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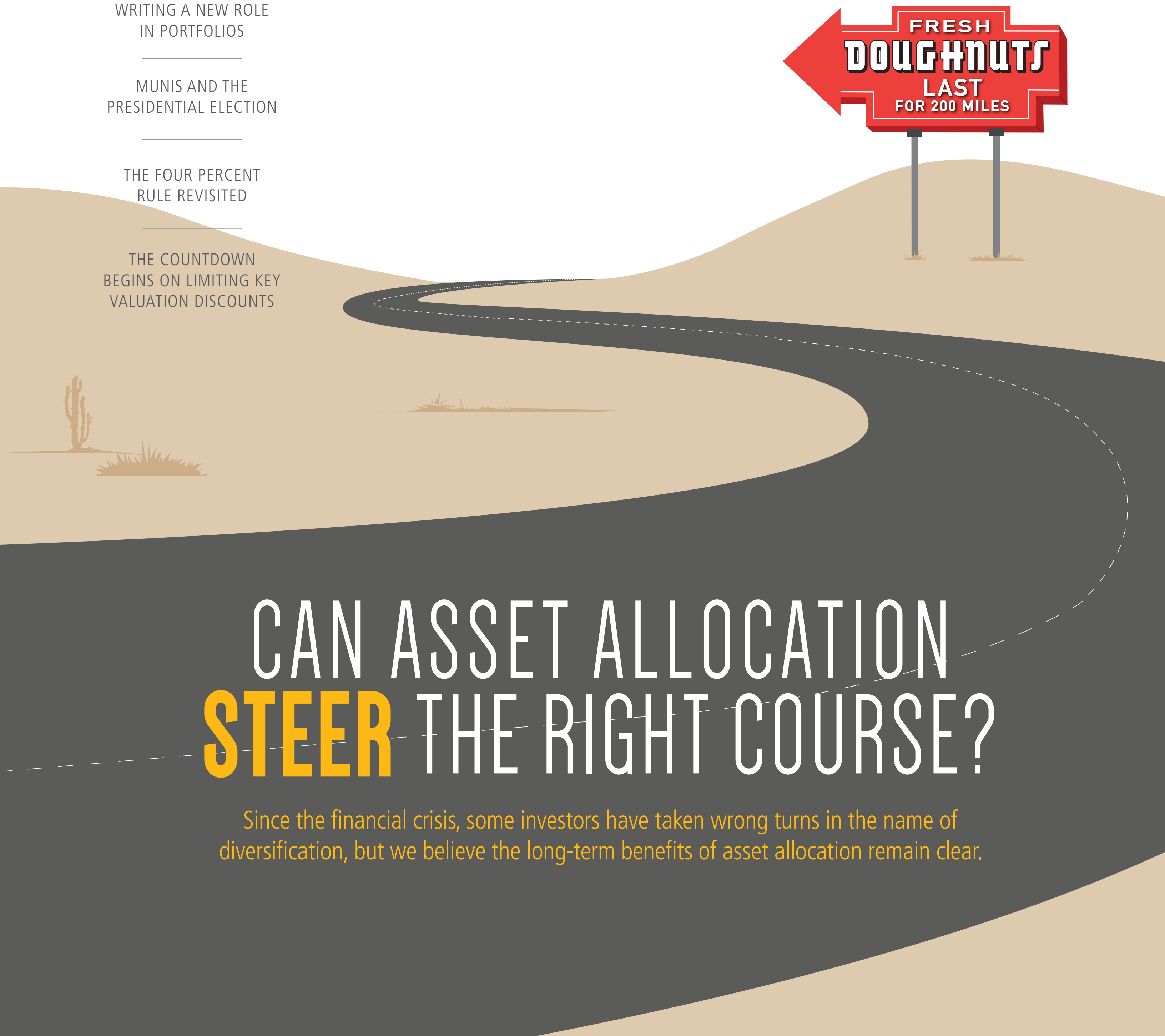

CAN ASSET ALLOCATION **STEER** THE RIGHT COURSE?

Since the financial crisis, some investors have taken wrong turns in the name of diversification, but we believe the long-term benefits of asset allocation remain clear.

IN THIS ISSUE

John F. Geer, Jr., Managing Editor

BRACING FOR TURBULENCE

After an initial jolt from the June Brexit vote, the third quarter turned out to be a strong one for many investors. Prospects for extended loose monetary policy supported European stocks, while emerging markets equities continued to benefit from a more stable commodities outlook and easing worries about global growth. Despite stagnant earnings, U.S. equities also gained ground as the economy remained sluggish but positive, and the Fed delayed hiking short-term rates. U.S. fixed income yields moved up modestly from their lows, although aside from Britain, European yields were fairly flat. Credit markets, particularly high yield, benefited from tightening spreads.

Whether the calm turns out to be fleeting remains to be seen. Extended U.S. equity valuations, overdependence on global easing, protectionist trends, negative surprises from China or elsewhere—all could foster renewed turbulence, as could politics. As I write, the U.S. presidential race is closing in on its final sprint, with the two major candidates wrestling for advantage. The outcome and resulting balance of federal power will likely provide some near-term volatility as investors weigh the impacts. More concerning, in my view, is the long game, and whether the two parties can work together to get things done. Gridlock, although actually appealing for a time, has outlived its usefulness, and our leaders need to address the important economic issues that face the country.

In this issue of *Investment Quarterly*, we provide a mix of timely and strategic insights: why asset allocation, despite a tarnished reputation, remains crucial to investors; whether the classic "four percent rule" on retirement withdrawals still makes sense; the risk/return benefits of option "PutWrite" strategies; the election's potential effects on municipal bonds; and the ramifications of proposed regulations affecting the use of discounting in estate planning. We hope you enjoy *IQ*. Please contact your Neuberger Berman representative with questions about the markets or your portfolio.

Joseph V. Amato
President, Chief Investment Officer—Equities

HIGHLIGHTS 4Q16
FROM THE ASSET ALLOCATION COMMITTEE

U.S. equities: Valuations are relatively high and earnings have continued to be revised downward. For the first time in this cycle, the Committee downgraded its view on all U.S. equity markets from neutral to a slight underweight.

Emerging markets equities: Helped by a rebound in local currencies and commodity prices, the asset class has fared well so far this year. Upgraded from neutral to a slight overweight, although China remains a risk.

Commodities: The commodity complex has rebounded since early February on the weakening dollar and the decline in global growth concerns. Upgraded from neutral to a slight overweight.

Public real estate: Investors' ongoing search for yield has made valuations richer, although continued low rates and demand for yield could remain supportive. Downgraded from neutral to a slight underweight.

High yield: There may still be some room to run, as spreads are within historical ranges, but the asset class has had a strong run. Moved from a slight overweight to neutral; security selection remains important.

CAN ASSET ALLOCATION **STEER** THE RIGHT COURSE?

Richard Gardiner, Head of the Investment Strategy Group, Chief Investment Officer, Neuberger Berman Trust Company N.A.

Since the financial crisis, some investors have taken wrong turns in the name of diversification, but we believe the long-term benefits of asset allocation remain clear.

For many investors, the 2008 financial crisis reinforced the value of effective asset allocation. However, the trauma of the experience appears to have distorted the concept of asset allocation in some mainstream commentary that has become overly fixated on short-term objectives.

Asset allocation refers to the manner in which an investor apportions his or her investments among various asset classes. At a basic level, asset allocation considers traditional investments such as cash, stocks and bonds. Subcategory classes may be targeted to geographic regions, industry sectors and market capitalization size. Alternative classes typically include private equity, real assets and hedge funds.

Research has shown that, often, a significant portion of a portfolio's investment returns are attributable to asset allocation, rather than the selection of underlying managers or individual securities.[1] Moreover, effective asset allocation can often produce a portfolio with less risk than the component holdings. Asset allocation employing mean variance optimization incorporates three variables: the estimated returns of various asset classes, the volatility of those returns and their correlations to each other. These elements are combined to construct a portfolio designed to maximize the estimated return for a targeted level of risk, or the lowest risk for an estimated return target.

What has gone wrong for investors since the financial crisis and why has asset allocation come under fire? For many investors, it has been largely a matter of timing and a counterproductive short-term focus.

[1] Gary P. Brinson, L. Randolph Hood and Gilbert L. Beebower, "Determinants of Portfolio Performance," *Financial Analysts Journal*, Vol. 42, No. 4 (Jul. - Aug. 1986), pp. 39-44.

1. Staying in Cash Too Long. Many investors sold equities to cut risk during the bear market of 2008 and early 2009. Portfolios on average held more than 40% cash in the first quarter of 2009 (see display below)[2] and, as a result, many investors have not fully participated in the robust recovery. Since January 2009, the S&P 500 has provided a total return of +183% or +14.5% on an annualized basis.[3] In effect, many investors who had moved into cash did so at the wrong time and stayed there too long. Of course, with perfect hindsight it is far too easy to criticize investors who sold equity holdings during the relentless decline, yet one of the advantages of asset allocation planning is that it can provide a framework with which to systematically and rationally rebalance one's portfolio during a drawdown when emotions might otherwise take over.

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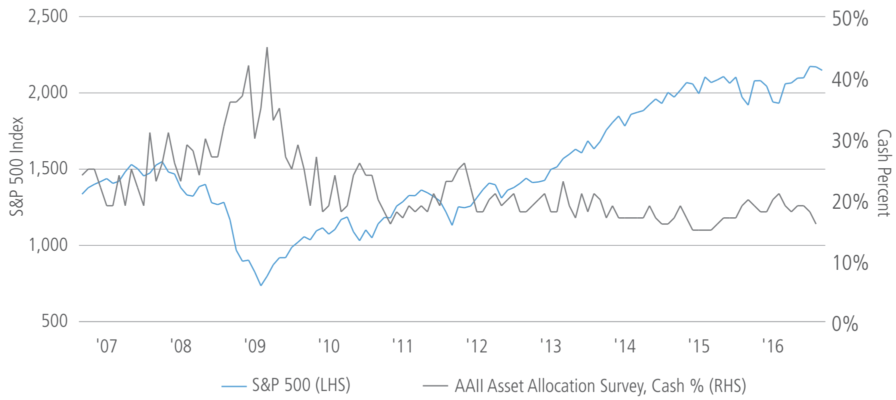
CASH MOVES WERE POORLY TIMED

S&P 500 and Cash Allocations



Source: FactSet, American Association of Individual Investors (AAII), as of September 26, 2016. The AAII's Asset Allocation Survey measures the average percent of cash held in respondents' portfolios. Indexes are unmanaged and are not available for direct investment. **Past performance is no guarantee of future results.**

2. Reactive Hedging. In an attempt to dampen volatility and to seek uncorrelated returns after the crisis, many investors also added hedge funds to their portfolios. Recent hedge fund performance has led to widespread criticism of hedge funds and many investors are questioning whether the asset class is still worth investing in.

It is true that many hedge funds have delivered disappointing returns in recent years (some while imposing high fees and illiquid terms on investors). From January 2009 to September 2016, the HFRI Fund Composite Index has generated a +5.8% annualized return compared to a +14.5% annualized total return for the S&P 500.[3] However, there is an egregious misperception that hedge funds should always beat the market. Hedge funds encompass many strategies but are commonly used to lower beta or net exposure to markets. It is understandable that hedge funds have underperformed long-only strategies during a period in which equity indices have more than doubled in value.

The fact that many hedge funds have underperformed recently does not mean this will continue, and more importantly, it does not mean that asset allocation does not work. It is worth noting that the HFRI Fund Composite gained +5% on an annualized basis from January 2000 to December 2008, versus a -3.3% annualized loss for the S&P 500 total return over the same period. Hedge

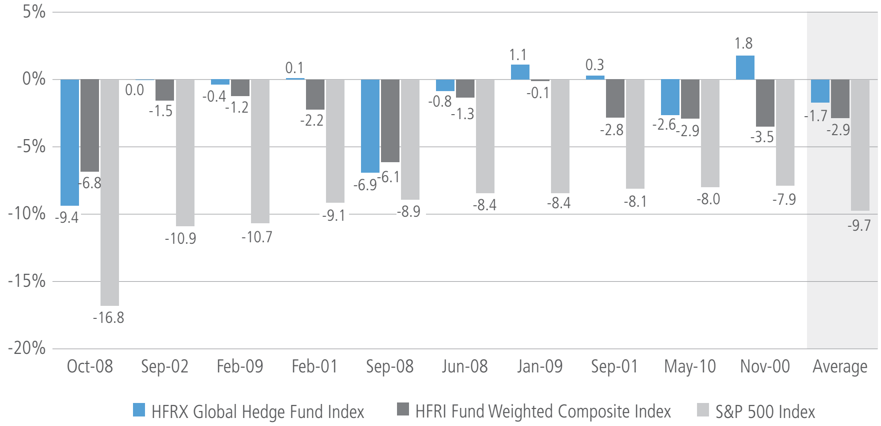
[2] Source: American Association of Individual Investors.

[3] Source: Bloomberg, as of September 26, 2016.

funds have also fared better than global stocks during each of the S&P 500's worst 10 months since January 2000 (see display).

RECENT HEDGE FUND DISAPPOINTMENT OVERLOOKS EQUITY MARKET DECLINES

Hedge Fund Performance During the 10 Worst Months for Equities, January 2000 – September 2016

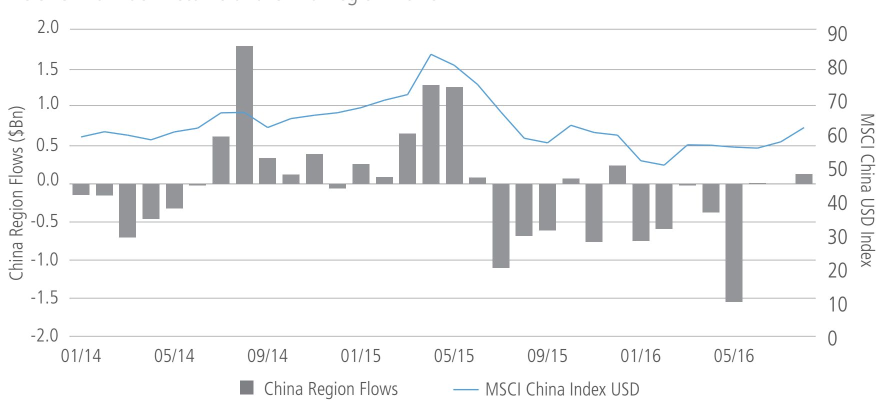


Source: PerTrac. Indexes are unmanaged and are not available for direct investment. **Past performance is no guarantee of future results.**

3. Waiting for Emerging Exposure. Emerging markets were among the first asset classes to recover immediately after the financial crisis, as these regions were less vulnerable to the protracted slowdown in consumer spending that had spread in developed markets. The MSCI Emerging Markets (EM) Index rose over 100% in value from January 2009 to June 2011 compared to a +46% gain for the S&P 500 Index. The disparate gains speak to a goal of asset allocation: to capitalize on diversified return streams. Unfortunately, investors largely waited to add EM exposure until after EM equities started to rally. The momentum psychology phenomenon can also be seen more recently in investment flows in and out of Chinese equities over the past two years. As shown below, investors began to consistently reduce exposure to the region only after the market suffered a steep decline in early 2015. Effective rebalancing is designed to do the opposite.

EMERGING MARKETS FLOWS FOLLOW RECENT PERFORMANCE

MSCI China Index Returns and China Region Flows



Source: Morningstar. U.S. ETF flows focused on China region. Indexes are unmanaged and are not available for direct investment. **Past performance is no guarantee of future results.**

Planning for the Journey

None of the above asset allocation trends were effective, and all arguably hurt. Using the metaphor of driving a car, the concept of asset allocation was contorted into driving via the rearview mirror—i.e., reacting to earlier events. Investors need to look forward instead, through the windshield, and they need a long-term plan.

Asset allocation is not always easy, even when an investor has a long-term plan. One reason is that investors get bombarded by noise from the 24-hour news cycle and the allure of in-vogue market segments with attractive short-term returns. Sticking with the metaphor of driving, asset allocation is comparable to a cross-country journey and pitches for those segments are comparable to the enterprising highway restaurant blasting a sign, "Fresh Doughnuts – Last for 200 Miles!" As you approach, you notice that the parking lot is loaded with cars (read asset flows from other investors and recent strong performance). So, you pull over and enjoy the doughnuts. Yet farther on, you come across other restaurants. While the sign was "accurate"—it was indeed the "last" doughnut shop—there were many other, healthier food options available down the road.

The lesson is that investors may need to forgo tantalizing short-term opportunities in order to stick to a sensible long-term plan. Asset allocation provides a steering wheel and investors can and should maintain some flexibility to changing conditions—but *too many* changes risk creating a whipsaw effect. Said differently, you can't yank the steering wheel at every alluring exit, or you will never make meaningful long-term progress.

Allocating in Today's Environment

Establishing an effective asset allocation is essentially a three-part process. As a starting point, you and your advisor should look at all your investments to establish your aggregate portfolio. This administrative/organizational task is often overlooked and yet it is vital. Far too many investors have investments in various unconsolidated accounts with no awareness of the entire picture. Next, you determine your investment goals, time horizon, liquidity needs and risk tolerance. The latter may relate to the volatility of returns, drawdowns or even dissatisfaction with being up less than certain benchmarks in bull markets. Once those parameters are established, the next step is to draw the broad lines of your portfolio, establishing long-term asset allocations as well as guidelines for potential short-term tactical tilts. With a developed asset allocation plan, you and your advisor have a framework for implementation, as well as for periodic review and reassessment of your portfolio.

In general, equities have offered higher upside potential over the long term for those willing to accept greater volatility. Right now, however, equities are not cheap, and earnings momentum remains weak, although there are select opportunities. Traditional fixed income has generally offered stable yields with reduced portfolio volatility. Because yields are so low, we currently favor bonds with shorter durations. Alternatives such as option overlays and private equity strategies can provide valuable diversification and additional sources of total return potential.

Summary

Effective asset allocation is not about making bets. It is designed for the long haul, and a focus on short-term results may be counterproductive. From our point of view, asset allocation is about analyzing a potential range of outcomes, and then using that information along with the client's investment profile in seeking to build portfolios with favorable risk-adjusted return profiles. Over the last few years, asset allocation has taken some hard knocks, but we believe it is far from obsolete. On the contrary, the framework it provides can be an invaluable "map" as investors plan for their long-term financial goals.

Please see the disclosures at the end of the publication, which are an important part of this article.

OPTION INVESTING: WRITING A NEW ROLE IN PORTFOLIOS

Derek Devens, CFA, Senior Portfolio Manager, Options Group
Rory Ewing, Research Analyst, Options Group

Put-writing strategies can provide equity exposure while potentially mitigating risk in diversified portfolios.

Options strategies have traditionally been seen in one of two ways: as a means of hedging risk or achieving income via an existing position in stocks or bonds, or as a vehicle for speculation. However, investors are increasingly looking at options through a third lens: as a less volatile approach to maintaining equity exposure.

A classic use of options looks something like this: Assume that you own 100 shares in stock A, which has had a long successful run and is currently priced at $50. However, now you believe it may be facing a period of increased volatility. For a premium, you might buy an option giving you the right to sell the stock (a "put") at $48, locking in much of your gain over the tenure of the option. If you are skeptical about prospects for the stock, or dislike the economics of the put option purchase, you might also sell a "call" on the stock (a covered call, as you own the underlying security) giving someone else the right to buy it at $52. With this combination, you've traded upside in the stock for downside protection in what's known as a collar.

Options are also commonly used to generate income for a portfolio. Depending how you feel about a given holding, you might sell a call or a put (in the latter case taking on the buyer's downside risk). If the stock does not reach the option strike (or preset sale) price, it expires worthless and you pocket the premium. Otherwise, the buyer of the option will exercise and you will be forced to follow through on your obligation to either buy or sell the stock.

Beyond these basic arrangements, the world of options can become increasingly complex, esoteric and often speculative, depending on the level of collateral required in margin accounts. In the public mind, it's a world largely inhabited by a spectrum including aggressive gamblers and hucksters peddling sure-fire options strategies to pliable television watchers.

However, between the two extremes of conservative risk management/income techniques on the one hand and speculative excess on the other is a significant array of practical techniques used to define and trade risk, whether by companies seeking to offset economic or interest rate exposures or investors using systematic techniques to provide additional sources of risk-adjusted total return. It is in this latter category that enduring option-writing strategies are becoming more prominent.

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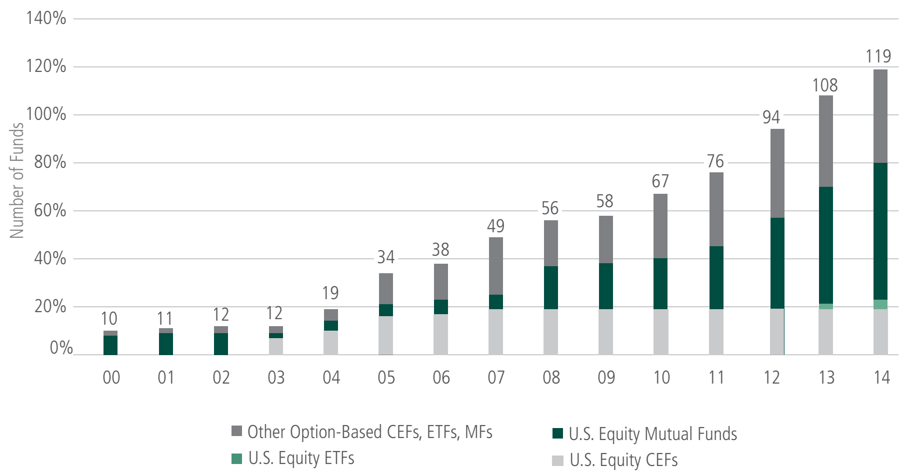
Multiple Concerns Spur Option Investing

The interest in options investing is arising for various reasons. Many investors are concerned about equity and fixed income market valuations, and are therefore looking to reduce their exposure while seeking to retain some of the upside potential of traditional long investing. There is a sense that traditional "low volatility" equities, such as utilities and high dividend stocks, may be more vulnerable as interest rates rise. At the same time, there is some frustration with hedge funds, which previously would have been looked toward to achieve diversification goals but have experienced a difficult environment over the last couple of years.

Of all these areas, option writing appears to be gaining the most traction among risk-minded investors, given the availability of standardized benchmarks around which to construct portfolios that can be transparent, liquid, unleveraged and cost-effective.

Regardless, the use of options in both mainstream strategies and dedicated portfolios is growing. For example, the number of options-based mutual funds has expanded, from under a dozen in 2000 to some 119 at the end of 2014 (see display). And earlier this year, Morningstar introduced a new option fund category with 42 funds and $23.9 billion in assets under management as of August 31, 2016.

GROWTH OF OPTIONS-BASED MUTUAL FUNDS



Source: Keith Black and Edward Szado, "Performance Analysis of Options-Based Equity Mutual Funds, CEFs and ETFs," INGARM, January 2015. Figures as of December of the relevant year.

The funds within the Morningstar category all "use options as a significant and consistent part of their overall investment strategy."[1] Beyond that criterion, they vary considerably, with options often complementing a more dominant approach, such as equity stock-picking, or options being used to implement tactical directional market exposures.

Moreover, the options strategies employed cover the gamut, from covered call and put writing, to option spreads, options-based hedged equity, and collars.

That said, of all these areas, option writing appears to be gaining the most traction among risk-minded investors, given the availability of standardized benchmarks around which to construct portfolios that can be transparent, liquid, unleveraged and cost-effective. And although covered call-writing has been a dominant choice, given its general reputation as a low-risk strategy, collateralized put writing is starting to get more notice based on its attractive historical risk-return fundamentals.

Know Your Writes

Let's look at the CBOE S&P 500 PutWrite Index. Introduced in 2007 by the Chicago Board Options Exchange, the PutWrite index tracks a hypothetical portfolio that every month sells

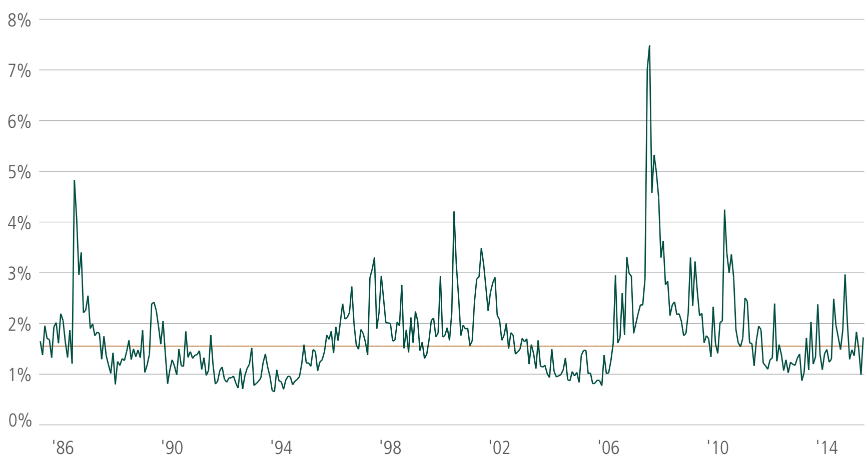
[1] Source: Morningstar Category Classifications, April 2016.

one-month "at the money" put options on the S&P 500 Index, fully backed by short-term Treasuries as collateral. The index then sells another one-month "at the money" S&P 500 put when the prior put option expires. Simply stated, the index collects option premiums 12 times per year to generate return. The initial investment amount and all net premiums are invested into short-term Treasuries. The index is fully collateralized and unlevered.

This relatively simple but graceful approach to option indexing is meant to capture the premiums paid for equity and volatility risk that many investors seek to eliminate from their portfolios. It doesn't go for homeruns, but for many singles. And with a historical median monthly put option yield of over 1.5% for the last 30 years (see below), that would have resulted in an annual return of 18% had none of the options been exercised. Note that actual returns of the index are significantly lower, because the premiums are partially offset by the cost incurred in cases where options are exercised.

NOT HOMERUNS, BUT MANY SINGLES

S&P 500 30-Day At-The-Money Put Option Premiums

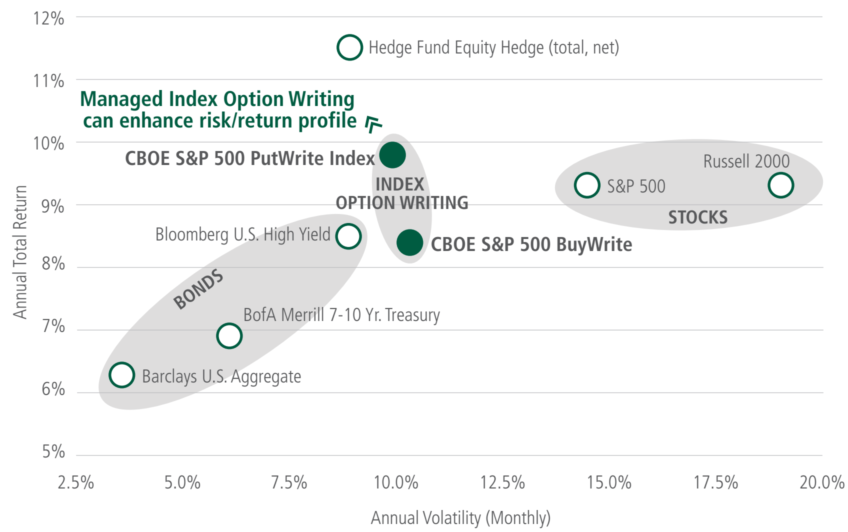


Source: CBOE and Bloomberg, data through September 2016. Put option premiums are based on the underlying option data used in the calculation of the CBOE S&P 500 PutWrite Index, which incepted in June 2007 with historical backtested data available from CBOE since June 30, 1986. Premium yields are calculated as the option premium divided by the option strike price. Indexes are unmanaged and are not available for direct investment. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

Are those who purchase puts overpaying? It's really a matter of time horizon. In the short run, there are many reasons an investor may buy puts—namely "insuring" a portfolio, staying within guidelines, or offsetting a margin call, to name a few. However, in the long run, consistent buying of put options is prohibitively expensive. If it were cheap, wouldn't everyone do it? As there is great demand from investors who want to define their downside risk, the ratio of puts to calls in the marketplace is quite high—about 1.7 since 2005. Moreover, buyers of puts tend to pay more than buyers of calls, roughly 1.6 times more per unit of risk. In other words, the market charges more for loss avoidance.

What are the return characteristics, then, of the PutWrite index? Backtested by the CBOE to 1986, the benchmark has provided a return that is slightly higher than the S&P 500 on an annualized basis, underperforming in very strong markets, participating in more moderate gains and outperforming (declining less) during periods of major weakness. The key risk associated with selling puts is that you may have to buy shares at an inflated price during times of market stress, but the offset is a continual stream of options premiums, which actually increase amid volatility. The net result has been equity exposure with much less volatility than the equity index. Given its structural advantages, the CBOE S&P 500 PutWrite Index has also enjoyed outperformance versus the CBOE S&P 500 BuyWrite Index, a similarly structured index which tracks returns on the sale of at-the-money calls, collateralized by holdings in the S&P 500.[2]

OPTION WRITING OFFERS STRONG RISK/REWARD RELATIONSHIP
January 1990 - September 2016



Source: Bloomberg. Selected time period reflects longest common history of indexes. Indexes are unmanaged and are not available for direct investment. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

Implementation

In our view, the addition of options writing (and particularly collateralized put writing) strategies could have real benefits to portfolios in terms of smoothing volatility and managing equity risk at a challenging time. For interested investors, there are various ways to access these strategies. There are some passive vehicles available that mimic the PutWrite, BuyWrite and other benchmarks. However, there are also strategies out there that take the index processes and seek to enhance them, for example by altering the collateral used, selling options with somewhat different maturities or seeking to capitalize on better "rolling" of option contracts. It goes without saying that such active enhancements are only as effective as the manager who implements the strategy, so due diligence is crucial.

[2] Options strategies tend to be high turnover, triggering frequent realized gains. However, it's worth noting that for federal tax purposes option premiums are treated as a combination of 60% long-term capital gains and 40% short-term capital gains. This may be a valuable attribute for those who have significant tax loss carryforwards.

SECTOR SPOTLIGHT
ELECTION
2016

MUNIS AND THE PRESIDENTIAL ELECTION

James L. Iselin, Head of Municipal Fixed Income

HOW COULD THE POLICY POSITIONS OF THE MAJOR CANDIDATES IMPACT THE MUNICIPAL MARKET?

Every U.S. presidential election generates noise over potential changes to the tax code, which in turn contributes to turbulence in the municipal marketplace. This year is no different, with increased investor focus on candidates' tax proposals in the days before the election. Below, we take a quick look at the positions of the major candidates that, if implemented, could impact municipal bonds. Even after Election Day, these views are likely to inform the debates around taxation that will take place in the year ahead.

Despite the supposed "shifting" profile of the American electorate, tax-wise the candidates are largely falling along traditional party lines.

TAX PROPOSALS AFFECTING MUNICIPAL BONDS

	CLINTON	TRUMP	POTENTIAL IMPACT ON MUNIS
Ordinary Income Tax	Enact "Buffett Rule," a 30% minimum tax on taxpayers with AGI over $1 million; 4% surcharge on income over $5 million; keep top tax bracket at 39.6%.	Reduce top bracket to 33%; cut number of brackets to 3 (12%, 25% and 33%).	Advantage Clinton. Higher taxes generally mean greater after-tax appeal for munis.
Alternative Minimum Tax	No change.	Repeal.	Limited. Trump's plan favors certain "private activity" bonds that are not currently exempt from the AMT.
Exemptions, Deductions & Credits	Limit value of most deductions to 28%.	Cap itemized deductions at $100,000 for single filers and $200,000 for couples.	Both plans could be negative if applied to munis.
Corporate Income Tax	No change.	Reduce top tax rate from 35% to 15%.	Trump's plan could reduce demand from banks, insurance cos. and other U.S. institutions.

New Politics, Same Old Story?

Despite the supposed "shifting" profile of the American electorate, tax-wise the candidates are largely falling along traditional party lines.

Democrat **Hillary Clinton** wants to raise taxes on top earners; she favors the "Buffett Rule," which requires that households earning $1 million or more pay at least a 30% tax rate; and she wants a 4.5% surcharge on income over $5 million. Otherwise, rates would remain unchanged, with a top tax bracket of 39.6%. On its face, that's all quite positive for municipals, whose tax-effective yields generally increase with tax rates.

Still, the plan is not a slam dunk—Clinton favors capping the value of tax deductions at 28% of income, which could curb demand for munis. But chances of passing such a provision are low unless the Democrats sweep Congress and the presidency—an unlikely scenario, in our view.

Donald Trump has taken a familiar Republican approach, seeking to lower and simplify personal income tax rates.

He would cut the current top bracket of 39.6% to 33%, and reduce the number of brackets to three. This is actually a retreat from his earlier proposal, which called for a 25% top rate, but still could make munis less attractive. His call for $100,000 individual cap in itemized deductions ($200,000 for couples) could also have a negative impact, while his proposal to cut the corporate tax rate could reduce demand for municipal bonds from certain institutions. One limited positive is his call to eliminate the alternative minimum tax. Although most municipal bonds are not subject to the AMT, it does apply to a significant subset issued for "private" purposes such as airports, stadiums and housing, which could experience increased demand.

All this comes with a caveat that the reality TV mainstay has modified his positions repeatedly, making it hard to pin down what a Trump administration would actually look like.

More of the Same? Muni Valuations Could Help

The U.S. tax code is widely disparaged—as large, unwieldy and growing in complication by the day. So change is needed. However, the deep differences in ideology have thus far limited prospects for reform.

In a hotly contested race, Hillary Clinton is generally favored to win the White House and there appears to be a better-than-even chance that Democrats could take the Senate, while Republicans seem likely to hold onto their House majority. Barring a wholesale sweep (in either direction), we anticipate only modest changes, if any, to the tax code in the coming year.

The good news is that municipal bond valuations remain relatively modest. Ten-year municipals are currently yielding more than 90% of yields on Treasuries with equivalent maturities compared to a pre-2008 crisis average of 82%.[1] All things being equal, this could provide a healthy buffer in the event of political turbulence in the coming months.

[1]Source: Municipal Market Data. Yield on general obligation bond as of August 31, 2016.

INFRASTRUCTURE IMPROVEMENT: SOMETHING TO AGREE ON?

It's no secret that the nation's infrastructure is crumbling. Both presidential candidates want to do something about it, which could provide new opportunities for municipal investors. Specifically, Hillary Clinton seems likely to favor a revival of the Build America Bonds program, which in 2009 – 2010 sponsored the issuance of $181 billion in subsidized taxable municipals. We think there would be heavy demand for such bonds, particularly among non-U.S. investors who are increasingly looking for yield. Donald Trump, meanwhile, has noted that current low rates make this an ideal time to borrow for infrastructure needs. Local voters have been particularly opposed to debt-funded projects, which is part of the current problem. With a little push from one of these politicians, perhaps the climate could improve.

THE FOUR PERCENT RULE REVISITED

Sharon Appelman, CFP®, Director of Financial Planning

The time-tested retirement withdrawals guideline makes sense as a starting point, but watch out for the impact of taxes and shifting spending needs.

In 1994, *The Journal of Financial Planning* published an article by William P. Bengen in which he endeavored to answer an important question for investors: How much could safely be withdrawn from their portfolios over the course of retirement? Looking at the growth of a hypothetical portfolio of 50% stocks and 50% bonds over 30-year periods with start dates from 1926-1963, he found that limiting annual withdrawals to 4%, adjusted for inflation, was effective in keeping the portfolio from depleting for the entire 30 years.[1] Bengen's study helped establish the "four percent rule," an influential guideline for investors and their advisors in setting portfolio withdrawals.

Since then, however, some have questioned the four percent rule's value, saying that the 4% figure is based on a unique return period, and arguing by turn that it may be either too high or too low, and that the whole framework is too simplistic. Are they right? In today's environment has this "rule" outlived its usefulness?

Some have questioned the four percent rule's value, saying that the 4% figure is based on a unique return period, and arguing by turn that it may be either too high or too low, and that the whole framework is too simplistic.

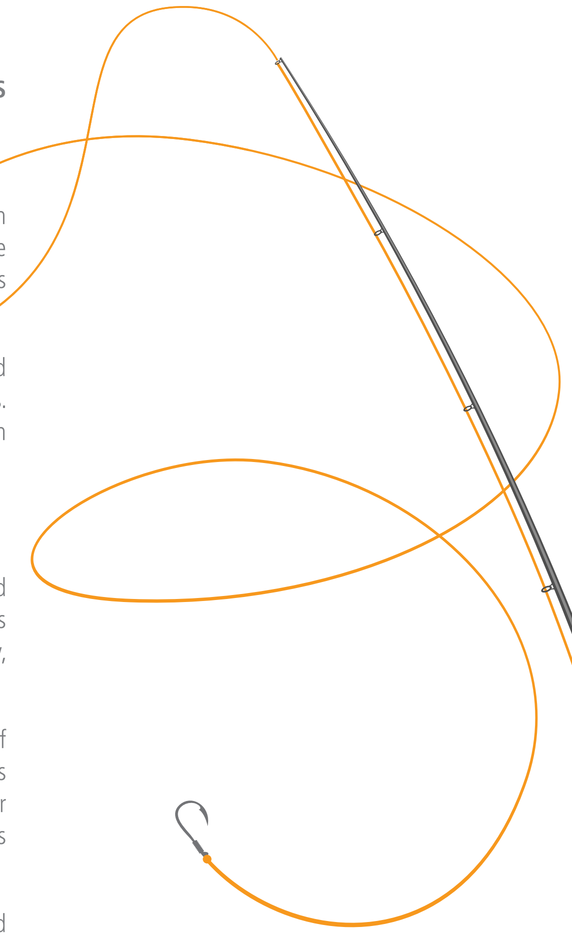
What's Changed

To get started on our assessment, let's consider what may have changed since the study. First, the investment environment is very different from the 1990s. Market interest rates were much higher then, before the global financial crisis and the age of quantitative easing. Today, it's widely expected that bond yields will stay lower for longer, hampering the income generation of retirement portfolios. At the same time, relatively slow economic growth rates, along with comparatively full valuations, are contributing to lower outlooks for equity markets.

This is especially important if one considers the issue of return sequencing. A bear market early in retirement can have a particularly detrimental effect, as weak results when combined with spending deplete the assets needed for future portfolio growth.[2] This may warrant tweaking the four percent rule. Assuming you anticipate subpar medium-term results, you may prefer to have a slightly lower withdrawal rate in the first few years of retirement, or hold more assets in cash to avoid realizing losses in a down market.

[1] William P. Bengen, "Determining Withdrawal Rates Using Historical Data," *Journal of Financial Planning*, October 1994.

[2] In a 2012 article, Bengen suggests that high inflation in the early years following retirement may have as detrimental an effect on the portfolio as do poor returns early in retirement. Bill Bengen, "How Much is Enough," *Financial Advisor Magazine,* May 1, 2012.



Second, life expectancy has increased. Today, a 65-year-old man will likely live to 84, a woman to nearly 87. One in four 65-year-olds will probably live to 90 or beyond.[3] Those who are retiring early or have longevity in their families may need to save for more than the 30 years assumed in the 1994 study.

A third change is that the universe of available assets has greatly increased, moving beyond traditional stocks and bonds, to include hedge funds, private equity and options strategies. These additional choices may help counteract the negative portfolio impacts of lowered return outlooks and increased longevity.

What Remains the Same

Beyond that, much of the calculus remains the same. To create a withdrawal plan, you need to estimate expenses realistically (unfortunately not an easy task given shifts in spending as retirees age), and then offset your expected non-portfolio income (pension, Social Security, rentals, etc.) to come up with a net expense figure.

Naturally, you should create an appropriate portfolio mix. Bengen's study used a portfolio of 50% common stocks and 50% intermediate-term Treasuries. A portfolio with fewer equities would likely be "safer" but could not be expected to provide as much capital appreciation over time; a portfolio with more equities would of course be more volatile. The addition of various subsectors, as well as alternatives, would come with their own risk/reward relationships.

In addition, it's crucial to consider taxes, something that is seldom discussed with regard to the four percent rule. A retiree's savings will often include both taxable and qualified retirement assets, and it's critical to anticipate the federal and state taxes that may be due as a result of withdrawal. Concretely, if the retiree requires a 4% distribution, that may need to be grossed up to a higher amount to meet expenses after taxes. If there's a hard limit of 4% on withdrawals, she may need to trim spending.

Naturally, tax liability varies depending on the type of account. A distribution from a taxable account with a cost basis close to current market value will incur minimal tax, while a distribution from the sale of low basis stock could incur significant capital gains taxes. Distributions from a qualified retirement plan such as a 401(k) or 403(b) are fully taxable as ordinary income.

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[3] https://www.ssa.gov/planners/lifeexpectancy.html.

Testing the Four Percent Rule

To assess the potential success of a 4% withdrawal rate we decided to run our own Wealth Simulation Analysis, known in the industry as a Monte Carlo simulation. Beth, our hypothetical investor, has a portfolio with an initial value of $2 million. She lives in New York and is 66 years old at the start of the 30-year investment period. Similar to Bengen, we used an asset allocation of 50% all-cap stocks and 50% investment-grade bonds. Unlike Bengen, who used historical data, we employed Neuberger Berman's forward-looking capital market assumptions, which we believe better capture the return outlooks for various asset classes. In our case, the "expected" compound return of the portfolio was 4.45%. Note that this is best described as a weighted mean around which any number of return permutations could develop in real markets. In our study we took into account both stronger and weaker potential environments, out to two standard deviations, to develop our observations.

The results, in broad terms, are in accord with the four percent rule, with the portfolio surviving for 30 years in roughly four-fifths of return scenarios (see Scenarios 1 and 2 in display). Still, we think it's important to highlight the impact of taxes on liquidity. In Scenario 1, we assume the withdrawals come from a taxable account where the initial cost basis approximates the market value, allowing Beth to hold onto nearly all the proceeds. In contrast, the $80,000 withdrawal from a tax-deferred account in Scenario 2 triggers ordinary income taxed at 20.2% in the first year, for a more than $12,000 difference in available cash. This creates a very real question of whether the account is throwing off enough liquidity to meet all of Beth's needs. A possible solution is to simply increase her payouts, which we try in Scenario 3 to reach the same after-tax cash level as Scenario 1. Unfortunately, the resulting 4.9% withdrawal rate puts considerable pressure on the portfolio, leaving it with just a 51% success rate over a 30-year period.

THINK OF IT MORE AS A GUIDELINE

Hypothetical 50% Stock/50% Bond Portfolios Over a 30-Year Time Frame

	Hypothetical Scenario 1	Hypothetical Scenario 2	Hypothetical Scenario 3
Account Type	Taxable Account	Qualified Retirement Account	Qualified Retirement Account
Distribution in Year 1	$80,000	$80,000	$98,300
Estimated Tax in Year 1	$3,600	$16,300	$21,900
Net Available for Expenses	$76,400	$63,700	$76,400
Withdrawal Rate	4%	4%	4.9%
Probability of Success	80%	81%	51%

IMPORTANT: The projections and other information generated by the Wealth Simulation Analysis investment analysis tool regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results and are not guarantees of future results. For illustrative purposes only. Results do not reflect the fees and expenses associated with managing a portfolio. Investing entails risks, including possible loss of principal.

5.5%

It's worth noting that while most financial planners believe an 80% success rate is an appropriate hurdle, some actually prefer a more conservative 90% bogey or higher in planning for retirement. In our simulations, it was necessary to reduce the withdrawal rate to 3.5% in order to meet the 90% threshold. As mentioned, today's available investments are much broader than 22 years ago, and the use of alternatives or options strategies may adjust the risk/reward profile of a portfolio.

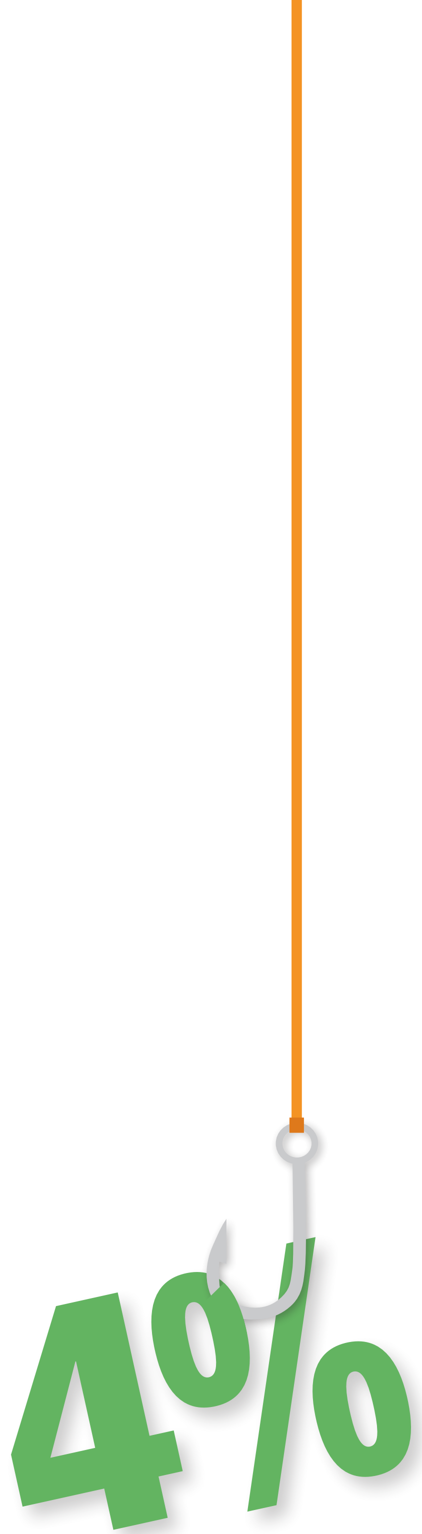
Flexibility Is Crucial

Since 1994, many industry pros have come up with their own variations on Bengen's guideline. One popular approach is to use the four percent rule as a starting point, but to increase or decrease the withdrawal percentage from year to year depending on market returns. Others, as noted above, suggest that investors curb withdrawals initially to limit the portfolio impact of market declines early in retirement.

Moreover, although it's tempting to assume that spending needs will be relatively stable, in reality that often is not the case. Many retirees travel frequently early in retirement but slow down later, while health costs typically increase. The sale of a home could free up capital, while a purchase could have the opposite effect. A move to a higher- or lower-taxing state could affect the level of available spending money. All of these influences should be considered in estimating future retirement needs.

In our view, guidelines such as the four percent rule can be very useful, when not taken too literally. Various factors may go into a retiree's decisions on portfolio withdrawals, and rigidly following a "rule" doesn't equate to meaningful planning. That being said, our work has shown that the four percent rule does remain relevant as a starting point for investors. Those wishing to be more conservative may choose to employ a lower rate, or follow a more flexible approach in which withdrawals fluctuate with the ebb and flow of the stock market. In any case, remaining thoughtful and flexible will be cornerstones of a successful retirement strategy.

Please see disclosures at the end of this publication, which are an important part of this article.



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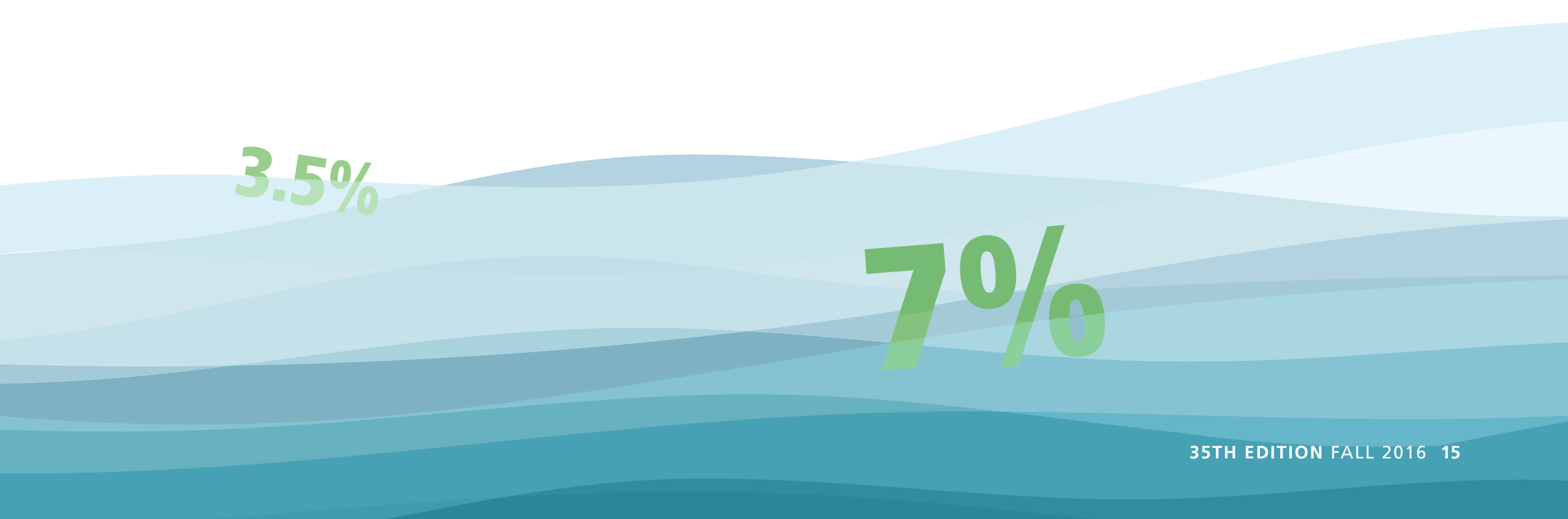

THE COUNTDOWN BEGINS ON LIMITING KEY VALUATION DISCOUNTS

DIANE E. LEDERMAN, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NEUBERGER BERMAN TRUST COMPANY N.A.

New proposed regulations would largely eliminate valuation discounts when transferring an interest in a family-controlled entity.

Valuation discounts, generally for lack of marketability and lack of control, have long been an effective way for wealthy individuals to leverage the estate, gift and generation skipping transfer (GST) tax exemptions or reduce the estate, gift and GST tax burden on assets they transfer to family members. These valuation discounts have been used both when valuing a transferred interest in a family-controlled entity owning an active business or when valuing family-controlled entities holding passive investments. Because of their effectiveness, these discounts have been the target of legislative proposals and the IRS has not been secretive in its desire to curtail their use. After much anticipation, in August the Treasury Department released long-awaited proposed regulations, which are as severe as—or more severe than—many expected. If the proposed regulations are finalized after a December 1 public hearing, the new rules could become effective sometime in 2017.

The Current Framework

When transferring an interest in a family-controlled entity, a valuation is required to determine its worth because there is no public marketplace to determine the value. Frequently, a small fraction of the entity, a minority interest, is being transferred. Additionally, many family-controlled entities contain provisions limiting the owners' ability to be paid out for their interest or otherwise dispose of the interest. As a result, when valuing the interest, a discount from the net value of the underlying assets owned by the entity will be taken to reflect that it is a minority interest (lack of control) and a further discount will be taken because of the restrictions on the owners' ability to monetize the interest (lack of marketability). These reductions are applicable because a willing buyer (the standard used by the IRS) would likely require a discount to the interest's proportionate share of the net value of the underlying assets because the buyer would have no say in management and limited ability to sell or otherwise dispose of the interest.

The New Landscape

The proposed regulations, if adopted in their current form, seem to basically eliminate these discounts for lack of control and lack of marketability in a family-controlled situation, regardless of whether the entity owns an active business or passive assets, such as a portfolio of marketable securities. The result would be that a transferred interest in a controlled entity would be valued at its proportionate share of the entity's underlying net asset value. This valuation could substantially increase the estate and gift tax cost to transfer such an interest, and families who believed their estates were below the transfer tax exemptions (for federal purposes currently $5.45 million per individual) because of the availability of such discounts could now find their estates to be subject to estate taxes.

The effective date for most of these proposed rules is 30 days after the regulations become final. As mentioned above, a public hearing date has been scheduled for December 1, 2016, at which time comments to the proposed rules will be heard. It is possible that, after the hearing, the Treasury Department could make changes in response to the comments. Indeed, the reaction by some legislators and estate planning professionals has been largely negative—prompting one Treasury official to suggest that the proposed rules had been misunderstood. It was also stated that there was no intention to rush to finalize the rules before the current administration leaves office in January. However, it remains unclear whether or not the proposed rules will change in any meaningful way, or exactly how soon they could become effective. Notwithstanding the comments, it is possible that the final regulations could be issued shortly after the hearing and become effective *early* next year.

Estate Planning Opportunities Still Exist

Notwithstanding these sweeping changes, there are still very attractive strategies that can be used to transfer wealth to the next generation and beyond. Especially in this low interest rate environment, "GRATs", sales to an intentionally defective grantor trust or charitable lead annuity trusts can be effective (see sidebar). Additionally, it is important to work with your advisors to weigh the benefits of the step-up in basis you receive for assets owned at death versus the carryover basis the recipient receives with a gift.

Final Assessment

These proposed regulations, if finalized in their current form, will significantly impact planning for those with closely held entities. If you are considering a transfer of an interest in such an entity, you should talk to your advisors soon to assess your options. If you do choose to proceed, it will be important to complete the transfer before the new rules become effective.

TRANSFER TECHNIQUES TO CONSIDER

- **Grantor Retained Annuity Trusts.** With a "GRAT," the grantor transfers assets to a trust but retains a fixed annuity for a specified term. Any growth in the trust assets above the IRS assumed rate of return (1.6% in October) passes to the trust remainder beneficiaries without any gift or estate tax.

- **Sales to Intentionally Defective Grantor Trusts.** The IDGT is another strategy that allows you to pass future appreciation to the trust beneficiaries without incurring any gift or estate taxes. There is no recognition of gain or loss when the assets are sold to the trust and the grantor is responsible for all income taxes on any income generated by the trust. This tax treatment is in essence an additional tax-free gift to the trust by the grantor.

- **Charitable Lead Annuity Trusts.** Similar to a GRAT, with the "CLAT" the grantor transfers assets to a trust and charity receives a fixed annuity for a specified term. Any growth in the trust assets above the IRS assumed rate of return passes to the individual trust remainder beneficiaries without any gift or estate tax.

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Neuberger Berman
605 Third Avenue
New York, NY 10158-3698
www.nb.com