According to 2015 Form 5500 filings, 37 million Americans participated in defined benefit (DB) retirement plans, and 98 million Americans participated in defined contribution (DC) retirement plans. DC plans have clearly become the dominant vehicle for employer-facilitated retirement savings in the United States.

Given the growth of the DC retirement system, questions remain about DC participants’ ability to translate savings into lifetime income. The Employee Retirement Income Security Act (ERISA) Advisory Council addressed this issue in a 2005 study on retirement distribution and options and a 2008 study on the spend-down of defined contribution assets at retirement. There have been many related academic and industry studies since, plus additional government studies, such as those conducted by the Government Accountability Office (GAO). However, despite this focus and interest, a number of commentators have repeatedly lamented the limited amount of action focused on addressing the lifetime income challenge. In a recent report, GAO recommended an independent commission to explore, among other issues, “improving options for the spend-down of savings in retirement.”

Why is there a disconnect between intent, interest and action?

One hypothesis is that there is too much focus on lifetime income theory and too little consideration of retirement realities, resulting in a disconnect between actual retiree needs and what the market thinks retirees need. Consequently, many solutions may have had less take-up than expected.

The Theory of Retirement and Lifetime Income—And Does the Theory Hold?

One key theory behind how to approach lifetime income is the lifecycle theory of consumption, for which Franco Modigliani won a Nobel Prize. As the press release for the Nobel Prize awarded in 1985 noted:

From the postulate of utility maximization, it follows that consumption is evenly distributed over time and this, in turn, implies that the individual, during his [or her] active period, builds up a stock of wealth which he [or she] consumes during his [or her] old age.

A common challenge to this hypothesis has been that reti-
ees typically do not spend down assets in retirement, at least not as materially as the lifecycle hypothesis would suggest. Love, Palumbo and Smith documented evidence in their paper *The Trajectory of Wealth in Retirement*,4 in which they noted:

“Our primary empirical finding from the HRS [Health and Retirement Study] is that annualized comprehensive wealth tends to rise with age in retirement, reflecting the tendency for wealth balances to decrease more slowly than remaining life expectancies shorten. . . . [And] for the median retiree in the middle- and upper-income groups, annualized comprehensive wealth tends to rise over retirement. One might have expected wealth balances to fall roughly in line with declining longevity in retirement—after all, this is the trajectory that would be predicted by the simplest lifecycle model of consumption.

Poterba, Venti and Wise observed similar results in their 2011 analysis.5 At the Defined Contribution Institutional Investment Association (DCIIA) Academic Forum in 2017, James Poterba took the conversation further, comparing *theory* and *practice* (reality) as shown in Table I.

This comparison also highlights the focus on annuities in the discussion about providing lifetime income. Annuities clearly have a role to play in providing lifetime income, but the reality is that retirees do not often purchase annuities. Many people will rely on Social Security and maybe a DB annuity as their main retirement income sources.

More recently (April 2018), in *EBRI Issue Brief No. 447*,6 Sudipto Banerjee analyzed the Consumption and Activities Mail Survey (CAMS), a supplement to HRS, updating the previous findings of Hurd and Rohwedder,7 noting that:

- **Retirees generally exhibit very slow decumulation of assets.**
- **The median ratio of household spending to household income for retirees of all ages hovered around one, inching slowly upward with age. This suggests that the majority of retirees had limited their spending to their regular flow of income [my emphasis] and had avoided drawing down assets.**

In the conclusion, Banerjee raises the question:

If retirees are determined to preserve their assets and not to spend them down, this creates important implications—ranging from the type of retirement products offered [my emphasis] to how retirement preparedness is assessed. However, if such drawdown patterns are the consequence of behavioral biases (e.g., inability to switch from accumulation to decumulation mode) or lack of education on how to spend down retirement savings, this has quite different implications when it comes to necessary tools and support for retirees as they seek to manage their assets in retirement.

### A Qualitative Assessment of Retiree Behavior

The Society of Actuaries (SOA) has conducted nine biennial studies on postretirement risks. In its 2011 study, it produced a guide to retirement planning8 that set out risks in retirement that followed on previous exercises in 2003 and 2008. A key observation was that these risks were dynamic. That is, they changed over time and continue to change. The 2011 guide listed postretirement risks as including those in Table II.

This list of 16 different risks presents a different challenge to the problem that a retirement income strategy providing infla-

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**Table I**

**Economist James Poterba’s Comparison of Retirement Spending Theory vs. Practice**

<table>
<thead>
<tr>
<th>Theory: Stochastic Lifecycle Model</th>
<th>Practice: Empirical Evidence From Health and Retirement Study (HRS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wealth peaks at retirement, and drawdown begins immediately thereafter.</td>
<td>Those with wealth draw down very slowly, if at all, in the first 15 to 20 years after retirement.</td>
</tr>
<tr>
<td>Annuities offer insurance against longevity risk.</td>
<td>Very few choose to annuitize; the LTC market also is small.</td>
</tr>
<tr>
<td>Long-term care (LTC) insurance and insurance to supplement Medicare limits out-of-pocket medical spending risk.</td>
<td>Out-of-pocket medical costs are modest for most, but risk rapidly increases at very old ages (90+). Medical spend-down is greater for households with higher net worth.</td>
</tr>
</tbody>
</table>

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tion-linked income for life was supposed to solve. The concerns listed in Table II are real, relatable risks affecting people, and they can be very unpredictable. In fact, a lot of the SOA work has highlighted that, for many retirees, financial shocks can really challenge an individual’s retirement.

Presenting at the 2017 DCIIA Academic Forum, Carol Bogosian summarized retiree circumstances with the following bullets.

- Managing regular expenses—being thrifty and frugal
- Living within regular income (annuities, Social Security benefits, investment income) and spending required minimum distributions (RMD)—Social Security and RMD becoming default income plan
  - Retirees do not want to take more than the RMD.
  - RMD is not viewed as a drawdown of assets.
- Adjusting to events as they occur—reducing spending to preserve assets

This research seems to corroborate Banerjee’s question of whether retirees’ key objective may be wealth preservation rather than income maximization. The focus on wealth preservation can be attributed to different issues, including:

- The wealth effect, in which individuals, having accumulated their wealth, cannot entertain the notion of reducing their wealth
- Facing uncertainty, retirees retain capital to cover emergencies.
- A short planning horizon: The long-term planning required to draw down assets is more complex than simply adjusting spending levels to income.

### Table II

<table>
<thead>
<tr>
<th>The Society of Actuaries 2011 Listing of Postretirement Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longevity</td>
</tr>
<tr>
<td>Inflation</td>
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<tr>
<td>Interest rates</td>
</tr>
<tr>
<td>Stock market</td>
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<tr>
<td>Business continuity</td>
</tr>
<tr>
<td>Employment</td>
</tr>
<tr>
<td>Public policy</td>
</tr>
<tr>
<td>Unexpected health care needs and costs</td>
</tr>
</tbody>
</table>

### Table III

<table>
<thead>
<tr>
<th>Actuary Fred Vettese’s Summary of the Decline Rates in Retirement Spending by Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Range</td>
</tr>
<tr>
<td>65-69</td>
</tr>
<tr>
<td>70-79</td>
</tr>
<tr>
<td>80+</td>
</tr>
</tbody>
</table>

### The Spending Conundrum

There is an overwhelming body of evidence highlighting that retirees manage with much less income than predicted and typically spend a lot less than expected.

In a C.D. Howe Institute paper, actuary Fred Vettese looked into this spending decline. He created a table highlighting the rate of decline in consumption based on data from the United States, Canada, the United Kingdom and Germany (Table III).

He also highlighted that the spending decline is not connected to financial resources, since evidence shows that older retirees save more, on average, than people who are still working. One of his key (and potentially controversial) conclusions was that “full automatic indexation . . . is not only unnecessary but an inefficient use of scarce financial resources for employees and taxpayers.”

Vettese questions why many retirement income solutions target an inflation-linked income when that is not consistent with retirees’ needs.

### Diversity of Retirees

In all these studies, one should be wary of averages. Averages hide differences in retirement circumstance and outcome diversity. Meir Statman, in his recent book, highlights this:

We can focus discussions about lifecycle spending and saving poli-
cies by distinguishing among four income groups: the wealthy, the steady middle, the precarious middle, and the poor. The wealthy... earn more than adequate incomes during their working years, and their accumulated savings are large enough to assure retirement worries extending no further than estate taxes and status competitions with their wealthier neighbors. The steady middle... earn adequate incomes steadily throughout their working years and save enough for adequate retirement spending. The poor earn inadequate income throughout their working years, rendering them unable to save much for adequate retirement spending. The precarious middle consists of two segments, low earners and high spenders. Low earners strive to save from low earnings during their working years, but their meager savings place them precariously close to poverty and inadequate retirement spending. High spenders, like bankrupt NFL players, spend their adequate incomes during their working years, failing to save enough for adequate retirement spending.

Retirement spending solutions often address the problems of one group with no mention of the others. Many address longevity risk, offering solutions such as annuities. Annuities, however, offer nothing to the wealthy, who face no longevity risk because their accumulated savings vastly exceed their spending rates, even if lavish. And an annuity solution mocks the precarious middle and poor, whose meager savings make buying an annuity impractical or impossible.

This diversity was similarly highlighted in another SOA report discussing retirement adequacy. One of the key conclusions was:

Those who face the greatest challenges include vulnerable populations, such as the disabled, widowed, divorced, unemployed and people employed in industries or jobs that typically do not provide retirement benefits to workers. These groups tend to be under-represented in existing research studies.

Too often, solutions are designed around the needs of average retirees. The reality is that retiree circumstances, needs and wants are incredibly diverse, and they change over time. Solutions need to be able to address this diversity of circumstances. Solutions that are developed to cater to a single, inflexible view of retirement are far less likely to appeal to retirees.

Conclusions

Many retirement solutions have spent too much time focusing on the theory of retirement and less on the realities of being a retiree or on what truly is of interest to a retiree. Retiree spending and planning are not actuarial or engineering problems; rather, they are very much human problems, with many behavioral biases at play.

A story by Statman highlights the human nature of a retiree:13

One reader who has learned the lesson wrote: ‘I learned from my mom that the greatest joy in life is giving to your family. She would give something to all her six children, their spouses, the grandchildren, the great-grandchildren, and all their spouses on their birthdays, anniversaries, St. Patrick’s Day, Valentine’s Day, and no reason at all. If you want the closest thing to eternal life, try this.’

I particularly relate to this story since my grandmother (Little Nan), who lived off a U.K. government pension, would regularly give us money when we visited, and I recall how much joy the giving provided her.

While current evidence suggests that, on average, retirees are faring OK, there is little doubt that more could be done to make retirement less of a challenge. In particular, we expect to see retirees with less and less guaranteed retirement income in the future. As we confront the retirement income challenges, we should bear in mind:

1. Retirement needs are a lot more complex than needing lifetime, inflation-indexed income.
2. Understanding the realities facing retirees can help us better address their needs. SOA estimated 16 different risks and, in reading them, you can see they are genuine issues that can challenge retirement programs.
3. Given the uncertainty and multitude of retirement risks, retirees will look for the ability to be flexible and adapt. Consequently, the need for liquidity will be important.
4. Spending patterns are a lot more complex than spending that increases with inflation each year; in
general, spending seems to decline with age until costs for long-term care kick in.
5. Retirees’ needs and circumstances will be very diverse; there will not be one solution that addresses all needs.
6. Surveying retirees’ preferences can be helpful, but be aware that what people say and what they do can be very different. (For years, studies have reported that retirees are very interested in securing guaranteed retirement income, yet in practice retirees rarely do this.)
7. Remember, we are dealing with real people, not *homo economicus.*

**Endnotes**


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