UBS

Modern retirement monthly

Safe spending rates are moving targets

Chief Investment Office GWM | **12 March 2019** 7:47 pm GMT
Ainsley Carbone, Total Wealth Strategist Americas, ainsley.carbone@ubs.com

- Many retirees share one core question: "How much can I safely withdraw from my portfolio each year?" Unfortunately, there's no perfect answer.
- The most commonly known "safe withdrawal rate"—the "4% rule"—was developed using historical data. Based on UBS's capital market assumptions, a 4% withdrawal rate may be too aggressive for current retirees.
- Instead of a fixed withdrawal rate that is unresponsive to changes in portfolio values and time horizons, we suggest a dynamic withdrawal strategy that adjusts annual spending to investors' wealth and remaining years of consumption.
- In order for retirees to benefit from a dynamic withdrawal strategy, their budgets must allow for fluctuations in consumption.

Approaching retirement, most investors want to know how much they can spend every year with little risk of outliving their assets.

Unfortunately, as market environments are continuously changing, there will never be one unbending safe withdrawal rate. However, to provide baseline withdrawal advice, various withdrawal rules and strategies have been developed.

The most commonly known "safe withdrawal rate" is the "4% rule." This rule states that a 65-year-old could withdraw 4% of their assets from their portfolio during the first year of retirement, grow those assets by the inflation rate in subsequent years, and have minimal probability of running out of money over the next 30 years. The 4% rule may seem safe at a glance, but the complexities of retirement challenge the validity of this strategy.

This report has been prepared by UBS Financial Services Inc. (UBS FS). Please see important disclaimers and disclosures at the end of the document.

Uncertainties add complexity

The 4% rule fails to address the following uncertainties imbedded in every retirement plan:

1. Life expectancy: The 4% rule was developed based off of a 30-year period when in fact many retirees can expect a longer retirement—especially those who retire before age 65. Life expectancy is impossible to predict, but it's important to be realistic when planning. An underestimated retirement duration increases longevity risk.
2. Portfolio returns: The 4% rule is indifferent to the year-over-year change in portfolio value. If a retiree plans to start retirement spending USD 40,000 from a USD 1mn portfolio, and then the portfolio declines by 40%, they will be left with a portfolio value of USD 600,000. The retiree's USD 40,000 annual spend is now 6.67% of the portfolio. Consecutive annual declines in portfolio value, combined with increasing annual spending rates, result in a situation where the retiree's withdrawal rate is no longer viable[1].
3. Expenditures: The 4% rule yields a constant (inflation-adjusted) spending rate; however, most retirees prefer tospend larger amounts earlier in retirement and less later on. Additionally, most investors' retirement expenses aren't the same every month. Large and lumpy expenses, such as healthcare and long-term care costs, can derail an otherwise sound plan —especially one that's funded by an unwavering income.

The 4% rule isn't what it used to be

When the 4% rule was first introduced in the early 90s, the probability of running out of money was calculated using historical returns. We've updated our capital market assumptions and recalculated the probabilities of success for withdrawal rates. Using a moderate risk portfolio, the 4% rule today is actually closer to 3.5% for current retirees based on UBS's capital market assumptions (see Fig. 1).

A 3.5% withdrawal rate yields only an 85% probability of success. In other words, this withdrawal rate would fail 15 times out of 100. Failure is defined as running out of money before running out of life, or not being able to meet future spending needs.

The 4% rule will not suffice for retirees looking for minimal likelihood of failure. We suggest recalculating spending rates periodically to compensate for changes in portfolio values and time horizons.

When you can't control your surroundings, control how you react

Retirees are confronted with many unknowns, like future portfolio returns and longevity, which means withdrawals are based on probabilities, not certainties. When unknowns are somewhat or completely out of your control, focus on what you can control—your actions. We suggest having a dynamic withdrawal strategy in place in order to address retirement uncertainties that are overlooked by the 4% rule.

Fig. 1: Probability of success for fixed withdrawal rates over a 30-year period

Probabilities of success for different withdrawal rates from a moderate portfolio using UBS's capital market assumptions.

Withdrawal rate	Probability of success
2.5%	98%
3.5%	85%
4.0%	73%
4.5%	58%
5.0%	42%

Source: UBS

An annualized recalculated virtual annuity (ARVA) is a dynamic strategy that uses the concept of annuitization to calculate a safe withdrawal rate for retirees without purchasing an actual annuity.[2] ARVA recalculates the annuity payment each period to reflect changes in portfolio returns, portfolio values, and time horizons. This aims to maintain the net present value of the retiree's spending so that it's equal to or less than the value of their retirement assets, regardless of evolving circumstances.

ARVA: a diamond in the rough?

ARVA makes sense intuitively—when a portfolio declines in value, the future spending potential of that portfolio has also declined. A dynamic strategy like ARVA helps retirees live within their means to decrease the possibility of failure by acknowledging changes in portfolio value and time horizon. So, why doesn't everyone use this strategy? ARVA only works if the retiree is willing, and able, to adjust spending based on portfolio returns and portfolio value.

Additionally, ARVA yields low spending rates later in retirement, lower than what the same retirees would have been able to spend had they used the 4% rule initially.[3] Most retirees don't necessarily want to spend much later in retirement, but they may need to in order to cover costly expenses that are likely to occur with aging, such as healthcare or long-term care costs.

ARVA isn't perfect, but the idea behind the strategy is valuable. The concept is simple—don't spend more than what you can afford.

Bottom line

Market conditions and investment performance are impossible to predict. As a result, there is no such thing as a constant safe withdrawal rate. We suggest making room for flexibility in your retirement spending as portfolio values and time horizons evolve. Reevaluate your balance sheet annually and adjust your financial plan as needed to reflect what's changed over the prior year. A dynamic withdrawal rate, combined with budgetary flexibility, can improve withdrawal rates' sustainability, especially if consumption volatility matches the portfolio's volatility.[4]

Endnotes

1. Jeff LeForge, Michael Crook, and Ronald Sutedja. Modern Retirement Monthly: sequence risk for retirees. UBS Chief Investment Office, September 2018.
2. M. Barton Waring and Laurence B. Siegel. The Only Spending Article You'll Ever Need. July 2014.
3. Michael Crook. Modern Retirement Monthly: a new look at safe withdrawal rates. UBS Chief Investment Office, December 2017.
4. Michael Crook. Matching portfolio volatility to budgetary flexibility in retirement. UBS Chief Investment Office, February 2019.

Appendix

UBS Chief Investment Office's ("CIO") investment views are prepared and published by the Global Wealth Management business of UBS Switzerland AG (regulated by FINMA in Switzerland) or its affiliates ("UBS").

The investment views have been prepared in accordance with legal requirements designed to promote the **independence of investment research.**

Generic investment research – Risk information:

This publication is **for your information only** and is not intended as an offer, or a solicitation of an offer, to buy or sell any investment or other specific product. The analysis contained herein does not constitute a personal recommendation or take into account the particular investment objectives, investment strategies, financial situation and needs of any specific recipient. It is based on numerous assumptions. Different assumptions could result in materially different results. Certain services and products are subject to legal restrictions and cannot be offered worldwide on an unrestricted basis and/or may not be eligible for sale to all investors. All information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness (other than disclosures relating to UBS). All information and opinions as well as any forecasts, estimates and market prices indicated are current as of the date of this report, and are subject to change without notice. Opinions expressed herein may differ or be contrary to those expressed by other business areas or divisions of UBS as a result of using different assumptions and/or criteria. In no circumstances may this document or any of the information (including any forecast, value, index or other calculated amount ("Values")) be used for any of the following purposes (i) valuation or accounting purposes; (ii) to determine the amounts due or payable, the price or the value of any financial instrument or financial contract; or (iii) to measure the performance of any financial instrument including, without limitation, for the purpose of tracking the return or performance of any Value or of defining the asset allocation of portfolio or of computing performance fees. By receiving this document and the information you will be deemed to represent and warrant to UBS that you will not use this document or otherwise rely on any of the information for any of the above purposes. UBS and any of its directors or employees may be entitled at any time to hold long or short positions in investment instruments referred to herein, carry out transactions involving relevant investment instruments in the capacity of principal or agent, or provide any other services or have officers, who serve as directors, either to/for the issuer, the investment instrument itself or to/for any company commercially or financially affiliated to such issuers. At any time, investment decisions (including whether to buy, sell or hold securities) made by UBS and its employees may differ from or be contrary to the opinions expressed in UBS research publications. Some investments may not be readily realizable since the market in the securities is illiquid and therefore valuing the investment and identifying the risk to which you are exposed may be difficult to quantify. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS, into other areas, units, divisions or affiliates of UBS. Futures and options trading is not suitable for every investor as there is a substantial risk of loss, and losses in excess of an initial investment may occur. Past performance of an investment is no guarantee for its future performance. Additional information will be made available upon request. Some investments may be subject to sudden and large falls in value and on realization you may receive back less than you invested or may be required to pay more. Changes in foreign exchange rates may have an adverse effect on the price, value or income of an investment. The analyst(s) responsible for the preparation of this report may interact with trading desk personnel, sales personnel and other constituencies for the purpose of gathering, synthesizing and interpreting market information. Tax treatment depends on the individual circumstances and may be subject to change in the future. UBS does not provide legal or tax advice and makes no representations as to the tax treatment of assets or the investment returns thereon both in general or with reference to specific client's circumstances and needs. We are of necessity unable to take into account the particular investment objectives, financial situation and needs of our individual clients and we would recommend that you take financial and/or tax advice as to the implications (including tax) of investing in any of the products mentioned herein.

This material may not be reproduced or copies circulated without prior authority of UBS. Unless otherwise agreed in writing UBS expressly prohibits the distribution and transfer of this material to third parties for any reason. UBS accepts no liability whatsoever for any claims or lawsuits from any third parties arising from the use or distribution of this material. This report is for distribution only under such circumstances as may be permitted by applicable law. For information on the ways in which CIO manages conflicts and maintains independence of its investment views and publication offering, and research and rating methodologies, please visit www.ubs.com/research.

Additional information on the relevant authors of this publication and other CIO publication(s) referenced in this report; and copies of any past reports on this topic; are available upon request from your client advisor.

Important Information about Sustainable Investing Strategies: Incorporating environmental, social and governance (ESG) factors or Sustainable Investing considerations may inhibit the portfolio manager’s ability to participate in certain investment opportunities that otherwise would be consistent with its investment objective and other principal investment strategies. The returns on a portfolio consisting primarily of ESG or sustainable investments may be lower than a portfolio where such factors are not considered by the portfolio manager. Because sustainability criteria can exclude some investments, investors may not be able to take advantage of the same opportunities or market trends as investors that do not use such criteria. Companies may not necessarily meet high performance standards on all aspects of ESG or sustainable investing issues; there is also no guarantee that any company will meet expectations in connection with corporate responsibility, sustainability, and/or impact performance.

Distributed to US persons by UBS Financial Services Inc. or UBS Securities LLC, subsidiaries of UBS AG. UBS Switzerland AG, UBS Europe SE, UBS Bank, S.A., UBS Brasil Administradora de Valores Mobiliarios Ltda, UBS Asesores Mexico, S.A. de C.V., UBS Securities Japan Co., Ltd, UBS Wealth Management Israel Ltd and UBS Menkul Degerler AS are affiliates of UBS AG. UBS Financial Services Incorporated of Puerto Rico is a subsidiary of UBS Financial Services Inc. **UBS Financial Services Inc. accepts responsibility for the content of a report prepared by a non-US affiliate when it distributes reports to US persons. All transactions by a US person in the securities mentioned in this report should be effected through a US-registered broker dealer affiliated with UBS, and not through a non-US affiliate. The contents of this report have not been and will not be approved by any securities or investment authority in the United States or elsewhere. UBS Financial Services Inc. is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule") and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule.**

External Asset Managers / External Financial Consultants: In case this research or publication is provided to an External Asset Manager or an External Financial Consultant, UBS expressly prohibits that it is redistributed by the External Asset Manager or the External Financial Consultant and is made available to their clients and/or third parties. For country disclosures, click here.
Version 02/2019. CIO82652744

© UBS 2019.The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.