2017 Retirement guide
Addressing the challenge of income
We want to hear from you

Please click on one of the three links below to share your thoughts about this report. Are you...

Mostly satisfied?
Neutral?
Mostly dissatisfied?

An email message will open, and you are encouraged to write any further comments. Thank you!
Dear readers,

We’re nearly a decade removed from the financial crisis. The much-discussed “new normal” of low interest rates, modest economic growth, and low inflation has become, simply, normal. Caught in the crosshairs: income-seeking investors, like retirees.

In 1980, a well-diversified portfolio yielded 8–9%. Fast-forward 36 years and portfolio yields have declined to 2%. Portfolio managers can take certain measures to bump up the yield slightly, but producing reasonable after-tax income has become a nearly impossible task. Spending yield and never touching the principal has gone the way of the dodo for all but the wealthiest investors.

This edition of *Your Wealth & Life* addresses this challenge head-on. First, we discuss the driving forces behind low interest rates and high equity valuations. Next, we update safe withdrawal rates for the current environment. Then, we pause for a behavioral spotlight about avoiding stress in retirement. Finally, we end by suggesting four strategies to help retirees prudently bridge the income gap. As always, we hope you find the content useful for defining your retirement plans, and achieving them.

Mike Ryan, CFA
Chief Investment Strategist, WMA
Regional CIO, Wealth Management US

Michael Crook, CAIA, CRPC
Head of Investment Planning
UBS Wealth Management Americas
Low rates –
The historical perspective

Historically low interest rates remain a point of concern for many investors approaching retirement. This group of investors typically relies on income from investments for spending needs, but most retirees simply can’t generate sufficient income in today’s environment.

- We are in the 33rd year of a bond bull market – the longest such span in the history of US financial markets.
- Despite the recent post-election uptick, interest rates in the United States and in other developed markets remain very low.
- Nominal interest rates haven’t been as low as they are today since the 1940s – a period of time when the Federal Reserve was obligated to peg interest rates for the Department of the Treasury to reduce debt costs.
- Inflation-adjusted interest rates remain near 0%.
- Despite the unusual nature of current interest rates, we don’t believe you can count on substantially higher fixed income returns at any point in the near future.

Fig. 1: Interest rates are at historical lows, and we don’t believe investors can count on substantially higher fixed income returns at any point in the near future

Source: Federal Reserve Bank of St. Louis, UBS, as of 1 December 2016
Why are interest rates so low?

- **Lower economic growth**
  Real US economic growth averaged 4.5% in the 1950s and 60s, almost 3.5% in the 1970s, 80s, and 90s, 2.7% between 2000 and 2007, but just 1.2% since 2008. Expectations for future economic growth are similarly subdued. Lower future growth and income expectations incentivize people to save more now, which results in lower interest rates.

- **Global savings glut**
  A savings glut describes a situation where desired savings exceed desired investment. Total global savings and investment have to be equal (the savings have to go somewhere), but an increase in the overall savings rate and simultaneously declining interest rates indicate that it is an increase in savings, not demand for investment, that is the driving force. Former Fed Chairmen Alan Greenspan and Ben Bernanke have both argued that low interest rates are due in part to a global savings glut and have pointed to record-high cash hoards on corporate balance sheets as evidence.

- **Safe asset shortage**
  Global safe assets, like US Treasuries, are in short supply. “Manufactured” safe assets (e.g., collateralized debt obligations [CDO], collateralized loan obligations [CLO], etc.), which were popular before the financial crisis, are no longer viable, and some European sovereign debts have also lost their status as safe assets. Additionally, an increasingly large amount of the world’s wealth sits in emerging markets, such as China, India, and Brazil. Investors from these countries might view developed market government bonds as an insurance policy against their personal wealth and be willing to purchase it at any price, including at negative yields.

- **Demographics**
  Between 2015 and 2030, the share of the world’s population that is 60 years or older will increase from 901 million to 1.4 billion. In addition to driving demand for safe, income-producing assets, an aging population also has a negative effect on overall economic growth.

- **Inflation**
  Investors expect US inflation to average 1.9% for the next decade and 2% for the next three decades, well below historical averages. Low inflation generally suppresses interest rates.

- **Central bank policy**
  Nearly all developed market central banks are currently operating with an accommodative monetary policy stance. However, central banks only target short-term interest rates, which means that they are only partly responsible for low long-term rates. If central banks were being overly accommodative, long-term interest rates would be substantially higher due to the prospect of elevated inflation.
Are equities the solution to retirees’ woes?

Investors cannot count on high equity returns to offset low returns from fixed income. Although we expect equities to offer higher returns than fixed income, shifting out of bonds and into equities is no panacea as equity valuations remain elevated in the US.

- Above-average returns since 2009 have moved valuations to levels that are associated with mid-single-digit returns going forward.

- Although US equity valuations are not near “bubble” levels, valuations remain elevated. Valuations measure the price investors are paying for a dollar of earnings in the equity market. One measure of equity valuations, the cyclically adjusted price-to-earnings ratio (CAPE), currently sits at around 25 – a level commensurate with mid-single-digit equity returns.

- Equity valuations outside of the US are generally lower than within the US. Accordingly, most retirees should hold globally diversified equity portfolios, as return prospects outside of the US appear more attractive over the next decade.

The problem of equities and sequence risk
- Some retirees might be enticed to completely abandon bond portfolios and hold the entirety of their assets in equities.

- The main problem with abandoning bond portfolios is called “sequence risk.”

- A sharp portfolio sell off early in retirement can turn a 4% withdrawal into an unsustainable 6–8% withdrawal very quickly.

- We believe you should remain well-diversified in the early years of retirement as a hedge against sequence risk.

**Fig. 2: Since the financial crisis, US equities have experienced above average returns; as a result, investors are paying roughly USD 25 for each dollar of US company earnings**

Cyclically adjusted price-to-earnings ratio (CAPE) for US equities

Source: Shiller Data Library, UBS, as of 30 November 2016
What are current safe withdrawal rates?

Over the last 100 years, a retiree could withdraw 4% of his or her portfolio during the first year of retirement, adjust spending up by the inflation rate on an annual basis, and not risk running out of money over 30 years. However, forward-looking portfolio returns are possibly lower today than at any point since World War II. The S&P earnings yield and real bond yields are both historically low, resulting in low forward-looking portfolio returns.

- The big question retirees must confront is whether or not the 4% rule is valid in today’s environment of low bond yields and high equity valuations.

- We believe new retirees can still withdraw 4% if: 1) they are willing to spend down retirement assets, and 2) they accept that there’s some chance they will have to reduce spending in the future.²

Most families reduce spending as retirement progresses, so a decrease in spending down the road might not be overly burdensome. Figure 4 provides safe spending percentages for various ages, assuming a life expectancy of 100 years and a willingness to spend down portfolio assets during retirement.

**Fig. 3: The S&P earnings yield and real bond yields are both historically low, resulting in low forward-looking portfolio returns**

![Chart showing historical yields](chart.png)

**Fig. 4: Retirees can still spend 4% of their portfolio in retirement**

<table>
<thead>
<tr>
<th>Age*</th>
<th>Spending limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>3.9%</td>
</tr>
<tr>
<td>61</td>
<td>3.9%</td>
</tr>
<tr>
<td>62</td>
<td>4.0%</td>
</tr>
<tr>
<td>63</td>
<td>4.1%</td>
</tr>
<tr>
<td>64</td>
<td>4.1%</td>
</tr>
<tr>
<td>65</td>
<td>4.2%</td>
</tr>
<tr>
<td>66</td>
<td>4.3%</td>
</tr>
<tr>
<td>67</td>
<td>4.4%</td>
</tr>
<tr>
<td>68</td>
<td>4.5%</td>
</tr>
<tr>
<td>69</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

* Age of the youngest retiree

Source: IRS, UBS, as of December 2016
Retirees face opportunities and challenges. Optimistically, many individuals and families see retirement as an opportunity to do everything that they never had time to do while working. However, many families also have to confront the loss of purpose and social connections that working provides.

Retirement is a drastic lifestyle change. Researchers have found that any extreme lifestyle change creates stress. In fact, according to the “life events scale,” which is frequently used by psychologists, retirement is one of the most stressful events that you’ll experience in life. So it’s not surprising that so many investors are apprehensive about their decision to retire.

As investors approach retirement, it’s important to have a goals-based plan in place. Only 40% of investors have a retirement plan, and not knowing what you want to accomplish in retirement only serves to make the underlying stress more severe. Here’s a simple strategy to start that process:

**Step 1: Think deliberately**
Deliberate thinking requires taking the time to think about options over an extended period. It’s not practical to develop a lifetime of goals and objectives in one sitting. Days, weeks, and even months of reflection are necessary.

**Step 2: Identify all goals**
Identifying all goals and objectives is crucial as they provide a foundation for sound decision-making and planning for the future, yet research on goals development indicates that individuals miss nearly half of their goals. Use the ten categories of goals to kick-start the process (see Fig. 5).

**Step 3: Plan for the unexpected**
One way of preparing for a range of possible future scenarios is to evaluate multiple future versions of your life. These narratives can help uncover opportunities and risks that might otherwise be overlooked.

**Step 4: Learn from others**
One good way to improve our ability to predict what we might value in the future is to learn from the experience of others who have already been through a certain stage in life. Talk to someone who has already been through retirement about the experience.

**Step 5: Prioritize**
Trade-offs are a necessary part of the planning process. It’s better to prioritize now than to be disappointed later.

---

**Behavioral Spotlight**

The paradox of retirement

Retirees face opportunities and challenges. Optimistically, many individuals and families see retirement as an opportunity to do everything that they never had time to do while working. However, many families also have to confront the loss of purpose and social connections that working provides.

Retirement is a drastic lifestyle change. Researchers have found that any extreme lifestyle change creates stress. In fact, according to the “life events scale,” which is frequently used by psychologists, retirement is one of the most stressful events that you’ll experience in life. So it’s not surprising that so many investors are apprehensive about their decision to retire.

As investors approach retirement, it’s important to have a goals-based plan in place. Only 40% of investors have a retirement plan, and not knowing what you want to accomplish in retirement only serves to make the underlying stress more severe. Here’s a simple strategy to start that process:

**Step 1: Think deliberately**
Deliberate thinking requires taking the time to think about options over an extended period. It’s not practical to develop a lifetime of goals and objectives in one sitting. Days, weeks, and even months of reflection are necessary.

**Step 2: Identify all goals**
Identifying all goals and objectives is crucial as they provide a foundation for sound decision-making and planning for the future, yet research on goals development indicates that individuals miss nearly half of their goals. Use the ten categories of goals to kick-start the process (see Fig. 5).

**Step 3: Plan for the unexpected**
One way of preparing for a range of possible future scenarios is to evaluate multiple future versions of your life. These narratives can help uncover opportunities and risks that might otherwise be overlooked.

**Step 4: Learn from others**
One good way to improve our ability to predict what we might value in the future is to learn from the experience of others who have already been through a certain stage in life. Talk to someone who has already been through retirement about the experience.

**Step 5: Prioritize**
Trade-offs are a necessary part of the planning process. It’s better to prioritize now than to be disappointed later.
Total client goals profile

It’s easy to overlook even the most important goals. A simple solution to identifying goals is to select them from an extensive list. For some investors the most important goal could be living closer to family or being more involved with their community. For others it could be taking control by setting up trusts and wills.

Fig. 5: Ten categories that cover a spectrum of individual goals
The UBS Goals Based Wealth Management (GBWM) strategy recommends segmenting assets into three categories: Liquidity, Longevity, and Legacy. This strategy can help you meet your spending objectives while also holding a high-quality, well-diversified portfolio.

- A **Liquidity portfolio** holds cash and high-quality short-term bonds that meet the family’s spending needs for the next five years.

- A **Longevity portfolio** contains all of the assets, invested in a growth portfolio, which the family will need over the course of retirement. Each year, a portion of the Longevity portfolio refills the Liquidity portfolio.

- A **Legacy portfolio** is the family’s surplus – the assets they have in excess of what they will need for their lifetimes. This portfolio includes bequests to family members and charitable giving. It is typically invested in an aggressive fashion due to the long time horizon associated with Legacy assets.

- The GBWM strategy naturally allocates a family’s assets based on its objectives in retirement. It helps a family accept the right amount of risk – not too little and not too much – for its specific goals.

- Holding a Liquidity portfolio takes the pressure off of the rest of the portfolio to provide income in the form of dividends and interest, since the Liquidity portfolio provides cash for spending needs.

- Of course, dividends and interest can be allocated to the Liquidity portfolio as they are produced from the Longevity portfolio on an ongoing basis.

---

**Fig. 6: The GBWM framework segments assets into three portfolios, aligning appropriate assets with future anticipated expenses (goals)**

Goals-based wealth management (GBWM) framework

Source: UBS
Use bond ladders to meet income goals

Bond ladders are a straightforward way to address a family’s income objective while limiting the total allocation to fixed income. Designed correctly, a bond ladder can help a family gain confidence that it will have the income needed for expenses instead of relying on portfolio yield for its spending needs.

- Bond ladders work effectively as the core of a 3–5 year Liquidity portfolio (see Fig. 7).
- To build a bond ladder, an investor buys a series of bonds or target maturity exchange-traded funds that mature in consecutive years and provide the needed amount of cash each year.
- Each year, the investor should replace the spent capital by using assets from the Longevity portfolio to add another year’s worth of bonds to the bond ladder.

In addition to their usefulness for targeting specific liquidity needs, bond ladders offer flexibility by enabling you to easily adjust spending over time. Many investors also prefer bond ladders in rising interest rate environments since bonds held to maturity typically redeem at par.

---

Fig. 7: Households can design a bond ladder in the Liquidity portfolio by matching bond maturity dates with future spending needs

Bond ladder illustration: Matured bonds provide income needed to meet liquidity needs for the following year

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash for year 1</td>
<td>Bond A</td>
<td>Bond B matures in year 2</td>
<td>Bond C matures in year 3</td>
<td>Bond D matures in year 4</td>
<td>Bond E (Purchased with assets from Longevity portfolio)</td>
<td>Bond F (Purchased with assets from Longevity portfolio)</td>
</tr>
</tbody>
</table>

Source: UBS, as of December 2016
Consider immediate annuities for higher spending levels

Investors who desire high spending levels in retirement should consider adding an annuity to their Liquidity portfolios. As shown in Fig. 8, high spending creates a risk that investors will fully deplete their assets during their lifetimes, but annuitization helps to eliminate that risk.

- In exchange for a lump sum, an annuity contract provides for guaranteed income that starts immediately (known as an immediate payment annuity) or at a later date (known as a deferred payment annuity).
- An annuity provides higher income than would generally be possible without spending portfolio principal.
- Annuities increase income potential relative to a stand-alone portfolio by pooling mortality credits among a large group of retirees.

Here's how this works:
- Mortality credits are effectively the unspent contributions of annuity participants who pass away earlier than their life expectancy.
- Annuitants who pass away earlier than expected essentially “donate” their assets to those who live longer than expected, enabling all annuitants to enjoy higher income while they are alive without risking running out of money.
- A major benefit of an annuity – that the annuitant cannot outlive the income stream – is also a draw back. In exchange for lifetime income, the annuitized assets may no longer be available to the family for a bequest. NOTE: This “draw back” is not true for all annuities – this is only the case for “life only” annuities.

Fig. 8: Retirees with high spending rates can be at risk of fully depleting portfolio assets during their lifetime

Portfolio value during retirement in USD

Source: UBS, as of December 2016
Use annuities for longevity insurance

The Internal Revenue Service now allows retirees to buy Qualified Longevity Annuity Contracts (QLACs) with a portion of assets from a Traditional IRA or an eligible employee-sponsored plan, like a 401(k). As illustrated in Fig. 9, in exchange for a one-time premium paid to an insurance company, the retiree receives guaranteed income for life.

- A QLAC is a deferred income annuity that can be purchased in an eligible retirement account.
- Although a QLAC decreases the amount of required minimum distributions (RMDs) from a retirement account, using a QLAC specifically to defer a portion of the RMDs does not help maximize wealth in retirement.
- However, a QLAC can provide longevity insurance for investors who worry about spending down all of their assets.
- A QLAC may also be an effective hedge against sharp downturns early in retirement that can force a family to spend a higher percentage of their assets than they had intended.

QLACs have some specific guidelines that have to be followed in qualified retirement accounts:

- The sum of QLAC premiums cannot exceed USD 125,000 per retiree. The sum of QLAC premiums cannot exceed 25% of the value of the IRA per retiree.
- The income payments must start before age 86.
- The value of future payments is based on life expectancy and the length of the deferral period.
- QLACs can include a return-of-premium death benefit to protect heirs. QLACs can include a cost-of-living adjustment (COLA) rider to grow with inflation.

Fig. 9: A QLAC offers a retiree guaranteed income for life and defers the required minimum distribution when purchased from an eligible retirement account

How QLACs work:

Retirement account balance: $500,000

Purchase QLAC: $125,000

RMD deferral period

QLAC payout period

70 Age of purchase
75 80
85 Age that payouts begin
90 95 100

Source: UBS, as of December 2016
About the contributors

Michael Crook, CAIA, CRPC, is a Managing Director and Head of Investment Planning in CIO Wealth Management Research, where he advises investors on asset allocation, portfolio construction, and financial planning. He is an author of numerous academic and professional articles.

Svetlana Gherzi, PhD, is a behavioral finance specialist within the Investment Planning group in CIO Wealth Management Research. She is responsible for transforming academic research into actionable ideas and practical tools that Financial Advisors can use to improve individuals’ financial well-being. She has a BA and MA in economics and a PhD in behavioral science from the University of Warwick, UK.

Jeff LeForge is a Strategist within the Investment Planning Research group in CIO Wealth Management Research. He focuses on advice related to investment strategy, portfolio construction, and financial planning.

Mike Ryan, CFA, is the Chief Investment Strategist for Wealth Management Americas and Regional Chief Investment Officer for Wealth Management US. He brings together market and investment insights and positions them so as to optimize the impact for clients.

Jenna Snyder is a second-year analyst in the Graduate Talent Program at UBS, currently working with the CIO Investment Planning team in CIO Wealth Management Research. She received her BS in finance and her BA in economics from Marist College.

Ronald Sutedja is a member of Investment Planning in CIO Wealth Management Research. Before UBS, he worked on portfolio analysis at AQR Capital Management. He currently focuses on portfolio construction, simulation, and risk profiling.
Endnotes

1 United Nations Department of Economic and Social Affairs.

2 The crux of this framework is calculating an annually recalculated virtual annuity, which sounds complicated but simply leverages a well-known time value of money calculation to specify how much a family can spend based on their current level of assets, expected volatility- and inflation-adjusted portfolio returns, and time horizon. For instance, this framework specifies that a 65-year-old couple (assuming a 35-year time horizon) with $3 million net worth that expects 2% real returns in their portfolio can safely spend about 3.9% of their portfolio this year.

You can calculate this yourself easily in Excel. The formula is =pmt (rate, nper, pv, 1), where rate is your inflation-adjusted expected portfolio return, nper is the time horizon in years, and pv is the current portfolio value.


Insurance and annuity products

Insurance and annuity products are issued by unaffiliated third-party insurance companies and made available through insurance agency subsidiaries of UBS Financial Services Inc.

Guarantees are based on the claims-paying ability of the issuing insurance company.

Annuities are long-term investment vehicles designed for retirement purposes. Withdrawals or surrenders may be subject to surrender charges. For tax purposes, withdrawals are generally deemed to be earnings our first. Taxable amounts withdrawn will be subject to ordinary tax income, and if taken prior to the age of 59 ½, a 10% IRS penalty may apply. Withdrawals have the effect of reducing the death benefit riders and the contract value.

There is no additional tax deferral benefit for contracts purchased in an IRA or other tax-qualified plan, since they are already afforded tax-deferred status. Thus, annuity should only be purchased in an IRA or qualified plan if the client values some of the other features of the annuity and is willing to incur any additional costs associated with the annuity to receive such benefits.

Neither UBS Financial Services Inc., nor any of its employees provide legal or tax advice. You must consult with your tax and legal advisors regarding your personal circumstances.

Disclaimer

Chief Investment Office (CIO) Wealth Management (WM) Research is published by UBS Wealth Management and UBS Wealth Management Americas, Business Divisions of UBS AG (UBS) or an affiliate thereof. CIO WM Research reports published outside the US are branded as Chief Investment Office WM. In certain countries UBS AG is referred to as UBS SA. 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. We recommend that you obtain financial and/or tax advice as to the implications (including tax) of investing in the manner described or in any of the products mentioned herein. 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 and its affiliates). All information and opinions expressed in this document do not constitute, advice within the meaning of the Municipal Advisor Rule. Some opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule.

Distributed to US persons by UBS Financial Services Inc., or UBS Securities LLC, subsidiaries of UBS AG. UBS Switzerland AG, UBS Deutschland AG, 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 Değerler 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.

UBS specifically prohibits the redistribution or reproduction of this material in whole or in part without the prior written permission of UBS and UBS accepts no liability whatsoever for the actions of third parties in this respect.

Version as per September 2015.

© UBS 2016. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.