SOCIETY OF ACTUARIES®

Aging and Retirement

Lessons for Retirement Annuities from Coronavirus Induced Economic Turbulence

June 2020

Lessons for Retirement Annuities from Coronavirus Induced Economic Turbulence

AUTHOR Thomas L. Hungerford, PhD

Senior Fellow, National Academy of Social Insurance, thunger@starpower.net

Caveat and Disclaimer

The opinions expressed and conclusions reached by the author are his own and do not represent any official position or opinion of the Society of Actuaries or its members. The Society of Actuaries makes no representation or warranty to the accuracy of the information.

Copyright © 2020 by the Society of Actuaries. All rights reserved.

CONTENTS

Section 1 4

Section 2 5

Section 3 7

About The Society of Actuaries 9

Copyright © 2020 Society of Actuaries

Lessons for Retirement Annuities from Coronavirus Induced Economic Turbulence[1]

Section 1

On the final day of 2019, the government in Wuhan, China announced health authorities were treating dozens of cases of pneumonia—I suppose this date can be considered the "official" onset of the COVID-19 pandemic. One month later, the World Health Organization declared a "public health emergency of international concern." By mid-May, over 300,000 people had died worldwide with over 85,000 in the United States and the count continues to climb. The fatality rate is highest among the elderly. But for some survivors, COVID-19 and its complications can cause lasting damage to lungs and other organs.

On the economic front, 2020 started out fine—the economy added 465,000 jobs in the first two months, the unemployment rate stood at 3.5 percent in February, and the S&P 500 index rose by more than 4 percent. However, the COVID-19 pandemic and response threw the world into recession. Between mid-February and mid-March, the stock market lost 34 percent of its value. As of May 8, the market is up over its low in March, but still down 10 percent on the year. The April unemployment rate in the U.S. stood at 14.7 percent—the highest since the Great Depression—and the economy has shed 21 million jobs in March and April.[2] Overall, the economy (real gross domestic product) decreased by 4.8 percent in the first quarter of 2020. Undoubtedly, the economic crisis will leave long lasting scars on the economy, employers, and employees.

Current retirees (i.e., those who retired before 2020) have probably fared better than the average worker (that is, retirees who have not contracted COVID-19). Social Security benefits—the major source of retirement income for many—are unaffected by the economic turbulence since Social Security acts as an inflation-adjusted stream of annuity payments. For the fortunate few who receive benefits from a defined benefit plan, payments are and will remain unaffected by the economic crisis as long as the plan sponsor remains in business and inflation remains low.[3] How retirees with one or more defined contribution plans such as 401(k)s have fared depends on the choices they made at retirement. The self-annuitizing retirees using, say, the 4 percent rule could have experienced dramatic fluctuations in their monthly withdrawals if they have any stock investments. The retirees who left their DC balance untouched are experiencing large swings in the value of their account, which can be unnerving, but this situation does not affect their current income though could affect future income. If they annuitized some or all of their pension balance then payments will be largely unaffected as long as the insurance company remains in business. Relatively few retirees, however, chose annuities possibly to the detriment of their long-term retirement security.

Most retirement experts recommend annuities for a secure retirement and the recently enacted SECURE Act could lead to an increase in the use of annuities, but that remains to be seen. But what are the lessons to be learned for annuitization from the COVID-19 induced economic crisis?

---

[1] The author thanks Howard Iams for comments on an earlier draft.
[2] The Bureau of Labor Statistics notes in the April 2020 Employment Situation that the actual unemployment rate could be up to 5 percentage higher.
[3] Most government pensions provide cost-of-living adjustments, but only about 7 percent of private plans do so.

Copyright © 2020 Society of Actuaries

Section 2

Retirement experts often talk about the "annuity puzzle"—why experts like annuities but retirees do not. The main argument in favor of annuities is they provide the annuitant (and spouse) with a guaranteed and secure source of retirement income for life. Retirees, on the other hand, don't like annuities because they don't want to tie-up their pension assets, the costs associated with annuities can be 15 percent or more of the account balance, and/or many retirees focus more on the account balance and not the lifetime income stream that the balance can generate. And the recent market turbulence could provide some further ammunition to skeptics of lifetime annuities.

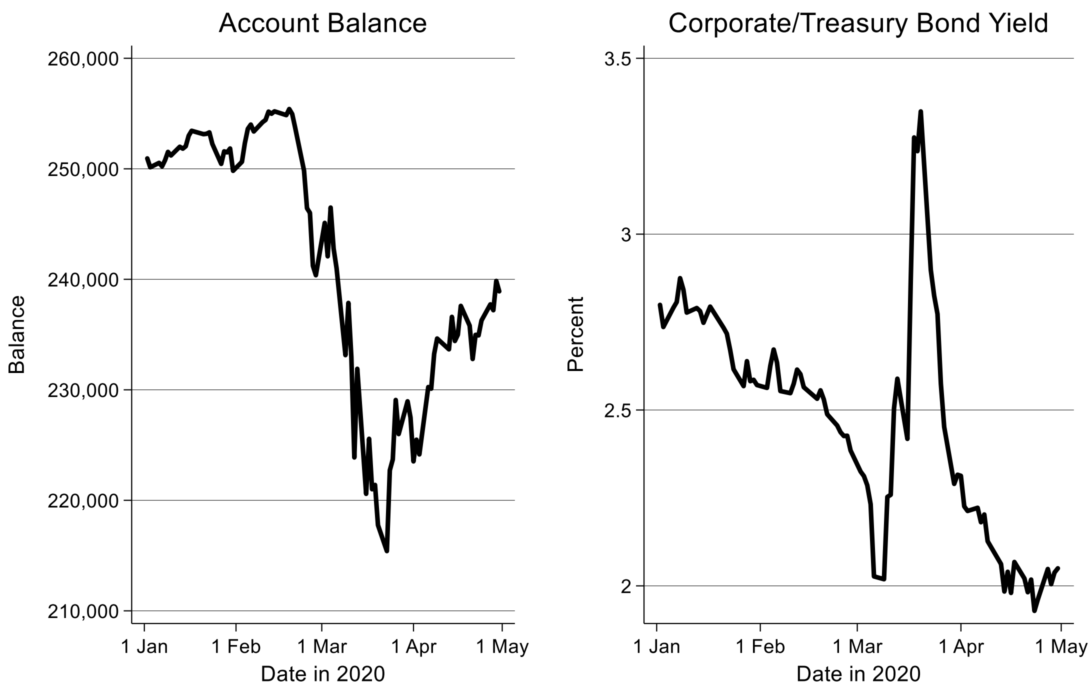
Currently, very few 401(k) plans offer participants a deferred annuity investment option. Consequently, about the only option for annuity payments beginning upon retirement is the single premium immediate annuity (SPIA). The payment from a SPIA depends on the 401(k) account balance, the age and sex of the purchaser (assuming a single life annuity), and economic conditions. An illustrative example shows how these factors fit together. Suppose a 65-year-old worker with an account balance of $250,000 on December 31, 2019 planned to retire sometime during the first four months of 2020 (the daily account balance assuming 45 percent is invested in an S&P 500 index fund is shown on the left panel of figure 1).[4] Using market conditions for these months, actuarially fair annual annuity payments are calculated for men and women. (Fees, commissions, and the cost of adverse selection are ignored, but keep in mind the actual payments would be about 15 percent lower.) The annuity payment is based on the account balance on a particular day and the interest rate on the same day. The interest rate is a blend of the AAA corporate bond yield (70 percent) and 30-year Treasury bond yield (30 percent) on the particular day.[5] The sequence of interest rates is displayed in the right panel of figure 1.

[4] In actuality, the average 401(k) account balance for those nearing retirement is less than $250,000 and the median balance is considerably lower than $250,000.

[5] Insurers invest the premium in a mix of conservative investments such as corporate and government bonds to generate the funds for the annuity payments. Annuity insurers rarely update the interest rate for a SPIA on a daily basis, but 63 percent update weekly, biweekly, or on ad hoc basis. I thank Frank O'Connor of the Insured Retirement Institute for providing me with the results of an informal survey.

Copyright © 2020 Society of Actuaries

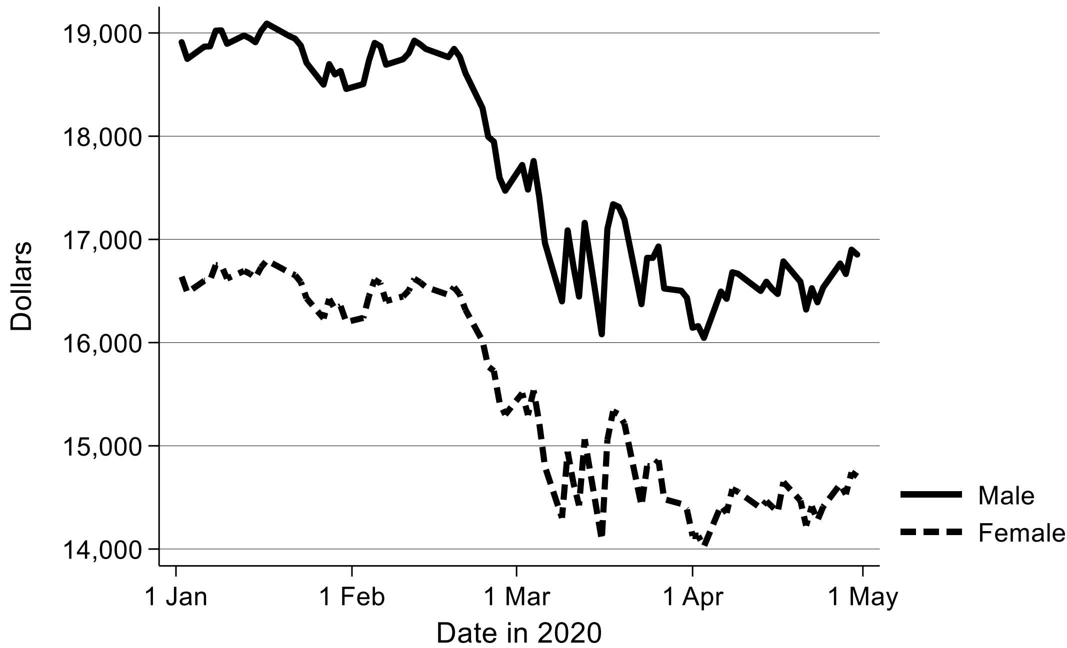
Figure 1



The annual (actuarially fair) annuity payment for 65-year-old men and women who choose to purchase the annuity on the particular day is shown in figure 2. The payment pattern generally displays a downward trend and is highly variable due to market fluctuations. If a male had purchased an annuity on January 2, 2020, the annual payment would be almost $19,000 but if he purchased it four months later on April 30 the payment would have been less than $17,000. The trend is the same for women but the annual payments is over $2,000 lower because of the longer life expectancy of women.

Copyright © 2020 Society of Actuaries

Figure 2
ANNUAL ANNUITY PAYMENT



Section 3

The point of this exercise is not to illustrate what annuity payments retirees can expect, but to drive home the point that during turbulent economic periods two similarly situated retirees annuitizing a 401(k) account balance just weeks apart can receive vastly different payments for life. Individuals nearing retirement can deal with variable stock market returns by switching to more conservative investments. But interest rates are entirely out of their control, which brings in issues of fairness. A bad draw on the interest rate lasts a lifetime and can mean the difference between a modest retirement and poverty. It is possible though that a failure to annuitize can lead to utter destitution rather than poverty later in retirement.

Participation in DB plans has been falling over the past two decades and some argue these plans face extinction. While the demise of the DB plan may be exaggerated, it is unlikely this downward trend will be reversed. Most government effort has been in increasing worker participation in individual account plans such as 401(k)s and IRAs, which means adequate retirement income without the risk of outliving one's assets requires annuitization with its dependence on market returns and interest rates.

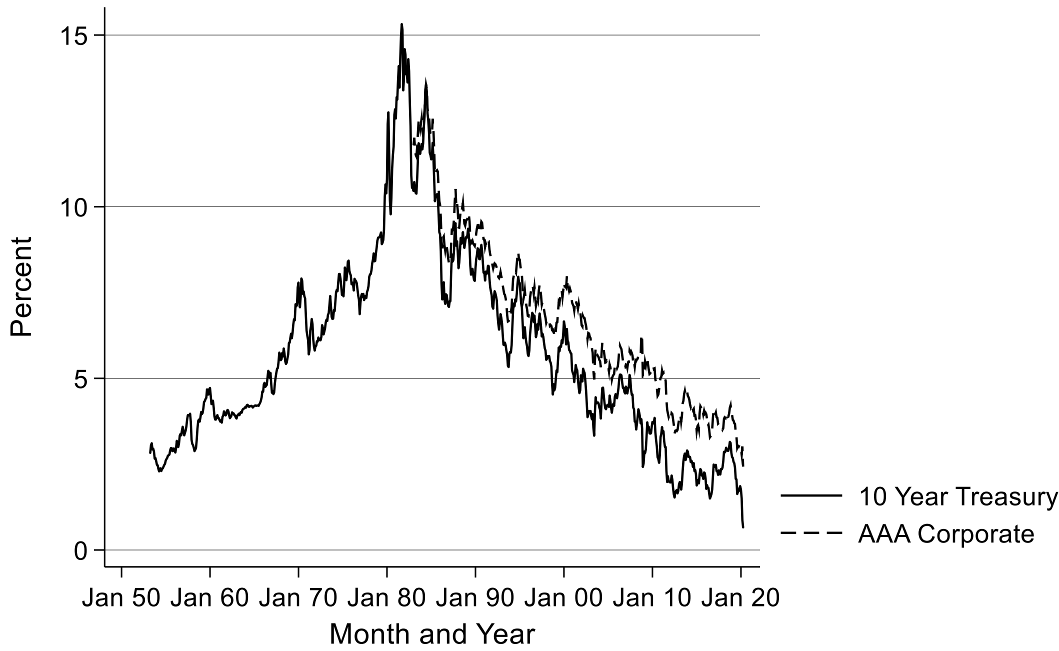
Figure 3 shows the monthly average rate on 10-year Treasury bonds[6] since 1953 and the AAA corporate bond yield since 1983. The rates on bonds have been steadily falling over the past four decades—each successive cohort of retirees faced a lower and lower interest rate. One possibility for improving the rate on Treasury bonds that insurance companies purchase for annuities would be for the government to issue 20-year or 30-year special issue

[6] The 30-year Treasury bond rate is not shown because it was discontinued between 2001 and 2006.

Copyright © 2020 Society of Actuaries

bonds with a rate that is the average for the past 20 or 30 years. Annuitizing at the 20-year average rate of 3.4 percent, the annual annuity payments would have been $2,000 higher than at a 2 percent rate and the 30-year average of 4.5 percent would have yielded an annual payment that is $4,000 higher

Figure 3
RATES



Such a policy will cost the government money in terms of higher interest payments on the debt when interest rates are on a sustained downward trend like over the past four decades. On the flip side, government interest payments would be lower in periods of sustained upward trends such as before 1980. The risk of low annuity payments in retirement is reduced at the expense of limiting the opportunity for high annuity payments.

One possible drawback to such a policy, however, would be if we had a 30-year period of sustained low interest rates. Suppose the current situation of low rates continues for the next three decades, then low rates could essentially be locked in for another 10 or 20 years after that. What interest rates may be 10, 20, or 30 years from now is impossible to predict, but there are those who argue the U.S. is in a period of secular stagnation and interest rates will remain low for some time.

As more and more workers reach retirement with no other pension plan than a 401(k), annuitizing part or all of the account balance will be required to guarantee adequate retirement income. It is unlikely the COVID-19 pandemic associated economic turmoil will be the last pandemic induced economic crisis in our lifetime. Reducing the variability in the annuity interest rate by trimming the highs and lows will allow workers to better plan for their retirement and remove one argument against annuitization. And it is hoped that the SECURE Act provisions will encourage the future use of annuities for retirement income security.

.

Copyright © 2020 Society of Actuaries

About The Society of Actuaries

With roots dating back to 1889, the Society of Actuaries (SOA) is the world's largest actuarial professional organizations with more than 31,000 members. Through research and education, the SOA's mission is to advance actuarial knowledge and to enhance the ability of actuaries to provide expert advice and relevant solutions for financial, business and societal challenges. The SOA's vision is for actuaries to be the leading professionals in the measurement and management of risk.

The SOA supports actuaries and advances knowledge through research and education. As part of its work, the SOA seeks to inform public policy development and public understanding through research. The SOA aspires to be a trusted source of objective, data-driven research and analysis with an actuarial perspective for its members, industry, policymakers and the public. This distinct perspective comes from the SOA as an association of actuaries, who have a rigorous formal education and direct experience as practitioners as they perform applied research. The SOA also welcomes the opportunity to partner with other organizations in our work where appropriate.

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:

Objectivity: The SOA's research informs and provides analysis that can be relied upon by other individuals or organizations involved in public policy discussions. The SOA does not take advocacy positions or lobby specific policy proposals.

Quality: The SOA aspires to the highest ethical and quality standards in all of its research and analysis. Our research process is overseen by experienced actuaries and nonactuaries from a range of industry sectors and organizations. A rigorous peer-review process ensures the quality and integrity of our work.

Relevance: The SOA provides timely research on public policy issues. Our research advances actuarial knowledge while providing critical insights on key policy issues, and thereby provides value to stakeholders and decision makers.

Quantification: The SOA leverages the diverse skill sets of actuaries to provide research and findings that are driven by the best available data and methods. Actuaries use detailed modeling to analyze financial risk and provide distinct insight and quantification. Further, actuarial standards require transparency and the disclosure of the assumptions and analytic approach underlying the work.

Society of Actuaries
475 N. Martingale Road, Suite 600
Schaumburg, Illinois 60173
www.SOA.org

Copyright © 2020 Society of Actuaries