A Six-Component Integrated Approach to Addressing the Retirement Funding Challenge

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What is a Good Retirement Goal?

“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.”
Reality Check: Only Four Ways to Improve the Probability of a Good Retirement

1. **Save More for Retirement**
   Lower lifetime consumption level

2. **Work Longer Before Retiring**
   More saving and shorter retirement period to fund

3. **Take More Investment Risk**
   Prepare “Plan B” for the consequences if that risk is realized

4. **Improve Income Benefits From Accumulated Retirement Assets**
   Annuities and equity-extraction from the house improve benefits without changing saving behavior
Six Feasible Components of an Integrated Approach to Funding Retirement

1. **Pillar I/II Social Security/DB employer pension plan**
   - Highest expected return for risk; cost efficient

2. **Pillar II DC**
   - Make it as easy to use as DB – with a comprehensive default offering
   - Include robust-design tool for engaged members to tailor income outcomes (without requiring financial knowledge/literacy)
   - Provide a smooth transition from accumulation to pay-down phase, customized at retirement

3. **Pillar III provide for uncovered workers and expand opportunity for personal saving for retirement**
   - Creation of a new “pension bond” (aka SeLFIES) for purchase by either those not covered by any pension plan or those who want to supplement their benefits beyond their pension plan; requires no financial knowledge and low cost to use
Six Feasible Components of an Integrated Approach to Funding Retirement (continued)

4. **Provide more benefits from assets at retirement**
   - Efficient deployment of those assets to enhance benefits without increasing risk
   - Reverse mortgage (home pension) and annuities can do so materially, without changing people saving behavior

5. **Work longer, in a systematically organized, retirement-friendly structure**
   - Contract-employees and organized public and private-sector specialized jobs designed to use the comparative advantages of seniors, with minimal new training required
   - To provide both needed cash flow and smoothly taper the work experience

6. **Restructure the retirement system as a broader lifecycle crisis-coverage system**
   - For personal and systemic crisis throughout the lifecycle as well as retirement funding
   - An organized conduit to get financial resources to individuals quickly and efficiently during crisis
Pillar II DC: Key Retirement Income Principle

Most individuals have no way to relate an account balance to a retirement standard of living

$1,000,000
Account Balance
Most individuals DO understand a stream of income in terms of current purchasing power in assessing a standard of living in retirement.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
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<td>Year 22</td>
<td>Year 23</td>
<td>Year 24</td>
<td>Year(S) 25…</td>
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$55,000
Real Income
70% salary replacement rate
The cost of the retirement liability is the present value of 25 equal, inflation-indexed payments starting at age 60. Payments are discounted using the Mexican real yield curve. Udibonos yields were sourced from Bloomberg on 08/31/2020. Example illustrates a 50-year-old plan participant with a balance of 150,000 pesos, could purchase an inflation protected annuity for 25 years representing MXN$949 monthly pesos.

Current market bond yields should be used to calculate future annual payout in current 2020 $.

To learn more, read Commentary: 5 Ways to Make the SECURE Act Meet Participants’ Needs, Pensions & Investments, 21 August 2020

https://www.pionline.com/industry-voices/commentary-5-ways-make-secure-act-meet-participants-needs

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Income returns are calculated as the month-over-month percent difference of 25 years of $1 cash flows, deferred for 10 years when currently holding 3-month T-bills. Computed using the U.S. TIPS yield curve.

Wealth Goal vs Retirement Income Goal

The correct risk-free assets is critical given the goal. If you do not measure risk correctly, you cannot manage risk correctly.

The volatility of US T-bills is **minimum risk** when looking at it as an asset value but it is **high risk** measured in retirement income (funded-ratio units).
Retirement Income Goal Needs Different Risk Measure

Using the correct risk free asset is critical. If you do not measure risk correctly, you cannot manage risk correctly.

The volatility of life-income hedge price is **high risk** when measured in terms of **asset value**.

The volatility of life-income hedge price is **minimum risk** when measured in terms of **income**.

Asset value returns are calculated as the month-over-month percent difference in the current cost of 25 years of future $1 cash flows, deferred for 10 years. Current cost computed by discounting future cash flows using the U.S. TIPS yield curve.
Pillar III (Uncovered Workers): SeLFIES---"Pension" Bond

**Cash Flows of 2058 SeLFIES**
Match Pension Payouts –
No Additional
Decisions/Transactions and No
Reinvestment Risk

**Cash Flows of 30-Year TIPS**
61 Additional Decisions/
Transactions and Considerable
Reinvestment Risk

To learn more, read: A Six-Component
Integrated Approach to Addressing the
Retirement Funding Challenge
with Arun Muralidhar, Journal of Investment
Key Instruments to Maximize Retirement Income Benefits from Retiree’s Assets—Life Annuity and Reverse Mortgage

Immediate and Deferred Annuities

Larger payout for same assets as long as you live... the “mortality dividend”

“Tail” insurance on longevity, payouts deferred to > age 85

In return, you give up assets at death when they are no longer needed

Reverse mortgage can provide funding for retirement late in the lifecycle

House is principal source of personal saving and typically largest asset at retirement

Both a pre-paid specialized annuity and a general retirement funding asset

No repayments while retiree is living in house; non-recourse to retiree or estate

Obvious choice for those with no bequest motive; can work well with beneficiaries if explained properly

Both annuity and reverse-mortgage markets will require innovations in designs and market distribution for high efficiency and effectiveness
How the Annuity and Reverse Mortgage Can Achieve a Good Retirement:
(50th Percentile Income Example Age 65)

$50,000 Income | Retirement Goal $36,000 (72% replace) | $165,000 DC Assets | $300,000 house
Inflation-protected bond interest rate = 1.50% and life annuity inflation-protected rate = 5.40%

Security $18,978 + bond interest DC $2,475 = $21,453 benefit (60% of goal)
Social Security $18,978 + Annuity purchase DC $8,910 = $27,888 benefit (77% of goal)
Reverse mortgage principal = $162,000 (54%) Annuity income purchase= $162,000 x 0.054 = $8,748
Social Security $18,978 + Annuity purchase DC+RM $17,658 = $36,636 benefit (100%)

Benefit: Social Security 52%  Annuity DC 24%  Annuity Reverse Mortgage 24%
Apply a Smooth Transition to Post-Accumulation, Flexible Spend-Down Strategies Customized to Fit Individual Needs

<table>
<thead>
<tr>
<th></th>
<th>Guaranteed Income for life</th>
<th>Conservative draw-down (minimum-risk income)</th>
<th>Desired income growth goal</th>
<th>Longevity insurance</th>
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<tbody>
<tr>
<td>1</td>
<td>Life annuity</td>
<td>Not guaranteed</td>
<td>Targeted increase in income starts at specified future date in retirement</td>
<td>Deferred life annuity—purchase at retirement and payments start at age 85</td>
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<tr>
<td></td>
<td>Social Security</td>
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<td>Invest in risk asset</td>
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<td>DB employer pension</td>
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<td>Not guaranteed</td>
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<td>No longevity protection</td>
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<td>Provides liquidity</td>
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<td>Room for non-spouse bequests</td>
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