# Liquid Alternatives

## *The hybrid club for your investment portfolio*

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# "Hitting out of the rough" in a rising rate environment

The sport of golf is unlike any other. It does not provide the direct competition in the fashion of football, basketball, soccer or even tennis where teams are clearly defined. Golf involves hitting a ball just over an inch in diameter with a metal club around a plot of land covering hundreds of acres in an effort to place that ball inside a 4-inch wide hole in the ground. Needless to say, it's different and unconventional. And throughout the history of the sport, a golfer's bag of these metal clubs have remained relatively the same. While technical advancements have improved the materials used and the methods to create them, the clubs can still be classified in two general categories. First is the selection of longer clubs, such as long irons and woods, which are used for distance and are less forgiving. The second is the variety of clubs used for the short game, which ranges from low irons to putters that provide more control. During the course of play, it is entirely possible that a shot requires a club that falls outside of these two categories. For instance, the player needs greater distance but cannot risk a mishit. Thankfully, golfers have the option to include a hybrid club in their bag.

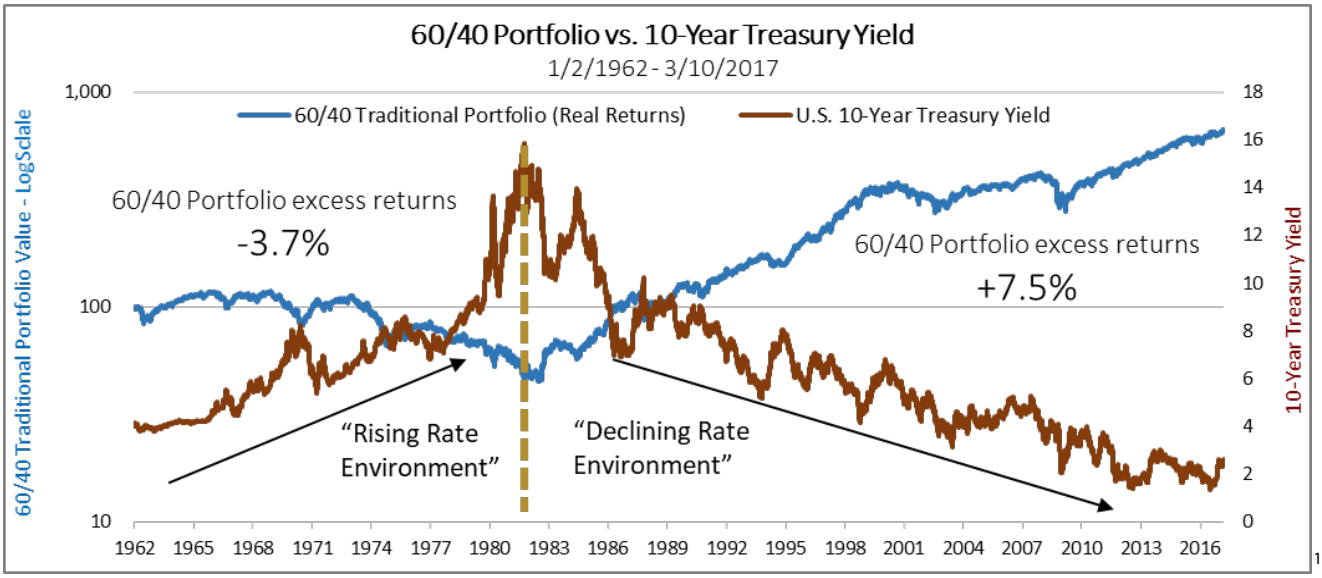
Once marketed as "rescue" clubs, the hybrid club revolutionized the tactical approach golfers take in the sport. The benefit to a player's game is to combine the distance of longer irons with more forgiveness to reduce the risk of mishitting the ball. According to a Darrell Survey Company report, a little over 7% of golfers reported using a hybrid in 2004. Just three years later, that number jumped to over 30%. In 2010, over 50% of golfers surveyed reported using at least one hybrid club.

**Time to tee up?** In a complicated environment, it is often beneficial to find some parallel with something more easily comprehended and relatable. Which is why the game of golf makes sense. Like golfers, investors can find themselves in difficult positions necessitating unconventional solutions. We believe that today's rising interest rate environment will prove challenging as traditional investment approaches do not adapt to the changing landscape. Facing this possibility, investors can react by either altering their lifestyles, being more aggressive with their investment options or reevaluating their traditional portfolio, taking alternative solutions into consideration.

The evolution to hybrid golf clubs can offer lessons on adaptability moving into the "rising rate crisis" today. The challenge is getting familiar with, and sifting through the thousands of these investment options to build a better investment solution than the traditional 60/40 portfolio.

## The 60/40 Portfolio performance is heavily influenced by the interest rate environment

Traditional investment portfolios (comprised of a select percentage of stocks, bonds, and sometimes cash) were well designed for the last 35 years, which have been marked by a declining nominal and real interest rate environment. These recent decades have most influenced our conventional intuition about asset allocation. Interest rates, as measured by the 10-Year U.S. Treasury Yield, have decreased from 15% in 1981 to 2.5% in March 2017. During this same time period, both bonds and stocks fared well, and the 60/40 portfolio returned an annualized 7.5% after inflation adjustments. This is the environment most investors are familiar with and highlighted in the graph below. Prior to 1981, a polar opposite environment existed: rising interest rates. From January 1962 to September 30th 1981, interest rates increased from 4.0% to 15.6%. Equity returns were modest but still positive, while bond returns were in negative territory. During this period, the 60/40 portfolio *lost* an annualized 3.7% after inflation adjustments.



[1]

Going forward, we believe that the reward-to-risk ratio of a traditional 60/40 portfolio could be challenged in the following four ways:

- Interest rates have limited potential to go lower and boost returns as they have in the past three decades.
- Duration has increased in major bond indices as a result of long-term bond issuance which implies a higher downside in case of interest rate increases.
- Equity market multiples are looking more stretched by historical standards, leaving less potential for appreciation by multiple expansion.
- Bond/equity correlation is likely to increase, which may decrease portfolio diversification and further increase portfolio risk.

[1] **"60/40 Portfolio vs. 10-Year Treasury Yield" Graph:** Performance of the S&P 500 Total Return Index (60%) and the U.S. 10-Year Treasury (40%) adjusted for inflation are used to estimate the nominal total returns of the 60 / 40 Portfolio. Excess returns are over the U.S. CPI Urban Consumers YoY (Inflation).
Source: Bloomberg, FRED, NorthCoast.

In other words: we are likely to enter a rising rates environment and rising interest rate environments have historically resulted in less return and more risk.

An analysis of historical interest rates shows that during periods of rising rates, bond returns tend to be lower, equity returns stay about the same and inflation tends to be higher. The consequence is that real returns tend to be lower. Additionally, the bond/equity correlation tends to be higher and the 60/40 portfolio loses some of its diversification benefits. [2]

In addition to superimposing a historical perspective on future scenarios, there exist various comprehensive forward-looking analyses, such as the JPM Long-Term Capital Market Assumptions, the BlackRock Investment Institute assumptions, and the GMO 7-Year Asset Class Real Return Forecasts. A common forecast among these studies echoes the main lessons of the historical perspective: low or negative bond returns, lower equity returns, and more volatility, all leading to a 60/40 portfolio with returns below recent historical norms. However, the silver lining of these analyses is alternative strategies: their volatility and return expectations are unaltered by various interest rate environments and projected to be in-line with their historical performance. We believe these strategies can be the "hybrid club" of your portfolio and represent part of the solution to the described conundrum. Therefore, an investor may consider adjusting their portfolio mix to include alternative strategies. We will first discuss some common, yet insufficient, incremental portfolio adjustments. Then we will go over what we believe is a more adequate solution.

## Incremental portfolio adjustments are insufficient in the face of rising rates

Recent investor surveys indicate the existence of a significant perception gap about portfolio returns going forward. While polled investors, on average, require and expect their future portfolio returns to be around 8% to 9%, actual return projections for the 60/40 portfolio in a rising interest rate environment are placed significantly below those expectations.[3] Consequently, the average investor is unsuspecting of lower future rate of returns and, therefore, unwilling to significantly alter their mix beyond minor cosmetic tweaks.

Below we attempt to debunk some of the most common pitfalls about "tinkering" the classic 60/40 portfolio:

A first approach is to decrease the allocation to bonds and increase the allocation to equities. This could bring the portfolio returns closer to targets, but will come with much greater risks. The table below shows the drawdowns of three different portfolios during the 2008 crisis, the returns necessary to break even and the time it took to get there.

| Stocks / Bonds Portfolio | Drawdown | Return to break even | Time to break even (months) |
|---|---|---|---|
| 40/60 | -38.9% | +64% | 36.9 |
| 60/40 | -46.6% | +87% | 40.1 |
| 100/0 | -55.2% | +123% | 58.2 |

Sources: Blackrock 40/60(BAMPX), 60/40 allocation funds (BAGPX), 100/0: iShares S&P 500 Index (IVV) Bloomberg, NorthCoast

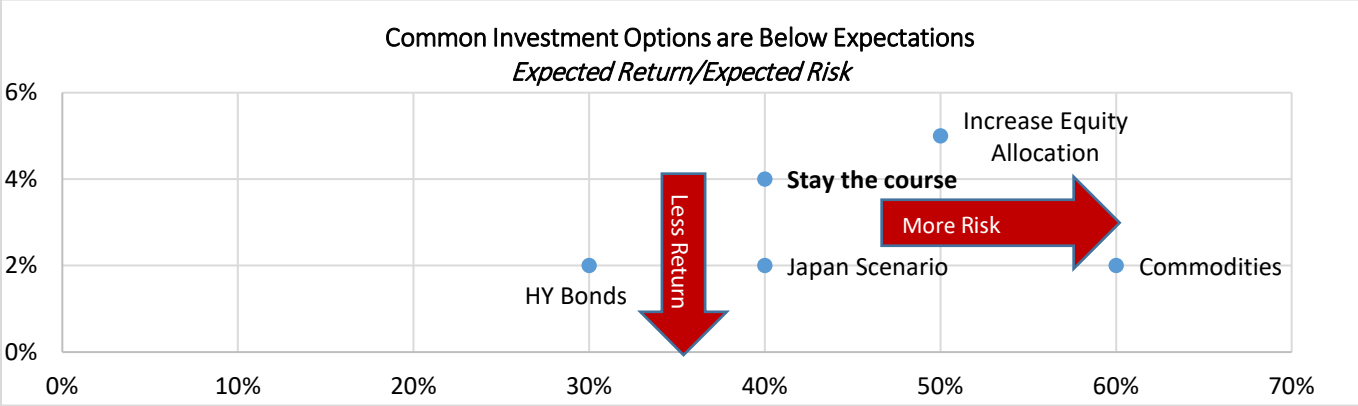
[2] Bloomberg, FRED and NorthCoast. Pimco: "The Stock-Bond Correlation" November 2013
[3] Schroders, PLC: "Global Investment Study 2016" November 2016

A second approach is to buy high-yield muni bonds, yielding about 4.5%. Since the US CPI Inflation Index is at 2.7% year-over-year, real returns would end up around 2% but would still fall short of expectations. The risk of high-yield muni bonds is also quite commensurate. During the 2008 crisis, the high-yield muni bond index was down 30% from its high. Suppose, instead, that the investor plans to hold the bonds to maturity, rendering price fluctuations irrelevant. In this case, risks remain high as markets quickly incorporate information: muni bonds can default (the average cumulative default rate for speculative grade municipal bonds was 7.94% over a 10-year period) and markets are anticipating the impact of interest rate increases which negatively affect real returns.[4] Thus holding a bond to maturity does not shield an investor from economic reality: inflation, defaults and rising interest rates to name a few.

A third approach is to invest in commodities such as gold (-5.3% over the past 5 years), or oil (-22% annual return over the past 5 years). Since 1990, these assets are up 2% and 4.6% annually respectively. While one could rely on those as an inflation hedge, we believe the potential for appreciation is not intuitive for the long term. As Warren Buffet said, *"(Gold) gets dug out of the ground in Africa, or someplace. Then we melt it down, dig another hole, bury it again and pay people to stand around guarding it. It has no utility. Anyone watching from Mars would be scratching their head."*

Finally, it is common to refer to Japan's 10-year Government bond yield which has been below 2% since 1999, and is now close to 0%. The current U.S. Government bond yield stands at 2.3%, so it is simple to presume that the U.S. could follow the same path of further decreasing interest rates towards 0%. This assumption allows for the thought that no tinkering is needed, and that the investment environment will not go through any shifts in the near future. Our objection is two-fold. First: interest rates have already started to increase in the US, and second: during that low-interest rate period the Nikkei index returned about 2% annually with bond yields well below 2%, a far cry from most investors' expectations.

Faced with these four options, it might seem that investors are forced to choose between two unattractive paths as the diagram below illustrates: increase risk beyond tolerance levels, or reduce return expectations and adjust lifestyle accordingly. Fortunately, financial innovation has kept pace and we believe there is a better way: alternative strategies.




Sources: BlackRock Bloomberg, NorthCoast

[4] Source: Moody's U.S. Municipal Bond Defaults and Recoveries, 1970-2011.

Alternative investments are not suitable for all investors or portfolios. Illiquid alternative asset classes such as early stage investing, venture capital, private equity, real estate and others, may be worthy of consideration, however may have positive correlation with more traditional assets such as equities. As we will see in the risk budgeting and portfolio construction section of this document, there are advanced techniques to manage these overlaps.

## Endowments have substantially allocated to alternatives for decades

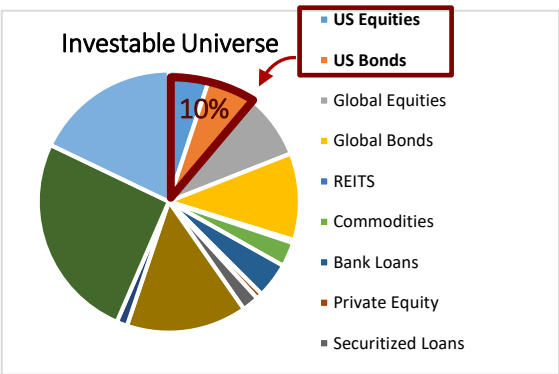
Endowments have a long-term view for investing and tremendous access to innovative investment options. Those options can be classified in mostly two categories: alternative asset classes that bear a risk premium and alternative strategies that also bear a risk premium within those asset classes.

Risk Premium: A risk premium is what an investor receives in excess of the risk-free rate of return as a form of compensation for bearing an investment risk.

Key characteristics of a risk premium

1. Must bear risk
2. An economic or a behavioral rationale for this risk to be compensated
3. Historical evidence of the persistence of this premium
4. Pervasive across different segments (sector, geography, sub-asset class …)

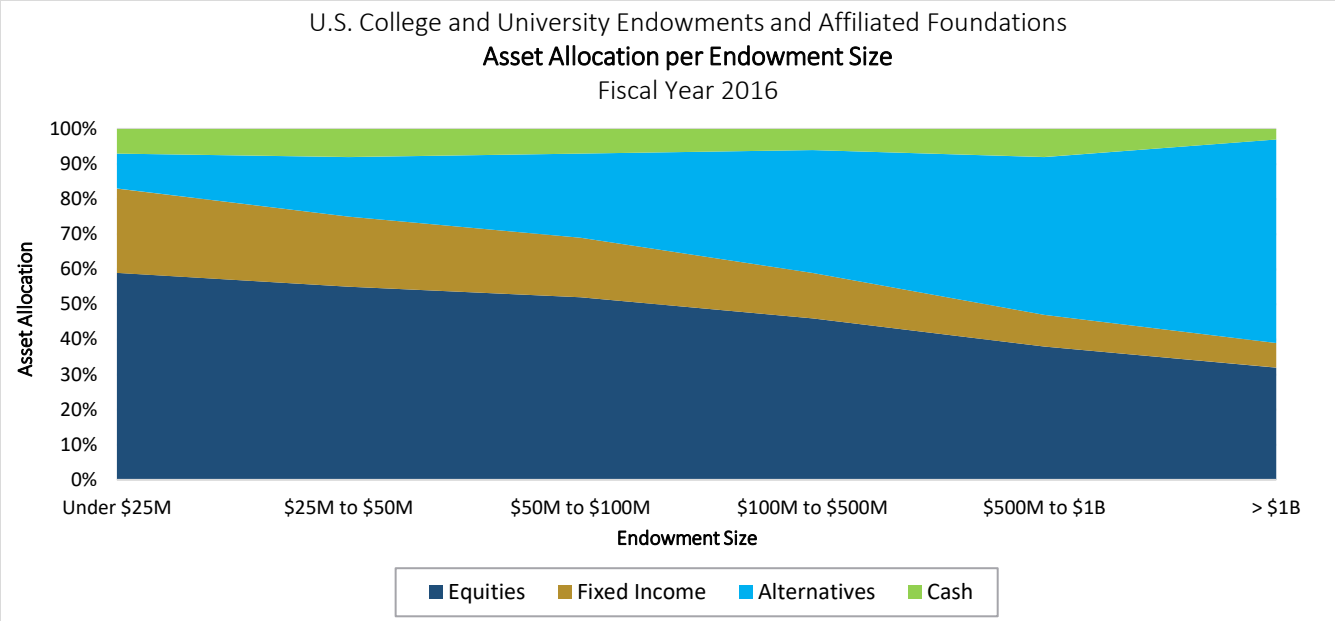
**Category #1**: Alternative asset classes bearing a risk premium. The diagram to the right shows that U.S. equities and U.S. bonds represent a little more than 10% of the current capital invested worldwide. There are 11 other categories constituting about 10 times more capital. [5] These additional asset classes can provide not only other means of capital appreciation, but also portfolio diversification and risk reduction.




**Category #2**: Alternative strategies within and across asset classes relying on proven risk premia or active investment strategies. Some additional techniques are commonly employed to access these options, such as financial leverage, shorting and derivatives. These tools assist in managing risk, avoiding directional exposure to the underlying asset classes and isolating the desired risk premium.

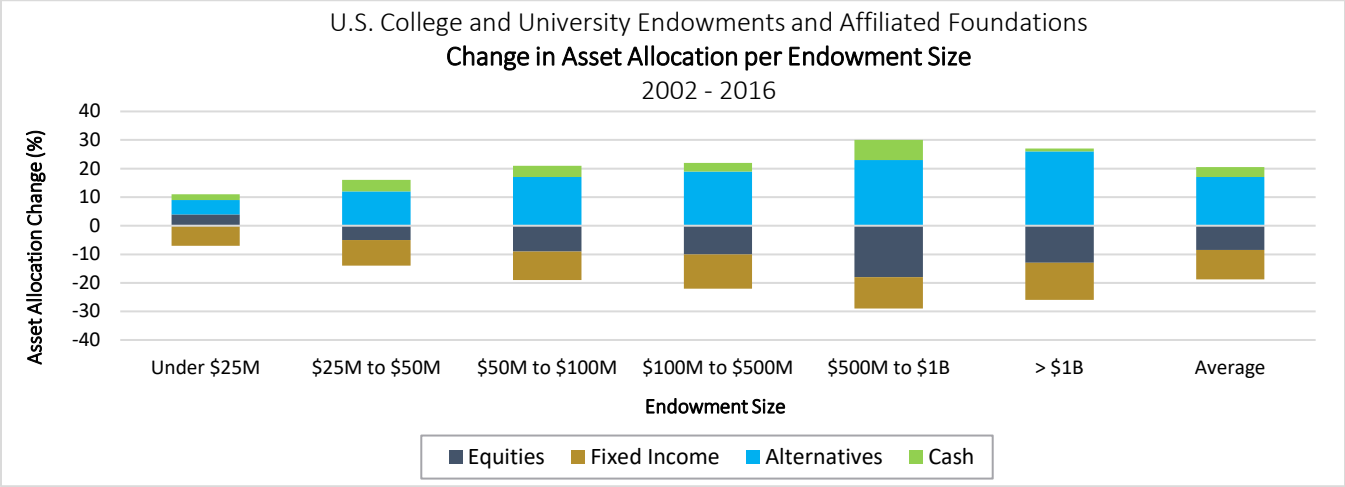
Well-known risk premia of asset classes are the equity risk premium, or the credit risk premium. Examples of alternative risk premia are the insurance risk premium and the variance risk premium. For more examples, please refer to the appendix. Ivy League Endowments, which are some of the largest endowments, have been accessing most of those alternative sources of returns for decades. Nowadays, endowments of all sizes are allocating to alternatives, with the largest ones allocating more than 50% of their portfolios to alternatives, about 30% to equities and less than 10% to bonds.

[5] Oliver Wyman – Illuminating the Path Forward; ACLI, AON, BIS, Bloomberg, CoreLogic, Federal Reserve Board, Guy Carpenter, NAIC, OECD, Oliver Wyman estimates, Prequin, Savill's, SIFMA, SNL, TEFAF, Thomson Reuters, UN, University of St Gallens, World Federation of Exchanges.



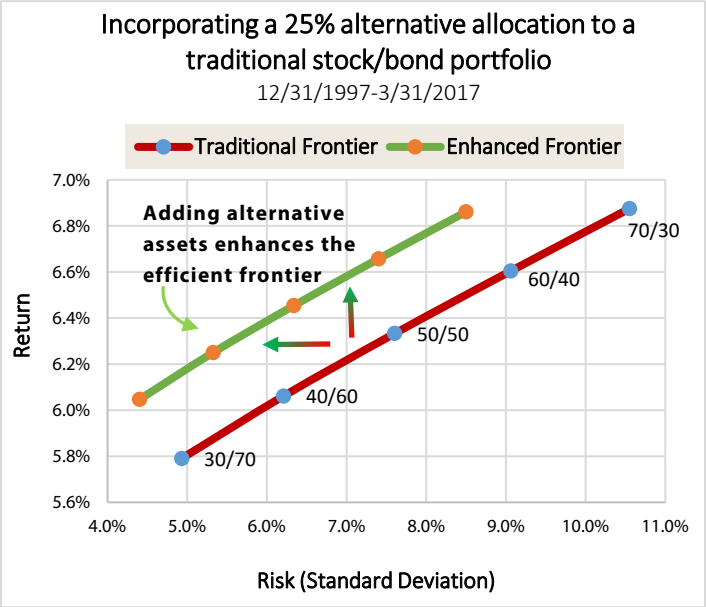

Source: 7/1/2015 – 6/30/2016. Nacubo-Common Fund Study of Endowments, NorthCoast.

More persuasive than the allocation amounts may be the allocation trend. Over the last 15 years, endowments have increased their allocation to alternative investments by 25% and decreased their allocation to both equities and fixed income by 10% and 15% respectively. This trend is consistent across all endowments sizes, and more pronounced in the larger ones.




Source: 7/1/2001 – 6/30/2016. Nacubo-Common Fund Study of Endowments, NorthCoast

## Alternatives enhance most traditional portfolios




Endowments allocate to alternatives not only because they are attractive as stand-alone options, but also because they are even more valuable when combined with uncorrelated assets of traditional portfolios. The most frequently asked question is "What should I expect if I were to allocate a portion of my portfolio to alternatives?" Our analysis to the left shows that over the past 20 years, a 25% allocation to alternatives would have either increased returns, decreased risk, or both in most blends of bonds and equities.[6] Though this historical analysis is specific to a decreasing interest rate environment, our own analysis, as well as that of Goldman Sachs Asset Management, point to potentially higher benefits in a rising interest rate environment as well. [7]

Alternative risk premia options have historically been out of reach for most investors. However, financial innovation has made and continues to make them more accessible through mutual funds and ETF/ETNs. NorthCoast identified the opportunity to invest in alternative investments several years ago and has developed solutions for a broader audience.

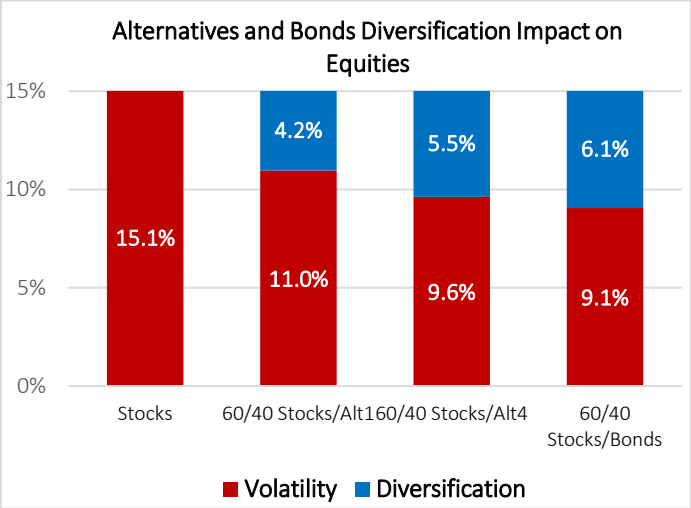
## NorthCoast's approach to designing a liquid alternative offering

NorthCoast aims to provide an optimal mix of risk premia investment *vehicles* (suitable investment options) to achieve a broadly diversified portfolio with superior long-term risk-adjusted returns. Relying on our collective experience and knowledge of alternative investing as well as our portfolio construction methodology, we have outlined the following three steps:

[6] **"Incorporating a 25% alternative allocation to a traditional stock/bond portfolio" Graph**
Bloomberg, NorthCoast The portfolios on the traditional frontier represent respectively 30/70, 40/60, 50/50, 60/40 and 70/30 allocations to a monthly rebalanced portfolios of the respective percentages to the U.S. bond Aggregate Index and the S&P500 Index. The portfolios on the Enhanced Frontier represent portfolios mix of 75% of the traditional portfolio and 25% of a liquid alternatives portfolio composed of equal proportion of the Credit Suisse Managed Futures Index, the Credit Suisse Merger Arbitrage Index and the Credit Suisse Long/Short Index.

[7] Goldman Sachs Asset Management – Market Know-How Q2 2017

| | | |
|---|---|---|
| ① | Selection of Risk Premia Assets | Gain exposure to asset classes that earn a risk premium over the long term (Equities, Bonds, Reinsurance, Short Volatility, etc.). In this space, we seek to identify efficient vehicles to gain exposure to those risk premia with strategy transparency and low fees being desirable qualities. |
| ② | Selection of Risk Premia Strategies | Gain exposure to investment vehicles that have produced consistent superior returns uncorrelated to general markets and to the risk premia considered above. Investment options in this pool can be less transparent and command higher fees; hence we conduct a very careful analysis of a strategy's historical returns and process to substantiate the rationale and sustainability for the superior returns. Risk management at the strategy and firm level are elements we also take into account in this step. |
| ③ | Strategic and Dynamic Allocation | Portfolio construction aims to strategically combine these vehicles to maximize diversification benefits and obtain desirable characteristics (return, correlation, yield, etc.). Tactical shifts can be implemented according to the environment, risk dynamics, and manager-specific circumstances. Here we recognize the multi-faceted nature of risk: drawdown, tail-risk consideration, correlation structure dynamics, convexity, allocation sensitivity, investment style sensitivity and a strategy's contribution to the overall portfolio risk. |




Diversification is often overlooked. Although a lot of attention is given to increasing returns, there should be as much (if not more) attention paid to finding uncorrelated returns of the same magnitude even if some have high volatility. We rely on this important principle when combining the different risk premia.

Combining high-volatility investments with an overall portfolio can lower volatility if correlations are low. In the example to the left, we show that allocating to the S&P 500 Index and to one uncorrelated alternative investment with a similar volatility to the S&P 500 Index actually lowers the volatility by almost a third. Furthermore, when combining the same amount of the portfolio with four uncorrelated alternative strategies, the diversification benefits continue to increase. The result is a 40% reduction in volatility, which is about the same benefit of historically combining the S&P 500 Index and the U.S. Bond Aggregate in a 60/40 portfolio. [8]

[8] **"Alternatives and Bonds Diversification Impact on Equities" Graph**
Bloomberg, NorthCoast. Bonds = U.S. Bond Aggregate Index and Stocks = the S&P 500 Index. 12/31/1997-3/31/2017. Alternatives are assumed to have a 15% volatility and no correlation to the S&P 500 nor to each other. The S&P 500 displayed a volatility of 15.1% over that time period, while the US Bond Aggregate displayed a volatility of 3.4% over the same period.

## Implementation and portfolio construction

While the three steps above have become routine for us, the implementation is easier said than done. There are more than 1000 investment options to choose from, all more sophisticated and appealing than the next, and the dispersion within these alternative categories is wider than traditional categories. Investing in alternatives requires a higher level of expertise to separate the wheat from the chaff.

The first and second steps above require, among other things, data gathering and analysis, as well as manager interviews and due diligence.

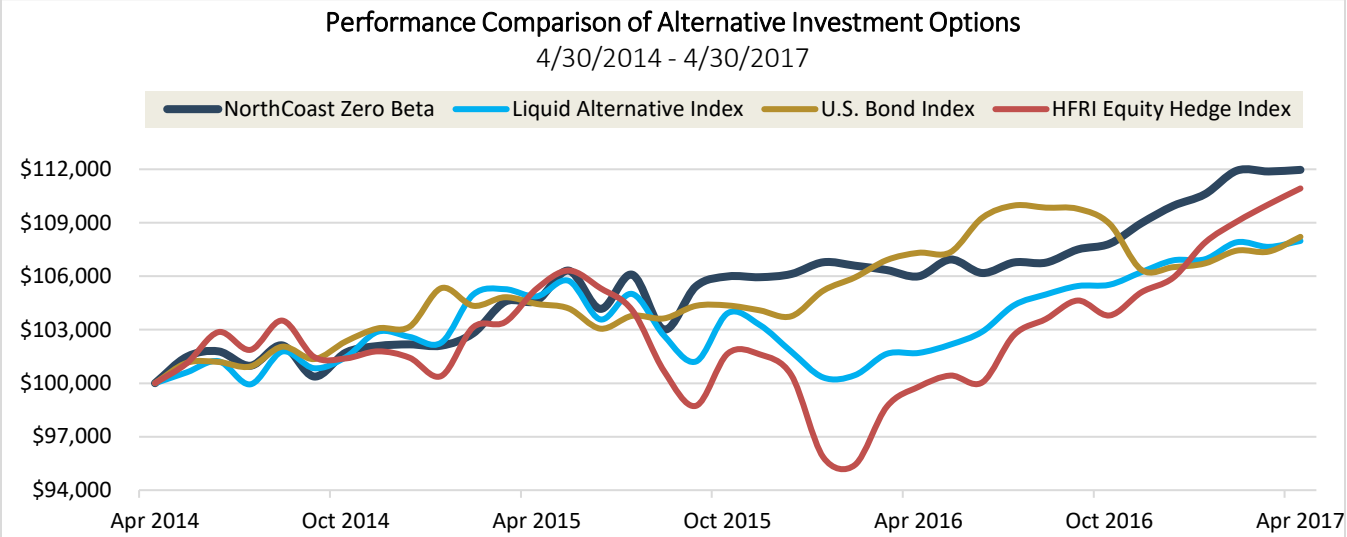
The third step requires mapping the investment options to the risk premia chart below by disentangling the sources of returns of the different investment options. The rows describe the asset classes and the columns the investment styles. The goal of a well-built portfolio of alternatives is to identify enough investment options to cover as many green cells as possible (risk premia) and avoid the red cells (traditional portfolio) without much overlap. The gray cells are areas not carrying a risk premia. Once we have mapped these investment vehicles, we consider correlations and tail-risks, along with investment mandate characteristics to optimally allocate to the map of risk premia and produce the best possible combination to reach our objectives.

| | Beta | Value | Trend | Quality | Carry | Volatility | Illiquidity |
|---|---|---|---|---|---|---|---|
| Equities | | | | | | | |
| Equity Indices | | | | | | | |
| Fixed Income | | | | | | | |
| Rates | | | | | | | |
| FX | | | | | | | |
| Commodities | | | | | | | |
| Real Assets | | | | | | | |

As a result of this 3-step investment process, NorthCoast has generated several investment solutions with greater net returns, more alpha, lower beta, lower drawdowns and lower fees than the HFRI Index or the CS Liquid Alternative Index. Carefully selecting and combining risk premia can lead to better returns, even in times of increased volatility. Specific case studies can be found on page 2 and page 3 of the NorthCoast 2016 Strategy Review of Zero Beta, detailing the behavior of the portfolio during several episodes of volatility.

## NorthCoast Zero Beta

Below is an informational summary about our most popular alternative strategy, Zero Beta, which is designed to produce long-term capital appreciation through the active management of securities that are typically not correlated to the general equity market. The strategy consists of positions that collectively aim to produce a positive return stream with zero, or near zero, beta to the equity market.




| 4/30/2014 – 4/30/2017 | | Zero Beta | U.S. Bond Index[9] | Liquid Alternative Index[10] | HFRI Equity Hedge Index[11] |
|---|---|---|---|---|---|
| | Annualized Returns (Net) | 3.8% | 2.7% | 2.6% | 3.4% |
| Risk Metrics vs S&P 500 Index | Beta | **0.14** | (0.02) | 0.33 | 0.49 |
| | R-squared | 14.9% | 3.0% | 75.5% | 75.5% |
| | Correlation | 0.39 | (0.06) | 0.87 | 0.87 |
| | Volatility | 3.8% | 3.0% | 4.1% | 6.0% |
| | Drawdown | -3.1% | -3.3% | -5.1% | -10.3% |
| | Sharpe Ratio | 0.87 | 0.71 | 0.50 | 0.48 |

**Past Performance is not indicative of future results. All investments involve risk, including loss of principal. Returns are presented net-of-fees.**

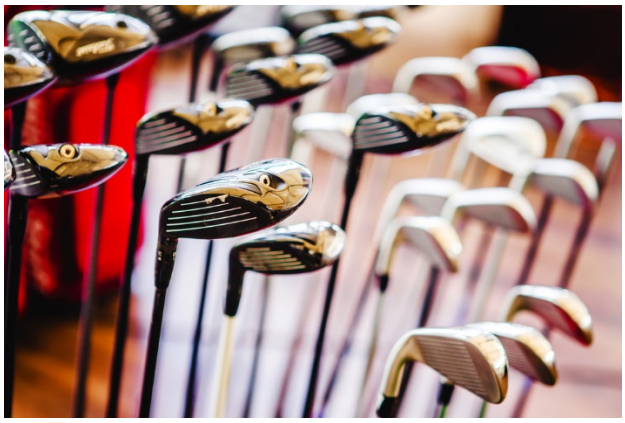
[9] U.S. Bond Index = The Barclays Aggregate Bond Index is a broad based index designed to represent global investment grade bonds traded in the United States.

[10] The Credit Suisse Liquid Alternative Beta Index reflects the return of a dynamic basket of liquid, investable market factors selected and weighted in accordance with an algorithm that aims to approximate the aggregate returns of the universe of hedge fund managers as represented by the Credit Suisse Hedge Fund Index.

[11] Investment Managers who maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. EH managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities, both long and short.

## Conclusion

Being prepared is the best hedge against the unexpected, especially when the status quo is changing. When golfers step onto the first tee, they may not expect, and certainly hope not to be stuck in a particularly unfortunate position on the course. However, in preparation, they can include unconventional clubs in their bags to account for this possibility. Investors can take the same approach to be prepared for the possibility of a major shift in the investing landscape. Alternative investment solutions can provide investors with options that prioritize reducing correlation while maintaining returns.



In the declining nominal and real interest rate environments of the last 35 years, stocks and bonds have produced consistent returns to investors. Looking to a future rising interest rate environment, 60/40 portfolios and other traditional allocation schemes have one considerable shortcoming: they rely on conventional sources of returns – stocks, bonds and commodities. Currently, historically low interest rates leave little room to decrease further and boost returns as they have during the past three decades. Equity market multiples are stretched when compared to historical averages, leaving less potential for asset appreciation by multiple expansion. The correlation between stocks and bonds is expected to increase, which can decrease the 60/40 portfolio's diversification and increase risk. Institutions with access to innovative investment solutions have been using alternative strategies in lieu of conventional assets to achieve returns for decades and have recently been increasing their commitments to these strategies. Through the innovation of financial instruments, these alternative strategies have become more accessible to most investors.

The goal of NorthCoast's alternative portfolios is to provide superior long-term risk-adjusted returns with little correlation to conventional investment vehicles. The construction of these portfolios is achieved through a three step process comprised of identifying the appropriate risk premia assets, gaining exposure to superior investment vehicles and combining these vehicles to maximize diversification while maintaining the ability to be dynamic in allocation. Relying on our experience in alternative strategies and our proprietary tools, NorthCoast has been offering alternative investment solutions displaying more attractive liquidity, transparency and fees than hedge fund strategies. When used in a prudent manner, these investments can play a key role in a portfolio: they can diversify asset allocation, enhance returns, provide steadier performance, and may be more resilient across adverse market environments.

Without the appropriate tools to diversify and prepare a portfolio for the upcoming rising interest rate environment, investors may feel like they've found the rough of their least favorite hole on the golf course. An innovative solution is needed to avoid an errant shot and the pitfalls that lay ahead. Liquid alternatives are the golfer's hybrid club in today's market environment.

## Appendix

Risk Premia with exposure to asset classes

- Insurance Linked Securities: investment in policies insuring natural disasters
- Alternative Lending: collection of thousands of individual loans through online platforms
- Variance Premia: systematically selling options on one or multiple asset classes and earning the premium.
- Private Equity: investment strategy combining debt and equity, focusing on buyout and special situation opportunities.
- Venture capital: investing in private venture-backed companies, generally focusing on high-growth equity.
- Long-short equity: Exposure to global stock markets, along with exposure to growth and value risk premia.
- Risk Parity: Passive exposure to several asset classes bearing risk premia while balancing the risk allocation.
- Liquidity Risk: when an asset is illiquid, investors demand a premium for compensation of the additional risk of having their assets tied up over a longer period.

Risk Premia and Active Investment Strategies with near neutral net exposure to asset classes

- Event Driven: equity long short strategy focused on company events e.g. restructuring, mergers, spin offs
- Market Neutral: equity long short strategy focusing on risk premia e.g. value, momentum, quality
- Managed Futures: Futures based strategy on different asset classes e.g. equity indices, rates, FX, commodities focusing on risk premia e.g.momentum, reversal
- Global Macro: Futures based strategy capturing mispricing opportunities across major global asset classes
- Volatility arbitrage: generating returns by dynamically allocating to volatility futures
- Convertible arbitrage: investing in convertible bonds
- Fixed Income arbitrage: investing in the bond market based on mispricing opportunities
- Currency arbitrage: investing via currency futures to capture trend and relative value opportunities

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