UBS

Managing a Liquidity strategy

UBS Chief Investment Office Americas
Global Wealth Management White Paper

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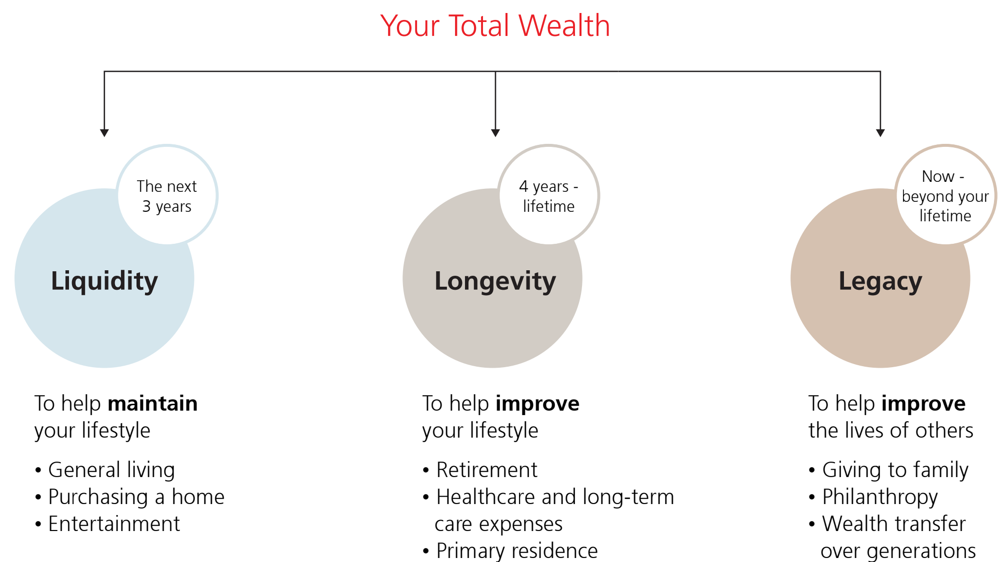
Dear reader,

Michael Crook, CAIA, CRPC

Understanding your values and what you want to accomplish in life is essential to how we work together at UBS. Wealth management is a deeply personal undertaking, which is why we always start with a discussion about what's really important to you. This helps us shape your strategy around three key dimensions of your financial life, which we call Liquidity. Longevity. Legacy.



Our wealth management approach can help you more clearly understand where your money is—and why. Adding this structure to your financial journey helps you invest with purpose, can potentially improve your results, and provide increased financial and emotional comfort. Through this process and the plan we create together, you can become more confident that you'll have what you need—for today, tomorrow, and generations to come.

In this white paper, UBS CIO explains the inner workings of our Liquidity strategy—how it works, why it works, and how to implement it in practice.

Michael Crook, CAIA, CRPC

Head Americas UHNW and Institutional strategy,
UBS Wealth Management Chief Investment Office

Why utilize a Liquidity strategy?

The notion of survival (i.e. avoiding financial ruin), should be first and foremost in every investor's mind. Ruin can happen in a wide variety of ways: capitulating during a market downturn, experiencing large unexpected expenses (e.g. healthcare), loss of human capital (e.g. earnings potential) through disability, job loss or the failure of business ventures, or simply being forced out of risk assets at the wrong time.

There are three main reasons to utilize a Liquidity strategy

To match cash flow to expenses

As a source of more stable assets during market stress and distress

To allow for better long-term performance, by avoiding panic selling in bear markets

Warren Buffett has captured this focus on survival in his #1 rule for investing: "Never lose money."[1] Of course, he didn't mean unrealized paper losses. Berkshire Hathaway has experienced multiple draw-downs of 20, 30, and 40% over the years. He was referring to permanent losses of capital, not temporary market fluctuations.

Nassim Taleb, a statistician focused on randomness and uncertainty, has refined this point about survival even further. He points out that if you utilize a strategy with even a small probability of ruin, you will eventually experience that ruin. This is one reason wealthy families have difficulty passing down their assets for more than three or four generations. A persistent small probability of ruin, whether from overspending, poor investment decisions, or some other cause, eventually catches up to them.[2]

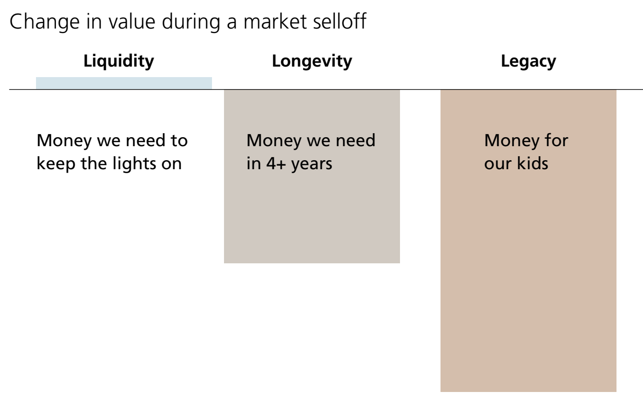
At its heart, a well-designed Liquidity strategy is intended to act as a barrier against financial ruin. The goal is to match cash flow to expenses, providing a source of stability during market stress and distress, and finally by helping to improve bear market performance by not selling depressed assets to cover near-term expenses.

First and foremost, to match cash flow to expenses.

An important part of meeting goals is making sure assets are available for spending when they are needed. After all, even well-diversified portfolios can experience sharp drawdowns, and pulling capital from a portfolio during a drawdown can lock in losses or forgo gains. Holding a distinct Liquidity strategy addresses these issues.

Fig. 1: Liquidity. Longevity. Legacy. puts "mental accounting" bias in your favor

Change in value during a market selloff



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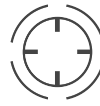


Second, as a source of more stable assets during market stress and distress.

Dr. Richard Thaler, the U.S. economist and winner of the 2017 Nobel Memorial Prize in Economic Science for his invaluable contributions to behavioral finance, stresses that actual human behavior doesn't align with the assumptions embedded in traditional economic and financial theory. Per Thaler, these theories assume humans are hyper-rational "econs" who don't experience emotions, never have self-control issues, and only think about themselves.[3] In the real world, however, humans sometimes procrastinate, often lack self-control, and even panic a little bit when the market declines.

Dr. Thaler also coined the term 'mental accounting'—the notion that most of us create accounts in our heads to simplify household finance.[4] We narrowly frame the purpose for each account such as vacation, house, and retirement instead of thinking of the 'total' and its implications. This framing has a significant impact on our behavior which we incorporate into the creation of a Liquidity strategy.

In a purely rational sense, economists will tell you that mental accounting doesn't make sense. A dollar is a dollar, no matter the source or purpose. However, to deny that we intuitively use mental accounting is silly. Mental accounting helps us make sense of our assets—and how we're going to use them.

In order to maintain investment discipline during periods of market stress, a Liquidity strategy is designed to hold assets that provide a stable source of cash flow to help you think differently about how to respond in the rest of your portfolio. So in addition to the practical usefulness discussed elsewhere in this report, we also believe a Liquidity strategy helps drive better decision-making and behavior through market cycles (Fig. 1).

Finally, to allow for better long-term performance, by avoiding panic selling in bear markets.

Most investors hate equity bear markets, but a bear market during a working career tends to be an important opportunity to invest at a lower price point. Bear markets are emotionally difficult when you're working, but potentially highly accretive to long-term wealth when handled correctly.

Retirees and portfolio managers for retirees have a more difficult challenge. By definition, retirees don't have current labor-market income to add to their portfolios during a bear market. They are doing the opposite—relying on their portfolios for cash flow. A bear market early in retirement, coupled with portfolio distributions, can lead to something called sequence risk. Sequence risk is a situation where poor returns early in retirement leave a portfolio more vulnerable to running out of money.[5]

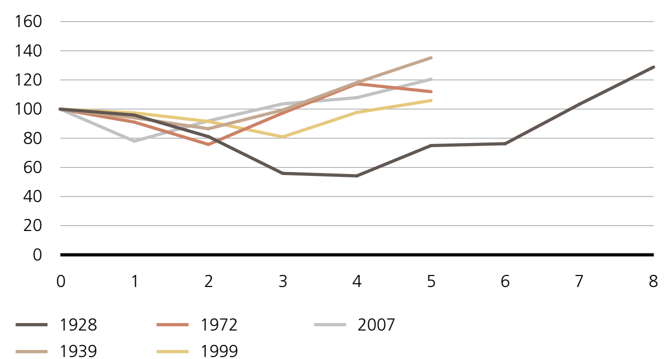
Investors have faced five multi-year U.S. equity market declines in the last 90 years. Those declines started in 1928, 1939, 1972, 1999, and 2007. The Great Depression-era decline that started in 1928 was far and away the worst. A growth portfolio comprising 30% U.S. Treasuries and 70% US equities—a reasonable allocation for a Longevity portfolio—declined by half and didn't fully recover for seven years. The declines of 1939, 1972, 1999, and 2007 were smaller in magnitude but still resulted in portfolio drawdowns of 20–30% and took three to four years to reach full recovery (Fig. 2).

The tech crash that started in 2000 posed the most recent example of sequence risk for investors. Assuming a 60/40 stock/bond portfolio (a common balanced portfolio in retirement) and an initial 5% inflation-adjusted distribution, 1999 retirees' portfolios have now dropped to half of their original values and, absent any spending cuts, those retirees are now taking 13% withdrawals per year (Fig. 3).

The 3L approach helps to reduce sequence risk by enabling investors to cover expenses using their Liquidity portfolios during drawdowns. By spending out of a Liquidity portfolio, investors can allow risk assets held in a Longevity portfolio time to recover before needing to sell them for spending needs. Looking back over the last 80 years, we estimate an appropriately designed and executed 3L strategy could have added an average of 0.25% in annual alpha during each bear market cycle.[6]

Fig. 2: Most equity market sell-offs recover in less than four years

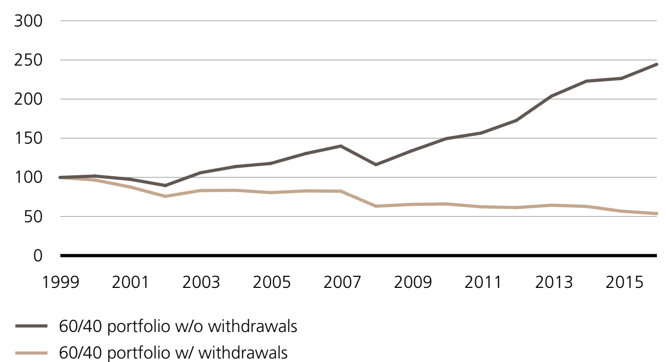
Drawdowns and recovery periods (years) for multi-year US equity market corrections



Source: Morningstar, UBS. Assumes portfolio allocated 30% to Intermediate US Treasuries and 70% to US large cap equities.

Fig. 3: 1999 retirees experienced negative sequence risk

Hypothetical portfolios, 1999–2016



Source: Morningstar, UBS

What comprises a Liquidity strategy?

It can be tempting to think about portfolio cash flow as separate and distinct from other sources of income, like Social Security income, pension income, or annuity income. However, in order to help provide the best possible outcomes, you should look holistically at your sources of cash flow and how they fit together. There are three main sources of cash flow that together make up a Liquidity strategy: stable income, flexible cash flow, and borrowing facilities.

Stable income

Stable income strategies provide cash flow that cushions you from market risk and longevity risk. Examples include Social Security, pensions and annuities. Ideally, stable income strategies should also be inflation-protected. The advantages of stable income strategies should be obvious—they provide a high degree of certainty for you in regard to future consumption, since you can expect a certain amount of cash flow, adjusted for inflation, in perpetuity.

Despite the benefits of annuities, most of us don't buy them. Economists call this the 'annuity puzzle,' since economic theory suggests most investors should annuitize at least some of their assets at retirement.[7]

Part of the explanation for the puzzle is behavioral. Rather than thinking about annuities as 'longevity insurance,' individuals see taking a large lump sum and buying an annuity as risk, the risk being dying too soon without at least breaking even. Although life expectancy has been steadily increasing and annuities are a straightforward way of hedging this, for many people having a 'sure thing' feels better than guessing how long one might live. In addition, humans experience what's known as the endowment effect—a tendency to overvalue things we already own. While most of us highly value stable income that we are 'endowed' with, like a pension or Social Security, when it comes to giving up 'our' accumulated lump sum for a fair price to buy an annuity that has the same cash flow characteristics, we often choose not to buy it.

To some extent the hesitance to add additional stable income is due to the downsides inherent with buying annuities; they are, for the most part, illiquid and inflexible. They also can reduce the assets available for a bequest. Because annuities' cash flow is guaranteed by the issuer, they can appear expensive when compared directly to other assets' expected returns. But part of the hesitance is simply undervaluing how important a consistent source of cash flow can be in retirement—particularly if you happen to retire just before a market decline. Additionally, if you want to spend more than 4.5% or so of your assets on an ongoing basis, partial annuitization might be the only viable strategy that doesn't create substantial longevity risk (e.g., running out of money).

Flexible cash flow

We define flexible cash flow as strategies that provide cash flow with a high degree of certainty while retaining the flexibility to make changes down the road if you choose to do so. Examples include cash, short-duration fixed income, certificate of deposit ladders, and bond ladders. The term "flexible cash flow" shouldn't be confused with some of the unconstrained mutual fund strategies, like 'strategic income funds' or 'unconstrained bond funds' that have launched over the last decade. In our Liquidity strategy, the underlying investments are chosen for their ability to match up to future spending, with both interest and principal utilized for cash flow.

The drawbacks of flexible cash flow strategies are the benefits of stable income strategies. Flexible cash flow strategies don't offer contractually guaranteed, inflation-adjusted cash flow for your lifetime. However, structured appropriately, flexible cash flow strategies can provide a consistent and measurable cash flow so that you'll feel confident regardless of market volatility.

Flexible cash flow strategies are available in a variety of investment vehicles. Certain exchanged traded funds, mutual funds, and separately managed accounts can be used for flexible cash flow strategies. You can even buy individual bonds. The vehicle is less important than the actual investments and how they line up against desired spending over the next three years.

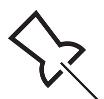
Borrowing facilities

The last sources of cash flow in a Liquidity strategy are borrowing facilities such as asset-backed lines of credit. Although we don't suggest borrowing on an ongoing basis to meet basic cash flow needs, access to a borrowing facility can help prevent the need to hold excess assets in cash that could be used in an emergency situation where a large, unexpected outflow was necessary, such as in the case of long-term care expenses or a bridge loan for children's needs.

How do you construct a Liquidity strategy when you're working?

Pre-retirement, a Liquidity strategy consists of an emergency fund, assets to pay for large expenses such as a down payment on a house, and an asset-based borrowing facility.

Sizing and emergency fund
Determine how long you think it would take you to find an appropriate role in your field during a recession and then double it.



Planned major expenses
We suggest holding all major planned expenses that will occur in the next three years in your Liquidity strategy in high-quality, short-duration fixed income.

Borrowing
We also suggest securing an asset-based borrowing facility in order to handle unexpected expenses in a flexible manner.

Sizing an emergency fund

Standard advice seems to be that emergency funds should be large enough to pay for three to six months of expenditures. However, we believe many families need to hold upward of one year of expenses in an emergency fund. Based on data from the Bureau of Labor Statistics, roughly 65% of unemployed workers will find a new job within 14 weeks. Another 13% will find work within 26 weeks. It takes the remainder (23%) 27 weeks or more to find a job (Fig. 4). This duration means that based on current labor market conditions, the conventional six-month safety fund will be sufficient for nearly 75% of the population.

However, this assumes today's labor market, with unemployment at 4%. This also doesn't account for the job type itself. Highly specialized or very senior roles can take substantially longer to fill. Let's also look at this data for 2010—a period that was much more likely to lead to unemployment for the average person.

For most of 2010 the median duration of unemployment hovered around six months (Fig. 5). That duration means a six-month emergency fund would have been insufficient for half of the people who lost their jobs following the financial crisis. So how large should an emergency fund actually be?

Our basic advice is to determine how long you think it would take you to find an appropriate role in your field during a recession and then double it—up to a year's worth of spending. You want a margin of safety so that you won't have to sell portfolio assets, since there's a decent chance that financial markets will be doing poorly at the same time you lose your job.

Keep in mind that you likely can cut out some expenses so you don't have to completely replace your current income. For instance, if your budget is 50% non-discretionary expenses (food, housing, etc.), 30% discretionary expenses (entertainment, travel, etc.), and 20% savings, you can cut up to 50% out of your monthly expenditures while unemployed. It's worth working through those numbers to get a good sense of your actual budget if you haven't already done so.

Planned major expenses

We suggest holding all major planned expenses that will occur in the next three years in your Liquidity strategy in high-quality, short-duration fixed income that isn't subject to meaningful price fluctuations on a daily, weekly, or annual basis. This will devote or commit assets to be available at the time of the expense but also allow you to maintain an appropriately high level of market exposure with your longer-term Longevity assets.

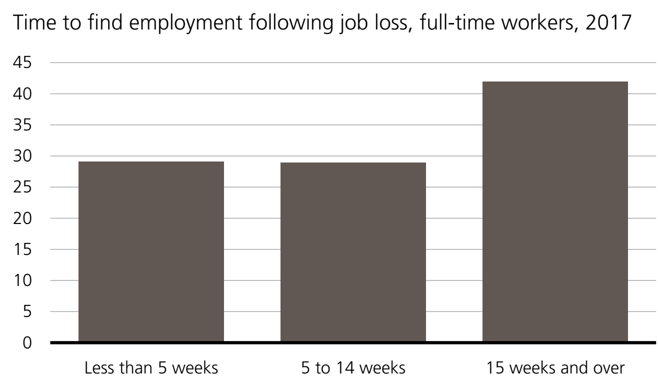
Use of a borrowing facility

We also suggest securing an asset-based borrowing facility in order to handle unexpected expenses in a flexible manner. Examples include securities-based lending facilities (borrowing against a portfolio) and home equity lines of credit. Although we do not suggest using this type of debt as a long-term or strategic position, it can be useful as a way to access liquidity on short notice. Examples of uses that we've seen with investors include long-term care expenses for family members and large tax expenses.

By having a borrowing facility to access liquidity for unexpected expenses, you're able to determine how to withdraw the funds from your portfolio in a more tax-efficient way, instead of selling assets and incurring capital gains taxes. Each situation will differ, but we believe the flexibility gained by having a borrowing facility available is an important tool for a Liquidity strategy.

Fig. 4: Most workers find employment within three months

Time to find employment following job loss, full-time workers, 2017



Source: Bureau of Labor Statistics, UBS

Fig. 5: Duration of unemployment spiked during the last recession

Median duration of unemployment

Source: Bloomberg, UBS

How do you construct a Liquidity strategy when you're retired?

We construct a Liquidity strategy for retirees by matching cash flow to spending needs for the next three years. A retiree's Liquidity strategy generally consists of stable income strategies, flexible cash flow strategies, and an asset-based borrowing facility.

Fig. 6: One solution to cover an expense gap is to use flexible cash flows that match the timing and amount

An expense gap occurs when the income available is less than the desired expense.

	2018	2019	2020	Three year total
Retirement income	80,000	80,000	80,000	240,000
Retirement (expenses)	(100,000)	(100,000)	(100,000)	(300,000)
Expense gap	**(20,000)**	**(20,000)**	**(20,000)**	**(60,000)**
Flexible cash flows				
Cash and equivalents	20,000			
Bond, 2019 maturity		20,000		
Bond, 2020 maturity			20,000	

Source: UBS

Constructing the strategy

Once we have a clear understanding of the amount and timing of planned spending, we match that spending to sources of stable income and then fill the gap with flexible cash flow strategies. For instance, if the retiree receives USD 80k in Social Security, pension, and annuity cash flow per year, but wants to spend USD 100k per year for the next three years, we would generally use flexible cash flow strategies to plug the gap between expected spending and available cash flow (Fig. 6).

In the situation described above, the flexible cash flow strategy would need to provide about USD 20,000 per year for the next three years. One option is to hold spending for the next year in cash (USD 20,000) along with a bond ladder that provides 20,000 in maturing principal plus income per year for years two and three. Another option would be to hold a high-quality, short term bond portfolio and sell the assets needed for the next year's spending gap on an annual basis. Either way, care is taken to ensure that the retiree's cash flow matches his or her expected spending in regard to timing and amount for the next three years.

The general sequence for withdrawal should usually be

1 Taxable assets

2 Tax-deferred assets e.g., a Traditional IRA

3 Tax-exempt assets e.g., a Roth IRA

Managing the strategy on an ongoing basis

Once the initial Liquidity strategy is in place and providing cash flow to the retiree, Liquidity assets will need to be replenished on an ongoing basis from the Longevity strategy. Although the basic idea is pretty simple—that assets flow from Longevity to Liquidity as the retiree goes through retirement—the actual management of asset flows becomes becomes fairly complex once tax consequences are layered into the analysis.

The asset allocation question (e.g., placement of stocks or bonds in a taxable account (TA), tax deferred account (TDA) or tax-exempt accounts (TEAs) and the sequence of withdrawals question (e.g., whether to take first from taxable, tax-deferred or tax-exempt accounts) have to be answered simultaneously.

The fact that each of us has a different ratio of taxable assets, tax-deferred assets, and tax-exempt assets complicates these questions even further.

As a rule of thumb, the general sequence should be to withdraw from:[8]

- Taxable assets, then
- Tax-deferred assets (e.g., a Traditional IRA), and then
- Tax-exempt assets (e.g., a Roth IRA).

Fig. 7: New tax brackets went into effect in 2018

Tax Brackets and Rates, 2018

Marginal tax rate	Individuals	Married filing jointly
10%	$0–9,525	$0–19,050
12%	$9,525–38,700	$19,050–77,400
22%	$38,700–82,500	$77,400–165,000
24%	$82,500–157,500	$165,000–315,000
32%	$157,500–200,000	$315,000–400,000
35%	$200,000–500,000	$400,000–600,000
37%	+$500,000	+$600,000

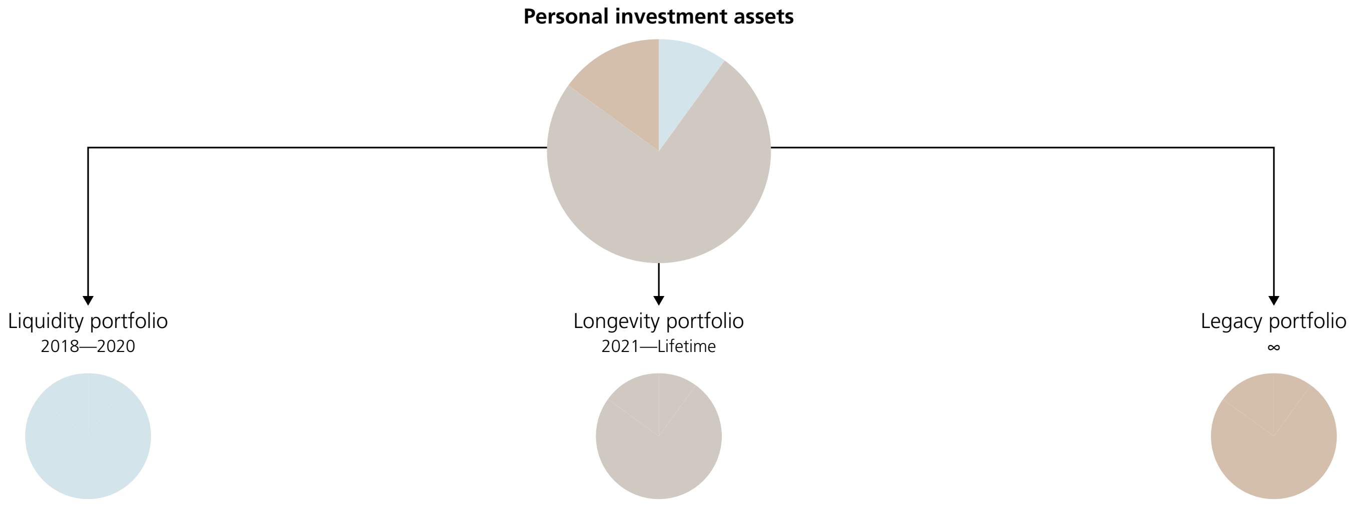
Source: Internal Revenue Service, UBS

However, your tax-efficiency goal should be to minimize the average marginal tax rate from TDAs over the course of retirement. That means that you should always pay attention to how your taxable income matches against marginal tax brackets (Fig. 7). In years where you are in a lower-than-normal marginal tax rate, you might withdraw assets in excess of the required minimum distribution from the TDA in order to ‘fill up’ that tax bracket and get money out of the account at a lower cost (i.e., a lower tax rate).

The general advice that stocks should be held in taxable accounts and bonds in tax-deferred or tax-exempt accounts isn’t usually correct. High-tax hedge funds and high-yield bonds, etc., should definitely go in tax-advantaged accounts whenever possible, but investors don’t need to worry too much about location for stocks and high-quality bonds because tax efficiency can be handled on the implementation side.

Fig. 8: Investment assets are segmented across the three strategies using information specific to the household—including their goals and objectives

Snapshot of of hypothetical segmentation



Source: UBS

Let's look at an example where an investor has all three types of assets: Tax deferred (50%), taxable (40%), and tax exempt (10%). He's retiring, and after running his objectives through our 3L analysis it's determined that he should currently segment 10% of his assets into Liquidity, 75% into Longevity, and 15% into Legacy (Fig. 8).

His Liquidity portfolio is going to be comprised entirely of taxable assets, so he can immediately split out 10% of those assets, hold what he wants to spend over the next year in cash, and invest the remainder in a way that matches his spending.

In order to build out the Longevity portfolio we'll use the remaining taxable assets and 45% of the tax-deferred assets. Finally, Legacy for this investor will be the remaining 5% of tax-deferred assets and all of his tax-exempt assets (Fig. 9).

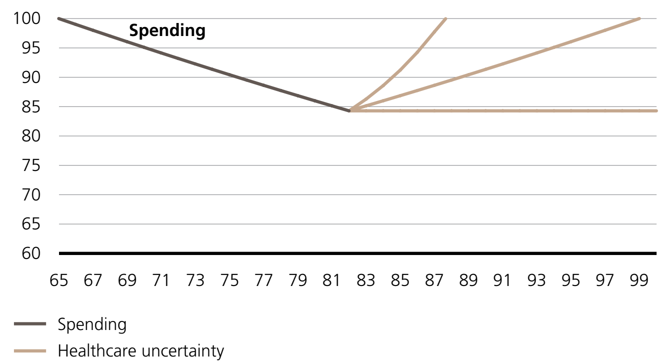
On an annual basis, he'll need to refill his Liquidity portfolio. This structure makes that sequencing pretty easy to do. Assets flow into the Liquidity portfolio from the Longevity portfolio in the following order of priority:

- Required minimum distributions from the TDA, then
- Yield and income from the taxable account, then
- Additional distributions from the TDA in a low-tax-bracket year, and then
- Sales/transfer of taxable assets or borrowing from an asset-based lending facility

This prioritization keeps everything simple and manageable on a year-to-year basis while also keeping the asset allocation in line with his objectives. The guidelines can be used no matter what situation an investor is in: Mostly tax deferred, mostly taxable, or some other combination. The framework also provides complete flexibility on when cash flow is received. Weekly, monthly, annually—since cash for the next years' worth of expenses is available in the Liquidity strategy it can be distributed at whatever frequency, regardless of the timing of flows elsewhere in the portfolio.

Fig. 9: The retirement spending "U"

Stylized inflation-adjusted spending path showing uncertainty due to healthcare



Source: Morningstar, UBS

A note about borrowing for Liquidity needs in retirement

Many planning tools assume that spending in retirement starts at a particular level and increases by inflation on an annual basis. There's a wide body of research that indicates those assumptions are inaccurate.[9] Inflation-adjusted spending typically declines, very persistently, over the course of retirement as you slow the pace of travel, downsize homes, spend less on entertainment, and generally reduce consumption across the board (Fig. 9). However, as a counterbalance, healthcare costs increase throughout retirement and typically start to offset reductions elsewhere when you are in your 80s. Additionally, once you enter your 80s, it's not unusual to have unexpected expenses related to long-term care.

Spending patterns matter because they directly relate to the amount of cash flow you will need in retirement. This is where borrowing facilities can have a role to play. Whenever there's a gap in cash flow vs. spending that would require you to sell taxable assets and pay taxes to fill the gap, you should consider whether borrowing against assets would help avoid the tax liability without increasing the overall risk of your retirement strategy.

Many of these borrowing opportunities will be short term in nature. For example: Borrowing for an expense and then paying off the loan over a few months with cash flow from the portfolio. Other opportunities could be longer term. If you know this year's spending will be unusually high but you will be cutting spending over the next few years, you could borrow this year to make up a spending gap and pay it off after your spending has declined in future years.

In all cases, we believe it is important to know

1. Exactly why the borrowing is being done,
2. That the borrowing doesn't reduce the likelihood of success of the overall retirement plan,
3. The expected net benefit of the borrowing strategy (usually the cost of debt versus tax savings), and
4. The exit strategy for paying off the debt.

Conclusion

The Liquidity strategy plays a special role within our Liquidity. Longevity. Legacy. framework.

The concept is simple: A Liquidity strategy is designed to provide the cash flow you need to help meet your expenses over the next three years. A well-constructed and well-managed Liquidity strategy also simplifies many of the complexities inherent in pulling cash flow out of your financial assets, like tax optimization and timing to match expenses. Finally, and perhaps most importantly, a Liquidity strategy provides the dedicated assets that enable you to think differently about how to respond in the rest of your portfolio to a bear market.

High-quality long-term investing is predicated on continuously making good decisions no matter what the market throws at you. We believe a Liquidity strategy plays a fundamental role in driving those decisions by helping to ensure you are less likely to liquidate equities and other risk assets during a market downturn.

Endnotes

[1] Buffett, Mary, and David Clark. "The Tao of Warren Buffett." New York: Scribner, 2006.

[2] A good discussion of this concept can be found in this EconTalk podcast: http://www.econtalk.org/archives/_featuring/nassim_taleb/

[3] Thaler, Richard H. "Misbehaving: The Making of Behavioral Economics." New York: W. W. Norton & Company, 2016.

[4] Thaler, Richard H. (1999). "Mental accounting matters." Journal of Behavioral Decision Making. Available here: http://faculty.chicagobooth.edu/richard.thaler/research/pdf/MentalAccounting.pdf

[5] Our report, "Investment Strategy Insights: Hedging against sequence risk for retirees" provides a deeper discussion of sequence risk.

[6] Please see "Liquidity. Longevity. Legacy. A purpose driven approach to wealth management" for a full explanation of this methodology." Available here: https://www.ubs.com/us/en/wealth/special-reports/wealth-with-purpose.html

[7] This New York Times article by Richard Thaler provides a good, non-techical overview of the Annuity Puzzle. http://www.nytimes.com/2011/06/05/business/economy/05view.html.

[8] For a more-technical discussion of withdrawal strategies, please see: Kirsten A. Cook, William Meyer, and William Reichenstein,"Tax-Efficient Withdrawal Strategies CFA Financial Analysts Journal, March/April 2015, Vol. 71, No. 2:16-29. www.cfapubs.org/doi/pdf/10.2469/faj.v71.n2.2

[9] For additional information on this topic, please see: Fisher, Jonathan D., David S. Johnson, Joseph Marchand, Timothy M. Smeeding, and Barbara Boyle Torrey. 2008. "The Retirement Consumption Conundrum: Evidence from a Consumption Survey." Economics Letters 99 (3): 482–485. Blanchett, David. 2014. "Exploring the Retirement Consumption Puzzle." Journal of Financial Planning 27 (5): 34–42.

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Appendix

Lending products
Borrowing using securities as collateral entails risk and may not be appropriate for your needs. All loans are subject to credit approval, margin requirements, and margin call and other risks. For a full discussion of the risks associated with borrowing using securities as collateral, you should review the Loan Disclosure Statement included in your application package / account opening package. Neither UBS Financial Services Inc. nor UBS Bank USA, nor any of their employees, provides legal or tax advice. You should consult your legal and tax advisors regarding the legal and tax implications of borrowing using securities as collateral for a loan. Securities backed financing involves special risks (including, without limitation, being required to post additional collateral, commonly referred to as a "margin call," if certain collateral value requirements are not met) and is not suitable for everyone.

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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, an 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.

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