Aging and Retirement

How Much is Enough in Light of COVID-19?

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An 'expected value' is a wonderful thing. It can be derived in many ways – ranging from intuition to complex modeling. It can also be used (or abused) in many ways. My comments in this essay are directed at assessing how to avoid its misuse, especially in the case of a calamity such as the COVID-19 pandemic, and what steps might be taken to overcome some of its key misleading characteristics, especially with respect to the amount needed to provide for deviations from that expected.

Averages

Let's face it – an expected value is simply a kind of average, which, to be meaningful, should be applied at a group rather than an individual level. It is rare that an individual's circumstance is average – speaking personally, what I do or who I am would certainly not be considered 'average'. The use of a median value can help in case of the existence of outliers, but it does not get to the essence of the issue I am raising.

So, what happens when what is expected for an individual doesn't happen? This can be due to simple randomness or a significant something not anticipated – either of which could interfere with 'life as desired'. For instance, what happens when a pandemic, such as COVID-19, screws up everything for at least a while or a very long time? A key take-away from this pandemic is that for many purposes, we need to test our situation against our objectives, taking into account the possibility of a calamity. This leads me to the assessment of scenarios of the three important components of the answer to this question.

Longevity

Before I address the question raised in the title of this essay, let me first discuss how averages are applied to a person's life expectancy – the first key metric in determining the amount of savings a person plans, or at least hopes, to have for adequate funding for a satisfactory way of life in retirement. Certainly I, as an actuary, deal with life expectancies a lot – but always as it applies to a group of individuals.

Speaking personally: how dare anyone lump me together with anyone else! Both of my parents lived at least to their late 90s and my father, who taught school and worked out regularly through age 97. I expect (OK – hope) that I will beat their longevity. And I hope my children will beat whatever my record will be.

But what about my cousin whose parents died in their forties and who smoked way too much? She was not fortunate enough to see her child finish college and didn't even get the opportunity to retire. My father's family moved to the Midwest from crowded New York City because of fear of the second wave of the Spanish flu in 1919 and my grandfather subsequently died in an automobile accident in his forties. My family's history shows the uselessness of averages, as anything can happen to an individual.

So, the possibility of succumbing to a pandemic, cancer, an automobile accident, or old age represents a personal challenge, while at the same time demonstrating why one should not rely on averages. But as we have seen in the midst of a pandemic this year, average expectations don't always pan out for society either.

Even as average life expectancies have increased over the last century or two, it seems ever more apparent that life's vicissitudes continue to make it difficult for individuals to plan for their future. The projections made by a financial planner that suggest you need a certain amount of funds to successfully reach your life expectancy according to an actuarial table at your desired standard of living may not be giving you the right type of advice. You need to provide for deviations from this nationwide average – what can you do if something out of your control, such as succumbing to a virus or living a lot longer than the table says you will?

Each one of us has their own story. The reasons why we might think that we will outlive or underachieve the average longevity period just based on your current age, is something out of the past. Even the Society of Actuaries / American Academy of Actuaries' *Actuaries Longevity Illustrator* that refines life expectancy calculations, still only produces a somewhat more personalized expected life expectancy. The more likely outcome will not be what the table indicates. Half the population will find themselves coming up short, while the other half will have money to spare (and maybe give to their children, if fortunate enough to have them).

Investment Return

The second important factor in determining whether you have saved enough is the expected investment return on your investments, which depends on the amount and types of assets you have or will have, as well as their future behavior. Should I plan for a 6% or 8% return, like some have suggested that a pension fund's equity portfolio should be able to achieve? Whoaaa – this doesn't seem like sound planning to me – look what just happened to the stock market in the spring of 2020 in the midst of a pandemic; a better benchmark may be today's medium and long-term interest rates. As a result, too many people are taking risks in search for higher yields.

Fortunately, I still own a house. Although real estate values are not guaranteed to increase, my suburb has a pretty good track record – for the average house, of course. This doesn't mean my location will necessarily remain an attractive one in a good school district. What happens if its style or maintenance isn't up-to-date? Think what happened just a dozen years ago in the Great Recession. Further, what happens if I didn't own a house and had to pay rent? Rent decreases don't happen often.

And, if you have non-real estate savings, what would happen if you follow some planners' advice and switch, upon retirement, from stocks to fixed income securities? The current fixed income environment doesn't look so hot – ultra-low interest rates seem to be here to stay, or at least for quite a while. What happens if (horrors!) rates turn negative? The possible range of interest rate scenarios didn't use to factor in these possibilities, as their basis often look backward using decadal averages.

Or you might own a small business that was doing quite well. How will a COVID-19-induced business interruption or stoppage affect a small business whose success depends on face-to-face interactions, like a restaurant? Many will not make it through the current pandemic, let alone for the long haul.

But this brief discussion of possible dismal investment returns, whether or not there is a pandemic disruption, assumes I have a bunch of resources to begin with. Too many people have none, or at most, the remaining equity in a house. Since I have some invested assets, I am more fortunate than many. But those without assets or even without a checking account, have to rely on Social Security for their monthly living expenses. Those hoping to continue working part time may run up against one of life's challenges, such as a lack of part-time job availability, possibly fearful of becoming infected when interfacing with the public, or if disabled.

So, investment returns may not be sufficient for your funds to last a lifetime.

Standard of Living and Inequality

The third key consideration involved in retirement adequacy is that there is a wide range in intended or unexpected expenditures. Again, we have to ask whether the average hoped-for living standard is relevant to the individual. I don't think there is a useful standard, as everyone's situation and preferences are different.

What should a person or household's objectives be? They will certainly change many times as time moves on and are personal. Some will reduce their approach to living after retirement. Maybe the house that had four people living in it is too big to maintain for one or two. Maybe eating out every other day is no longer affordable or desirable (or in lock-down mode, even possible).

The volatility of expenditures makes household budgeting, which is almost always based on short-term expectations of an average period, a challenge. Unreimbursed medical or dental costs, delayed home maintenance costs that would reduce a house's value, the loss of a life-partner, or cost of caregiving to a (older or younger) dependents may not be figured in.

Based on Society of Actuaries' retirement studies, many are or will be prepared for one of these minor or major personal financial catastrophes, but far fewer are ready when the second one hits. Of course, such deviations do not have to be adverse, but they are certainly the ones that are remembered.

As of December 2019[1]—households with the bottom 20% of incomes saw their financial assets, such as stocks, bonds, or retirement funds, adjusted for inflation, fall by 34% since the end of the 2007-09 recession. Those in the middle of the income distribution have seen just 4% growth. Incomes for all but the highest-income Americans have generally been stagnant or falling for decades. This has happened while we as a society are aging and should be saving more for an ever-longer and uncertain retirement period.

Median U.S. household income[2] in 2018 was only about 3% higher than in 2000 after adjusting for inflation. For the poorest 20%, incomes have declined by about 2%. And since these are median figures, more than half have seen greater declines. Growing inequality has resulted, with many barely paying their monthly bills, with little left to save or to provide for a rainy-day fund. The debt that households accumulated before the 2007-09 recession may not yet have been paid off. Those who managed to build a bit of a cushion are probably burning through that reserve now, although subsidized unemployment benefits may have helped. It's going to be difficult for many households.

Back to Expected Values

The above issues are obvious to actuaries – the future will always hold risks and unanticipated uncertainties. Some will outlive, under-earn, or be adversely affected. Many Americans (and those in other countries) will be living financially one week or one month at a time.

[1] Federal Reserve Board (2019). "Report on the Economic Well-Being of U.S. Households in 2018 - May 2019"
[2] Semega, Jessica, Melissa Kollar, John Craemer, Abinash Mohanty (2019). "Income and Poverty in the United States: 2018, Current Population Reports". *United States Census Bureau*. Issued September 2019, revised June 2020.

So, we have seen that each person is not average, either in terms of life expectancy or of financial sustainability, relative to what they had expected. All of this is predicated on remaining physically and mentally healthy, although most people over the age of 65 have multiple adverse health conditions.

This has become especially apparent in the (first?) year of COVID-19. Although many actuaries expected a pandemic at some point, that doesn't mean that we expected it to happen this year or to have such a dramatic effect on so many lives. A 'once-a-century' event does not necessarily happen every hundred years and another might happen at any time. My expected scenario included a possible pandemic, but I didn't take action in readiness of such a low-probability event – not many did.

Calamities

A lack of an uncertainty margin exposes us to demographic and financial risks. Almost everyone needs to have something extra set aside, possibly a rainy-day fund or other type of financial uncertainty margin.

In my study of mortality projections, I have come to recognize three basic characteristics: level, trend, and calamities.

1. Level. The level is, for the population being studied, the average expectation for that population.
2. Trend. Trend recognizes that change is inevitable – the past suggests that over the long-term, something close to a gradual annual improvement in mortality rates is likely; but it could also be non-linear or cyclical, depending on a bunch of factors, such as changes in medical knowledge and treatment, and the characteristics and behavior of the population.
3. Calamity. The third characteristic can either be favorable or unfavorable, either in the form of a structural discontinuity or temporary short-term event – a calamity of some sort. Unfavorable ones could be a war, a pandemic, or environmental (e.g., floods, earthquakes, or a sudden weather event). A favorable change could be a medical breakthrough.

Reality is rarely simple – the cause could alternatively be parsed into frequency, severity, timing, and interactions with other factors. In addition to longevity calamity risk as we have seen above, there is also investment calamity risk and expenditure calamity risk. But the three-fold categorization will suffice for the purpose of this essay.

This leads to financial, demographic, and personal calamities. They can affect the individual/household/business and group (sometimes global). Personal ones are more germane to this discussion – a roof needing replacement (this happened to me this year), several root canals needing to be filled in the same year (this also happened to me), an investment that went belly-up (yes, again, but fortunately, it was a small one), or a medical treatment not covered by insurance (luckily this passed me by). I could go on, such as a severe COVID-19 happening to my immediate family (a cousin was bad enough!).

It is worthwhile noting that the same calamity doesn't affect everyone in the same manner – whether due to holding a 'wealth' risk margin, avoidance, adaptation, or low sensitivity to the event.

Uncertainty

Uncertainty regarding the future is an essential consideration in financial planning and actuarial science, whether involving personal finances, life expectancies, automobile accidents, the fatality rate of a pandemic disease, or climate change-related damage.

The first step in the analysis of such issues is to identify the problem. A key factor involved in these hazards is the estimation of the probability distributions associated with the heterogeneous conditions and risks involved. Once developed, they could be used in stochastic modeling or in assigning the likelihood to a set of scenarios. Risks and uncertainties can be at least as important as expected values.

Yet, although modeling using personal probability distributions might help, few individuals and businesses will make such refined calculations. Nevertheless, most are aware of the issue and will use judgment instead.

When I was in school, my first actuarial courses were probability, compound interest, and life contingencies. It was great that these courses emphasized understanding, rather than rote learning and memorization. But they focused on individual risks, rather than how the three topics (risk, time, and contingent events) were interrelated. Subsequently, I found that actuarial science and financial risk are all about these interconnections, e.g., what is the range of probable loss, when will it occur, and how severe it could be.

A Margin

A key underlying issue from a financial standpoint is: how much is needed for retirement in addition to the resources expected? How can I plan for and manage the tail risk to limit its damage and what the ‘new normal’ will look like?

No matter the financial issue, an inevitable question arises: how much margin for deviations from expected should be held? Regarding retirement security, as indicated above there are many sources of uncertainty. There is no unique solution and no one-size-fits-all answer.

This issue is on many people’s mind in the midst of the COVID-19 pandemic. Many are now asking themselves: how can I best manage my future and is the amount saved for just this type of situation sufficient? What changes are needed to make it enough?

It is fundamentally a question of how to satisfy as many of Maslow’s five hierarchical needs as possible (physiological, safety, love and belonging, esteem, and self-actualization). While this essay only deals with the first two, i.e., the ability to obtain food, water, shelter, and security, all should be considered. Each person has to set their own priorities and will assign to these needs the relative importance to them.

Overall, the United States is a low-savings country relative to other developed countries. Our culture does not seem to sufficiently incentivize personal savings. Now that we have longer longevity, this becomes more important.

As this essay is being written, many are lining up at food pantries. Others will fall behind in their rent, loan payments, and other bills, amplifying financial damages. Many don’t have a financial cushion and will struggle to make ends meet, even with government assistance.

Others will ‘raid’ their 401(k) retirement accounts to at least live a better life during the current pandemic, borrowing against their retirement income. This is not a recommended practice and should be avoided if possible. Something that took years to accumulate could be gone in a matter of weeks or months of unemployment.

Search for Solutions

Although no single uncertainty-reduction solution will work for everyone, some actions that may help include:

1. Assess short and long-term needs under several scenarios and develop realistic goals and an action plan to avoid areas of most concern;
2. Increase savings, although this will be quite difficult in many cases;
3. Reduce expenditures and debt on a regular basis by recognizing one's needs and adjust/downsize when appropriate;
4. Identify one or more approaches to obtain contingent funds, if needed – possibly from your grown children or a bank;
5. Make safe and realistic health and employment plans;
6. Purchase (life, health and property/casualty) insurance or annuities, as the risk of long longevity or financial loss is real for many, but be realistic regarding assessment of your health status;
7. Get a checking account, if you don't have one, and don't rely on expensive forms of debt such as through credit cards; and
8. Don't over-rely on our social safety net and be sure you will be eligible for social insurance benefits, such as Social Security and Medicare (United States).

These represent moves toward sound financial risk management of income, expenditures, and debt. A precautionary risk margin will undoubtedly prove valuable at some point in the future. One or more investments (including from a defined benefit pension plan, if you are lucky enough to participate in one) should include a longevity-protecting annuity – most have Social Security, but many need a social security supplement. Immediate annuities aren't especially popular now, as longevity concerns can seem quite distant, but if you are lucky enough to have enough financial resources, some protection against this risk is advisable.

Use the COVID-19 calamity as a wake-up call to think ahead and act accordingly – the key is to be realistic and plan accordingly. Don't let inertia and overconfidence be the enemy. Figure out what is really important to you. Think prevention, preparedness and agility. Work to enhance your personal risk margin, maybe adding a precautionary margin of, say, 10% to your expected needs in your personal plan for retirement, or pick a percentage affordable and appropriate for your risks.

Ultimately, each household needs to address potential calamities in their own way, based on their particular situation and their attitude towards risk and uncertainty. But consider establishing some rainy-day protection ('enough+') to anticipate if and when the unexpected arises.

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The SOA has a history of working with public policymakers and regulators in developing historical experience studies and projection techniques as well as individual reports on health care, retirement and other topics. The SOA's research is intended to aid the work of policymakers and regulators and follow certain core principles:

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