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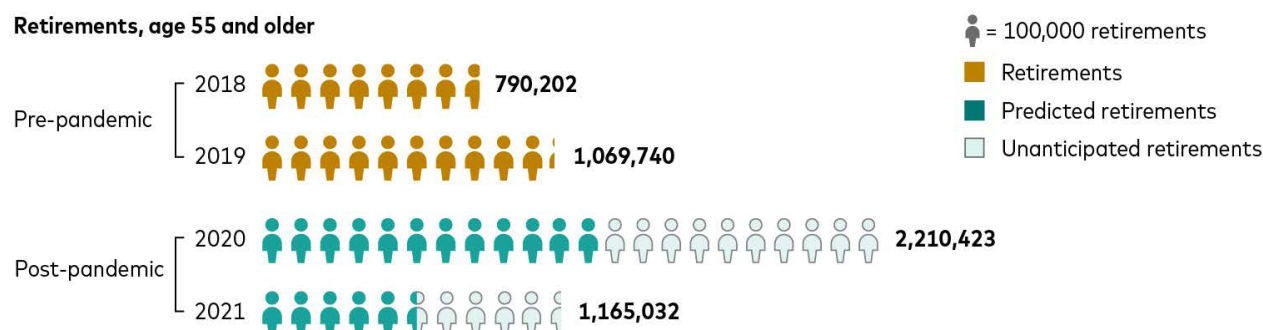
Filling the retirement income gap caused by the pandemic

What's been called "The Great Resignation" could easily have been called "The Great Retirement" according to the authors of Vanguard's latest research and commentary.

"We estimate roughly an additional 1.6 million workers 55 and older retired because of the pandemic over the past two calendar years, nearly doubling our pre-COVID projections," said Andrew S. Clarke, co-author of the Vanguard paper *The Great Retirement? Or the Great Sabbatical?*

In 2020–2021, the pandemic prompted an unexpected 1.6 million retirements

Retirements, age 55 and older



Notes: "Retirements" refers to workers 55 and older who are not in the labor force because of retirement.

Sources: Vanguard calculations based on data from the Atlanta Federal Reserve.

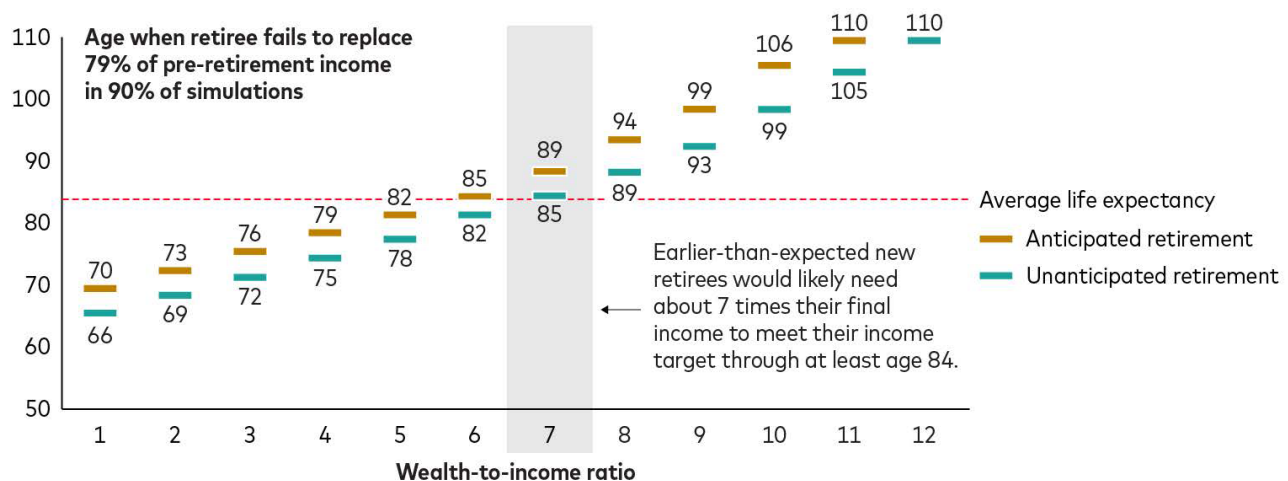
Unlike past economic downturns when retirements slowed, retirements spiked during the pandemic, fueled by concerns over COVID-19 and surges in stock and home prices.

The retirements were not uniform across industries. The highest percentages were among educators and professionals (lawyers, engineers, managers, and so on).

But, as the title of the paper suggests, some retirees may end up coming back to the workforce, whether by choice or circumstance.

"Except for pensioners, those who retired earlier than expected would have had to amass financial assets equal to as much as 10 times their annual income to confidently meet living expenses through at least age 84," said Fu Tan, co-author of the paper. "In our analysis, that figure would put these high earners in the upper deciles of the wealth distribution." The study used age 84 as the threshold because it is the average life expectancy of American men and women. (See Notes under the chart for the other assumptions used in the scenario.)

Unanticipated retirement puts pressure on income replacement



Notes: The chart depicts the relationship between wealth as a multiple of pre-retirement income and the age when a retiree is unable to replace 79% of this income in 90% of our simulations. This hypothetical scenario assumes workers intended to retire at age 67 but retired at 65 with a household income of \$122,000 (the top 25% for this age group) and retirement income dependent solely on Social Security and portfolio withdrawals. The bottom bars represent the number of years these retirees could confidently meet their income targets when retiring two years earlier than expected; the top bars represent the additional number of years they would be able to meet this target if they had retired as planned. Vanguard's analysis is based on income data from the Federal Reserve Board's Survey of Consumer Finances and capital market return projections from the Vanguard Capital Markets Model. It assumes asset allocation of roughly 50% stocks and 50% bonds at age 65, gradually shifting to 30% stocks and 70% bonds at age 72 (the stock sub-asset allocation is 60% U.S./40% non-U.S. and the bond sub-asset allocation is 70% U.S./30% non-U.S.)

The scenario changes drastically for a retiree with a traditional defined benefit pension. Everything else being equal, the pensioner can get by with assets only double their annual pre-retirement income to have enough through at least age 84.

But most retirees without a pension will need considerable wealth to sustain lasting retirement income.

"It confirms what we already know---retirement is expensive and early retirement is more expensive," said Clarke. "In the next few years, many will be returning back to work. In fact, some anecdotal evidence suggests this seems to be happening already, accelerated by high inflation. The Great Retirement may have just been the Great Sabbatical."

Notes:

- All investing is subject to risk, including possible loss of principal.
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- The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More important, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.
- The VCMM is a proprietary financial simulation tool developed and maintained by Vanguard's Investment Strategy Group. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data. Using a system of estimated equations, the model then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. The model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

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