLFIES—Actuarial Society of South Africa 2018
- Global interest in SeLFIES—op-ed and news articles

Scientific Papers Underlying China Country Swaps Concept

- Bodie, Zvi and Robert C. Merton, “International Pension Swaps”, *Journal of Pension Economics and Finance*, March 2002: 77-83.

- Merton, Robert C., “Country Risk”, Commentary, *Risk Magazine*, July, 1999.

- _______________, “Swapping Countries”, Insights, ICBI 2002 Conference Highlights, PricewaterhouseCoopers, 2002

- _______________, “Foreword: On Financial Innovation and Economic Growth”, *Harvard China Review*, (Spring 2004): 2-3.

- _______________,"Swapping Your Country's Risks." Breakthrough Ideas for 2005. *Harvard Business Review* 83, no. 2 (February 2005): 34-36.

- “International: Countries Can Gain by Swapping”, Briefs, *Oxford Analytica*, March 15, 2005, Oxford.

Scientific Papers Underlying SeLFIES Concept

- Breeden, Douglas, “An Intertemporal Asset Pricing Model with Stochastic Consumption and Investment Opportunities”, *Journal of Financial Economics,* 7 1979, 265-296.
- Merton, Robert C. "On Consumption-Indexed Public Pension Plans." In *Financial Aspects of the U.S. Pension System*, edited by Zvi Bodie and John B. Shoven. Chicago: University of Chicago Press, 1984. Reprinted as Chapter 18 in Robert C. Merton, *Continuous-Time Finance,* Wiley-Blackwell, 1990, revised edition 1992.
- Merton, Robert C. ““The Crisis in Retirement Planning,” *Harvard Business Review*, July-August 2014
- Muralidhar, Arun, K. Ohashi, and S. Shin. 2014a. The Relative Asset Pricing Model: Implications for Asset Allocation, Rebalancing, and Asset Pricing. *Journal of Financial Perspectives* (https://www.gfsi.ey.com/the-journal-of-financial-perspectives.php) March 2014
- Muralidhar, Arun, K. Ohashi, and S. Shin. 2014b. The Relative Asset Pricing Model: Toward a Unified Theory of Asset Pricing, *Journal of Investment Consulting*, Vol. 15, No. 1, 51-66, 2014
- Muralidhar, Arun, K. Ohashi, and S. Shin. 2016. The Most Basic Missing Instrument in Financial Markets: The Case for Bonds for Financial Security, *Journal of Investment Consulting*, Vol. 16, No. 2, p. 34-47, 2016

Survey of Interest in SeLFIES - What feature(s) of SeLFIES appeal to you?

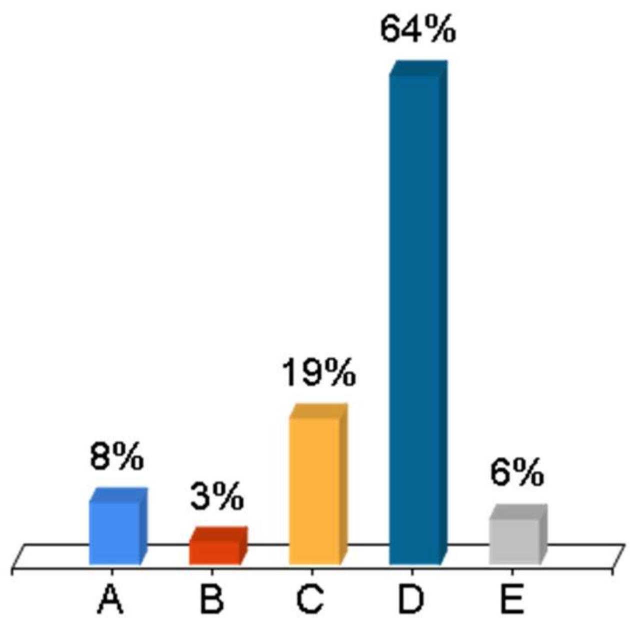
A. **Forward Starting / Deferred payment**

B. **The in-force payment pattern**

C. **The indexing feature**

D. **Some or all of the above**

E. **None of the above**



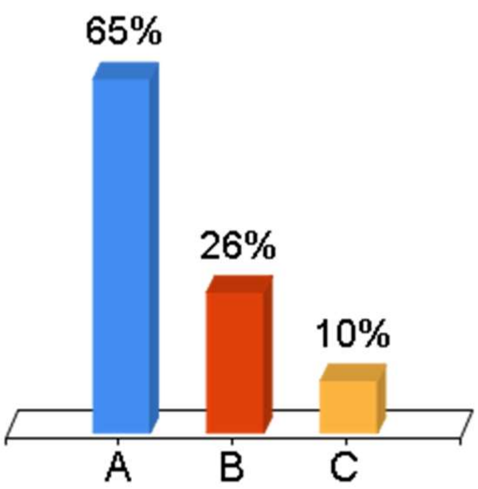
Voted:136

Survey of Interest in SelFIES:
Assuming it was possible, would you take retirement SeLFIES?

A. Definitely interested – Assuming the economics makes sense

B. Slight interest – Can't really see the investment merit here

C. No Interest



Voted:136

Actuarial Society of South Africa Conference 2018

Interest In SeLFIES: OP-ED & Articles

- USA/Europe: Op-ED Pensions & Investments Europe & PLANSPONSOR
- UK: The Economist   Will SeLFIES Stick?
- France: OP-ED Le Monde
- Japan: Nikkei
- Australia: Investment Magazine
- India: Times of India
- Turkey: RÖPORTAJ

SeLFIES - USA / Europe

Time for retirement 'SeLFIES'?

Robert Merton & Arun Muralidhar

To address the looming retirement crisis, many governments are introducing new pension programmes tied to employment for uncovered workers (NEST in the UK and Secure Choice in some US states). These attempt to improve access to pensions, and continue a trend of transferring responsibility for retirement security from governments and employers (via defined benefit [DB] plans) to the individual (via defined contribution [DC]plans), as neither governments nor companies are willing to bear the liabilities associated with pension obligations. This shift requires new thinking about how portfolios are managed and which instruments are available to investors. Our proposed SeLFIES (Standard of Living indexed, Forward-starting, Income-only Securities) make individuals self-reliant and are also advantageous for governments.

For optimal portfolio management, members of DC plans should focus on maximising funded status or retirement income (not wealth, as in traditional investment approaches)[1]. Further, unlike multi-generational DB plans, DC plans must achieve their objectives in a single lifetime, and it is hard to pool risks because these plans are inherently flexible: (a) participation is often voluntary; (b) participants may require liquidity; (c) retirement ambitions, risk tolerance and life expectancy vary; and (d) employment patterns change over time (ie, the gig economy does not tether an individual to a single company). A new financial instrument is needed to enable financial security for retirees in the current environment.

DC investors seek to ensure a guaranteed, real income, ideally from retirement to death. It is also reasonable to assume they would want to lead a lifestyle comparable to pre-retirement. Investing in existing assets (stocks, bonds, or REITs) is risky because these do not 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 cash flow (and potential maturity) mismatch between traditional bonds and the desired income stream.

There is thus a need for governments to issue a new 'safe' bond instrument, which we call SeLFIES. These will ensure retirement security and the government is a natural issuer[2].

The innovative SeLFIES design

A default-free bond offers certainty about two characteristics critical for DC retirement portfolios: (i) a commitment to pay over a particular time horizon (how/when one is paid); and (ii) 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 (i) 'how/when one is paid' by creating forward-starting, income-only bonds. These would start paying investors upon retirement, paying coupons-only for a period equal to the average life expec- ►

SeLFIES - Australia

SeLFIES a good look for Australian retirement

By Robert C. Merton and Arun S. Muralidhar | 06/06/2018

The Treasury Department has issued a report seeking comment on ways to improve retirement income security in Australia (*Retirement Income Covenant Position Paper: Stage one of the Retirement Income Framework*, May 2018).

SeLFIES - India

N ECSTASY OF IDEAS

THE TIMES OF INDIA, MUMBAI
MONDAY, FEBRUARY 5, 2018

SeLFIES For India

These long-term bonds can fund India's infrastructure needs and improve retirement security

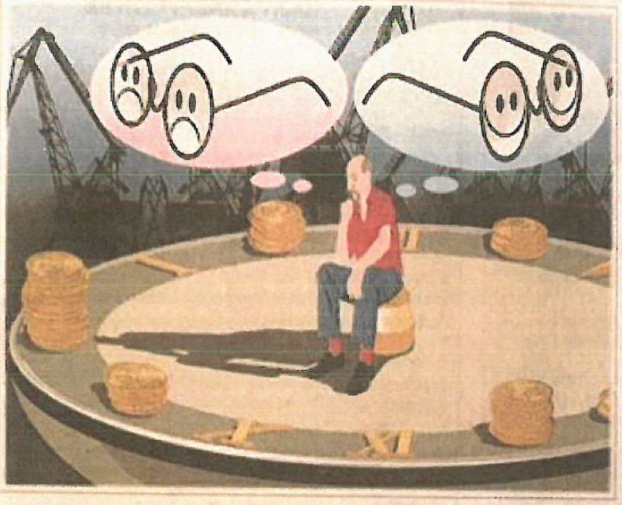
Robert C Merton and Arun S Muralidhar

The Indian government unveiled its Budget and recognises that the infrastructure sector needs investments of Rs 50 lakh crore to boost GDP (allocating Rs 5.9 lakh crore as a primary step). Simultaneously, certain provisions in the Budget seek to improve the lives of retirees, and finance minister Arun Jaitley specifically noted that, "A life with dignity is a right of every individual, in general, more so for the senior citizens."

One of the major challenges that India will face is ensuring the income security of its senior citizens, especially in a country where financial literacy is relatively low. The government can easily fund infrastructure, especially since it has given permission to the National Highways Authority of India (NHAI) and other institutions to issue bonds, and have an immediate impact on the retirement challenge by issuing a new type of long-term bond, one we call SeLFIES – Standard of Living indexed, Forward-starting, Income-only Securities.

SeLFIES address many of the challenges raised in the Budget and are also advantageous to the ministry of finance, especially in light of the recent implementation of a Goods and Services Tax (GST).

"A life with dignity" would ideally include guaranteed, real income, from retirement through death, and the ability to lead a lifestyle comparable to pre-retirement. The Indian government



and decumulation because they are largely financial illiterate.

The complexity of retirement planning leaves many confused about what constitutes adequate savings for retirement. Individuals are overwhelmed by the information provided and the absence of a robust and uniform method to make these calculations. Moreover, there is uncertainty over what to invest in and how best to decumulate. Most adults can barely answer questions about compound interest, the effects of inflation or the benefit of diversification. Investing in existing assets is risky relative to the retirement objective, because these assets fail to provide a simple or low-cost cash-flow

SeLFIES are designed to pay people when they need it and how they need it. Even the most financially illiterate individual can be self-reliant with respect to retirement planning

annuity markets are not sufficiently deep or developed. More importantly, many hesitate to buy annuities because they can be complex, opaque and illiquid; investors fear not being able to bequeath the annuities to heirs.

the risk of inflation and standard-of-living improvements.

SeLFIES are designed to pay people when they need it and how they need it, and greatly simplify retirement investing. A 55-year-old today would buy the 2028 bond, which would start paying coupons when he turns 65, in 2028, and keep paying for 20 years, through 2048.

In this way, even the most financially illiterate individual can be self-reliant with respect to retirement planning. For example, if someone wants to guarantee Rs 50,000 annually, risk-free for 20 years in retirement to maintain their current standard of living, they would need to buy 500 SeLFIES – ie, Rs 50,000 divided by Rs 100 – over their working life.

The complex decisions of how much to save, how to invest, and how to draw down are simply folded into an easy calculation of how many bonds to buy. SeLFIES do not address all issues, including longevity risk, but go a long way toward improving retirement security.

These securities are a good deal for governments, too. In fact, governments are the biggest beneficiaries. SeLFIES not only improve retirement outcomes for all citizens saving for retirement, but also have spill-over benefits.

First, cash flows from SeLFIES reflect synergistic cash flows for infrastructure spending: namely, large cash flows upfront for capital expenditure, followed by delayed, inflation-indexed revenues, once projects are online. Financing infrastructure has been a challenge and a priority for the current government, especially given the current Budget. Second, SeLFIES gives the Indian government a natural hedge of revenues against the bonds, through GST.

The looming retirement crisis needs

SeLFIES - Japan

経済教室

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ポイント
○老後保障確保に応える金融商品ほぼなし
○退職時から一定期間均等額を払う仕組み
○長期インフラ投資の資金手当てにも適合

老後保障向け金融商品
退職後支払いの新型国債を
個人の資産運用負担 軽減

2007年に東大客員教授を務めていた筆者の1人（ムラリダール）は日本の社会保障制度を分析した。公的年金制度は人口高齢化に深刻な圧力をかけられているが、社会の連帯という概念を支える柱になっていると結論づけた。

公的年金制度は退職者に一定の年金収入を保障するが、各人の希望にかなう収入を確保するといった柔軟性は限られる。そこで国民は個人的に銀行預金をするとか、保険会社と契約して年金商品を買うなどの策を講じて、退職後に備えているのが現状だ。だが多くの人は金融知識が乏しいにもかかわらず、複雑な資産運用の判断を迫られている。

日本も退職後の保障を改善できるような新しい金融商品を導入する必要がある。今日では多くの国が人口構成の変化（平均寿命の延びや出生率の低下）と低成長により、同様の課題に直面している。社会保障制度を支えるための増税の余地は限られている。

もう一人の筆者（マートン）は、日本政府が年金基金や保険会社のALM（資産・負債の総合管理）を改善する目的で40年物国債を発行した際に関わった。今回提唱するイノベーション（革新）は過去に米国、フランス、インドでも提案した。従来の保障を維持・強化するとともに、個人が退職後に備えるための低コストでわかりやすく直接的な手段を提供できるだろう。

米国での投資の新しい方向性にゴールベース投資がある。個人がめざすゴール（目標）は退職後に備えたいとか、家を買いたいというように多様だとの認識から出発する。ゴールが各人各様であるとすれば、そのために必要な投資戦略も異なるはずだ。

図は現在25歳の人が65歳から25年間にわたり、年収300万円（月収25万円）を確保したいと考えている場合の退職年金のフローを示したものだ。これだけの保障（ゴール）があれば、退職前の生活水準を退職後も維持できるとする。このキャッシュフローのパターンは、家の購入や旅行といった他のゴールのためのパターンとは全く違う。

社会保障制度から年200万円（月約17万円）の年金が給付されるとすると、年100万円を自分で手当てする必要がある。このゴールの達成にとって阻害要因となるのが金融知識の欠如だ。いくら貯金すればよいのか、どの資産に投資すればよいのか、どんなペースで取り崩すのがよいのかなどの判断を迫られる。

大人でも複利、インフレの影響、分散投資のメリットなどに関する質問に答えられる人はほとんどいない。そのうえ民間の保険会社が提供する据え置き期間付き年金を除いて、図のような特殊なパターンに応えられる資産は存在しない。しかしこうした金融商品は仕組みが複雑で流動性が低く、遺族給付の柔軟性に乏しいうえ、大概は高コストだ。一方、銀行預金は資産を守ってくれるが、利回りが低いため退職者には不向きだ。

発行済みの日本国債は利子のみを半年に1度支払い、元本は満期時に償還される方式をとる。仮に額面5万円の40年物日本国債を買えば、半年に1度の利払いがあり、5万円の元本は最後の利払いとともに40年後に償還される。

一方、個人向け小口額面（1万円）の10年物国債は変動金利付きしか発行されない。この国債は資産保護の観点からは安全な金融商品にみえるかもしれない。だが実際には図のような望ましいキャッシュフローのパターンと比べるとかなりリスクが大きい。個人はまだ働いていて収入のあるうちから、必要もないのに利子をもらうことになる。

従って将来の不確定な利率で再投資せざるを得ない。元本は一度に償還されるので、キャッシュフローのミスマッチと再投資リスクを招くことになる。たとえ元本がインフレ率に応じて調整される物価連動国債であっても、それだけでは不十分だ。退職よりかなり前に貯金を投資に回しているため、生活水準が大きく変動している場合に対応しきれなくなるためだ。

退職後も生活水準を維持しようとすれば、必要な金額は退職までの長い間に増えていく可能性が高い。生活水準を維持するには備えが足りないということになりかねない。

日本政府はより期間の長い50年物国債を発行することは可能だろう。しかしそれよりも、低コストで流動性が高く超長期の新型債券を発行する方がよい。そのために筆者が

Robert C. Merton 44年生まれ。MIT博士。97年ノーベル経済学賞受賞

Arun S. Muralidhar [illegible]年生まれ。専門は[illegible]

SeLFIES - Turkey

MIT PROFESÖRÜ NOBEL ÖDÜLLÜ ROBERT MERTON VE GEORGETOWN ÜNİVERSİTESİ EMEKLİLİK ARAŞTIRMALAR MERKEZİ DR. ARUN MURALİDHAR; "Emeklilik İçin Basit ve Etkin Bir Çözüm Önerisi: SeLFIES"


Prof. Robert Merton

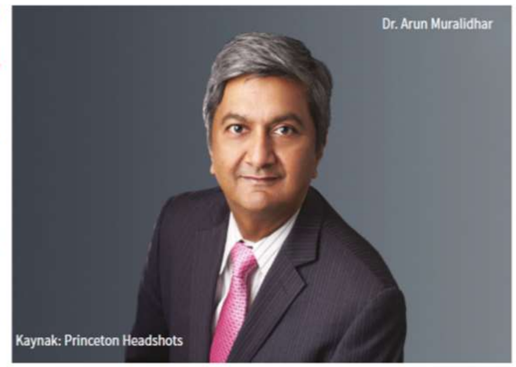
Time for retirement 'SeLFIES' adlı makalede bahsi geçen SeLFIES tahvilleri hakkında bilgi verir misiniz? Bu tahviller OKS'ye nasıl bir efektif yaklaşım kazandıracak?

Önerdiğimiz yenilik; ABD, Avustralya, Japonya ve Hindistan'da olduğu gibi, Türkiye'de de emeklilik sistemini iyileştirip, milyonlarca katılımcıya, düşük maliyetli, kolay ve güvenli bir emeklilik yolu açabilir. Zamanlama açısından da Türkiye'de özel emeklilik sisteminde yaşanan zorluklara çözüm ve sosyal dayanışmaya da katkı yapar.

Bireyler, emeklilikte hayat standardını devam ettirmek için enflasyona yenik düşmeyen garantili bir gelire ihtiyaç duyarlar. Örneğin, ortalama bir Türk vatandaşı, emeklilikte rahat ve güvende olmak için, bugünün parası ile ayda 2 bin TL'ye ihtiyaç duyabilir. Ancak; buna ulaşmak için, ne kadar tasarruf edip, emeklilikte ne kadar harcayacağına dair belirsizlik vardır. Çoğu yetişkin birey, bileşik faiz, enflasyonun etkisi veya yatırımda riski dağıtma gibi temel finansal okur yazarlık konularından bihaberdir. Dahası, riskli menkullere yatırım yapmak, emeklilik açısından risklidir çünkü bu finansal varlıklar bir emeklinin ihtiyaç duyduğu basit ve düşük maliyetli nakit akışını sağlayamaz. Hatta "güvenli" devlet tahvilinden oluşan portföy bile, belli bir maliyet karşılığında ciddi finansal mühendisliğe tabi olmadan, risklidir, çünkü nakit akışı ve vadeler uyuşmayabilir. Şu anda, Türk Devlet Tahvilleri (DT), geleneksel tür olup vadeye kadar kupon faizi ve vadede ana para ödemektedir. Bugün 10 yıllık DT'ni satın alan kişiler, senede iki kerelik kupon faizi (1.000 TL anapara başına yıllık toplam 140 TL) ve 10. yılda son kuponla birlikte anaparayı almaktadır. Sermayeyi koruma perspektifinden güvenli gibi gözüken bu tahviller, aslında bir emekliye gerekli olan nakit akışı hedefine kıyasla oldukça riskli araçlardır. Riskin sebebi sudur: Bireyler ihtiyaç duymadıkları anda kupon alırlar (çalışıp para kazanırken) ve dolayısıyla gelecekte belirsiz faiz oranlarıyla yeniden yatırım yapmak zorundadırlar. Anapara ödemesi (10 yıl sonra) kişi emekli olmadan (30-40 yıl sonra) yapıldığı için, nakit akışı uyumsuzluklarına ve yeniden yatırım riski alınmasına yol açar. Karmaşık finansal önlemler bu zorluğu gideremez, ayrıca riskli ve maliyetli olabilir. Bu ödemeler enflasyona göre ayarlansa bile, yine de yeterli olmayacaklardır, çünkü emeklilikten çok önce yatırıma yönlendirilen tasarruflar için yaşam standardı riski gerçekten önemlidir. Çalışırken bir kişinin hayat tarzını devam ettirmek için gereken miktar, bu uzun dönemde artmaya devam edecek, emeklilikte bunun için gerekli yeterli tasarruftan mahrum olacaktır.

SeLFIES adını verdiğimiz ve yaşam standardına endeksli olarak ileri bir tarihte faiz kuponu ödeyen menkul kıymetler bu sorunların çoğuna çözüm getirebilmektedir. Türk Hazinesi yeni düşük maliyetli, likit ve "güvenli" çok uzun vadeli bir borçlanma enstrümanı çıkartabilir. Bu özel tahviller, kişi emekli olunca ödeme yapmaya başlıyor ve emeklilikte ortalama yaşam beklentisine eşit bir süre için (örneğin 20 yıl), kişi başına harcama miktarına endeksli reel bir kupon (mesela yılda 5 TL) ödüyor. SeLFIES, hem enflasyon, hem de yaşam standardında yükselme riskini telafi etmektedir. SeL FIES, insanlara ihtiyaç duydukları zaman ve istedikleri şekilde ödeme yapmak için tasarlanmıştır ve emeklilik yatırımını büyük ölçüde basitleştirmektedir.

"ÖNERDİĞİMİZ YENİLİK, ABD, AVUSTRALYA, JAPONYA VE HİNDİSTAN'DA OLDUĞU GİBİ, TÜRKİYE'DE DE EMEKLİLİK SİSTEMİNİ İYİLEŞTİRİP, MİLYONLARCA KATILIMCIYA, DÜŞÜK MALİYETLİ, KOLAY VE GÜVENLİ BİR EMEKLİLİK YOLU AÇABİLİR."


Dr. Arun Muralidhar

Kaynak: Princeton Headshots

Bugün 55 yaşındaki bir kişi, 2028 tahvilini satın alacak ve 65 yaşına geldiğinde kupon ödemesi almaya başlayacak ve bu ödemeler 20 yıl boyunca 2048'a kadar devam edecek. Finansal okur-yazarlığı en düşük kişi bile, emeklilik planlamasını kendi başına yapabilir. Örneğin katılımcı, risksiz 20 yıl ve yılda 25.000 TL'lik güvenceli bir emeklilik planı isterse, çalışma hayatı boyunca 5.000 SeLFIES satın alması gerekecek (25.000 TL / 5). Ne kadar biriktirileceği, nasıl yatırım yapılacağı ve yatırımın nasıl çekileceği gibi karmaşık soruların hepsi basit bir hesaba indirgenmektedir. Basit, likit ve düşük maliyetle işlem görme ve düşük kredi riski gibi özellikleri yanında, SeLFIES varislere de bırakılabilmektedir. SeLFIES, emeklilikte uzun yaşam riski gibi tüm sorunları çözmese de emeklilik güvencesini iyileştirmek için önemli bir adımdır.

SeLFIES ihraç eden devletler için de iyi bir araçtır ve aslında devlet bundan en çok faydalanacak taraftır. SeLFIES, tüm katılımcılar için emeklilik sonuçlarını iyileştirmekle kalmaz, aynı zamanda mevcut yönetim ve gelecekteki hükümetler için de faydaları vardır. Birincisi, bu tür kağıtlar, bütçede KDV gelirleri olan Hazine'ye doğal bir geri ödeme koruması sağlamaktadır. İkincisi, SeLFIES'in nakit akışları, altyapı harcamalarının nakit ihtiyaçlarına uyumlu bir sinerji sunmaktadır. Yani, SeLFIES ilk ihraç edildiğinde gelen yüksek nakit akışı projenin yatırımını fonlar. Proje hayata geçip enflasyona endeksli gelir yaratmaya başladığında da reel kuponları öder. Ayrıca, hükümet bu tür tahviller çıkardığında, sigorta şirketleri ya da altyapı inşaatı şirketleri gibi diğer şirketler de ihraç ederek piyasayı büyütüp tamamlarlar. Böylelikle tüm yük devlete binmez. Bu menkuller, geleneksel devlet tahviline benzedikleri için, otomatik katılım sistemine kolaylıkla dahil edilebilir ve katılımcılar, emeklilik geliri perspektifinden tek güvenli varlık olan SeLFIES tahvillerini otomatik alabilirler.

SeLFIES tahvillerinin bireysel emeklilik katılımcılarının gelecekte alacağı emekli maaşına yönelik olarak nasıl bir çözüm sunacağını düşünüyorsunuz?

Normal bir bireye emeklilik dönemi bütçesini sorsanız, size yılda 25.000 TL'ye ihtiyacım var gibi bir cevap vermesi, toplam 450.000 TL'lik bir emeklilik portföyüm var ve bundan senede 25.000 TL çekeceğim demesinden, çok daha olasıdır. Çoğu vatandaş, emeklilik gelir seviyesini telaffuz eder; hedef servet seviyesini değil. SeLFIES tahviller tam da bunu, yani bireylerin istediğini sağlar: Hayat standardına endeksli her yıl artan sabit bir maaş. Bahsi geçen SeLFIES tahvillerinin emekliliğe bu denli uygun olmasının nedeni, bu tahvillerin nakit akışının emeklilik dönemi gelir ihtiyacını tam anlamıyla karşılamasıdır.

Tercümanlar: Kübra Şebnem Koldemir
Mehmet Gerz

SeLFIES, hem enflasyon, hem de yaşam standardında yükselme riskini telafi etmektedir. SeLFIES, insanlara ihtiyaç duydukları zaman ve istedikleri şekilde ödeme yapmak için tasarlanmıştır ve emeklilik yatırımını büyük ölçüde basitleştirmektedir.

Röportaj: Rabia Kübra Kanun