

# WHY TACTICAL FIXED INCOME IS DIFFERENT



*“Whether to concentrate or to divide your troops, must be decided by circumstances.”*

- Sun Tzu  
The Art of War

## THE CASE FOR TACTICAL FIXED INCOME

As a tactical asset management firm, we seek to offer a full range of downside risk managed investment strategies, covering all parts of an investor's portfolio. We believe that controlling drawdowns and smoothing volatility is a critical objective, as the path of investment returns is often just as important as the destination. Limited investment horizons, the need for liquidity to fund life's expenses, and the penchant for large losses to trigger emotional investment decisions all make capital preservation paramount to financial success.

Over the past 60 years, interest rates have come full circle after peaking in the 80s. Most investors have never experienced an interest rate environment remotely similar to that of today.

Market conditions in the past 30+ years have been favorable for traditional long exposure in fixed income, providing

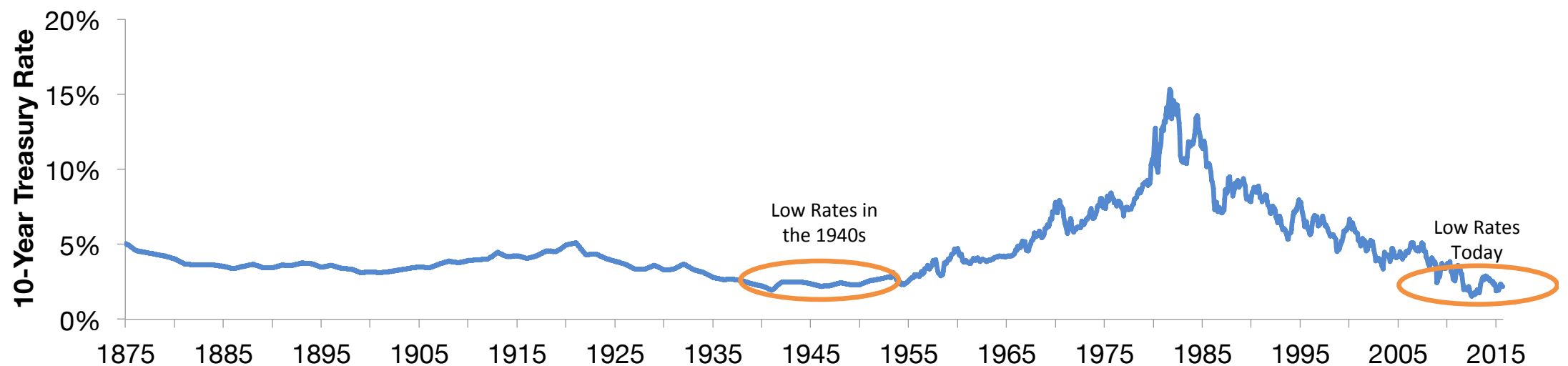
significant total returns with little volatility. Historically, high and declining nominal interest rates served as a powerful return stabilizer for fixed income. However, with rates now at all time lows, the stabilizing impact of yield is reduced, and this income buffer may be insufficient to offset losses from rising rates.

Given these facts, we believe a tactical fixed income approach is more relevant today than it has ever been before. Declining interest rates have benefitted passive fixed income investments, but rising rates make a thoughtful tactical approach more important.

Throughout our tenure as a firm, the approach we've been known for – particularly in the tactical equity space – has been embracing cash as a valid alternative asset class when our momentum models identify a bearish outlook.

Despite this reputation, we do not believe this approach is necessarily applicable within the broad fixed income space, and therefore our tactical fixed income portfolios do not strictly "go to cash" like our equity portfolios.

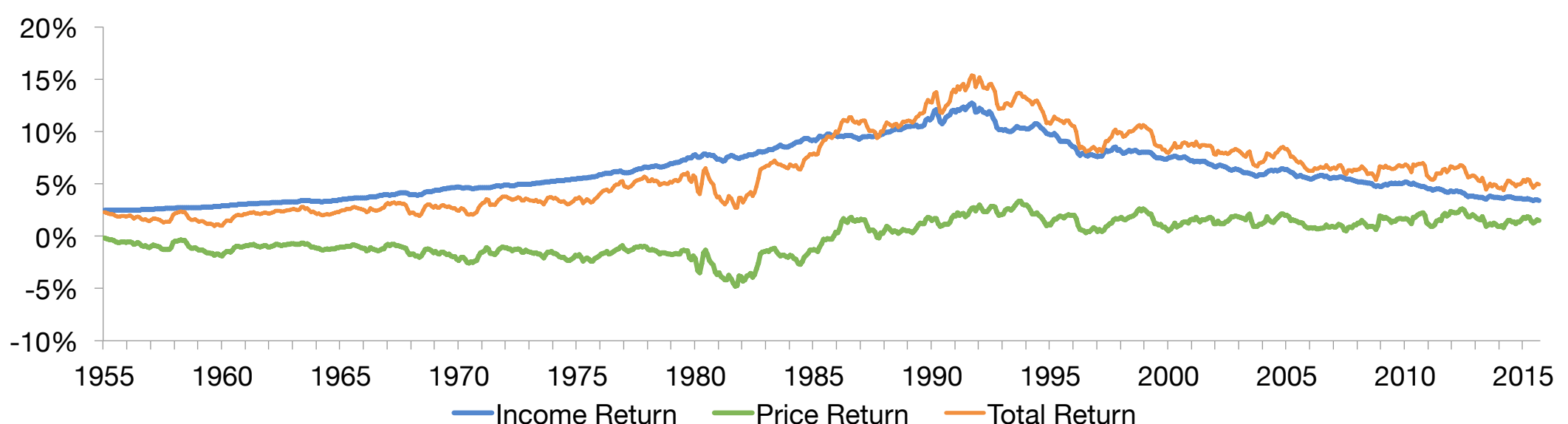
### 10-Year Treasury Rates



Source: Robert Shiller's Online Data. Data is from January 1871 – September 2015.

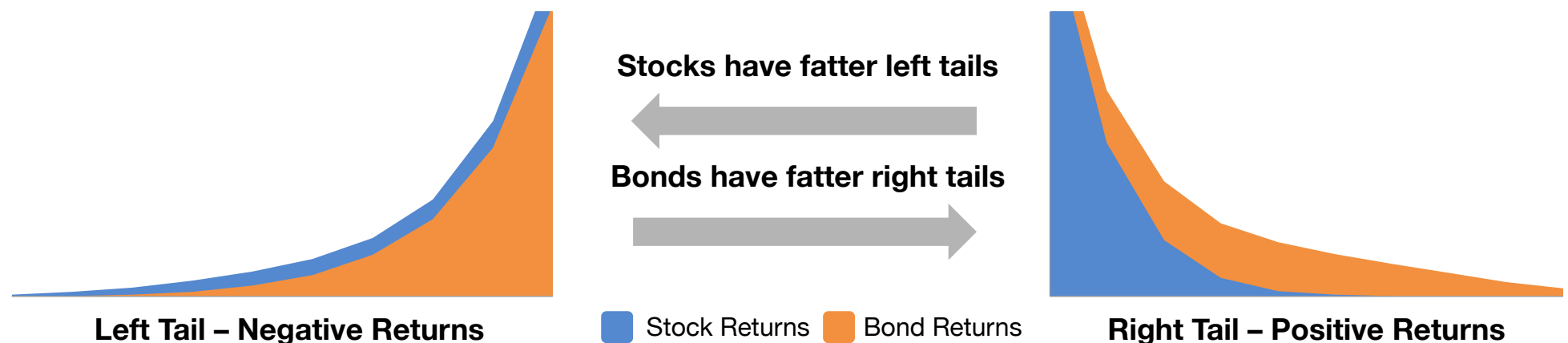
***As interest rates begin to rise, income will still play an important role in total return, but price declines can be a major headwind.***

### Annualized 10-Year Returns in a 10-Year Constant Maturity Bond Index



Source: Robert Shiller's Online Data, Newfound Research. Data is from January 1945 – September 2015.

## Extreme Returns in Stocks and Bonds Are Fundamentally Different



Source: Morningstar, Newfound Research. Data is from January 1976 – April 2015.

## COMPLEXITIES WITH FIXED INCOME

Fixed income is structurally different from equities for a variety of reasons. In one sense, characteristics such as defined maturities and set coupon payments make the behavior of fixed income more predictable than the behavior of equities in certain market environments, and to the extent that it is possible, a tactical fixed income strategy should capitalize on these traits.

However, investors' behavioral biases make the situation more complex. Tactical strategies, especially those that manage risk, must also be designed to achieve their objectives during times when investor behavior is the most irrational, and many of the structural differences have a larger impact when fixed income is relied upon the most in a portfolio. To develop a successful tactical fixed income strategy, the following traits all must be taken into account.

### 1. A TALE OF TWO TAILS

In our whitepaper, *The What & Why of Momentum-Based Active Risk Management*, we illustrated how missing the best

and worst months of returns in most asset classes leads to favorable returns. This fact was most pronounced in equities, which tend to have a larger "left tail" – or negative returns – in their return distribution. However, fixed income, with its status as a safety asset during times of equity crisis, tends to have a fatter "right tail".

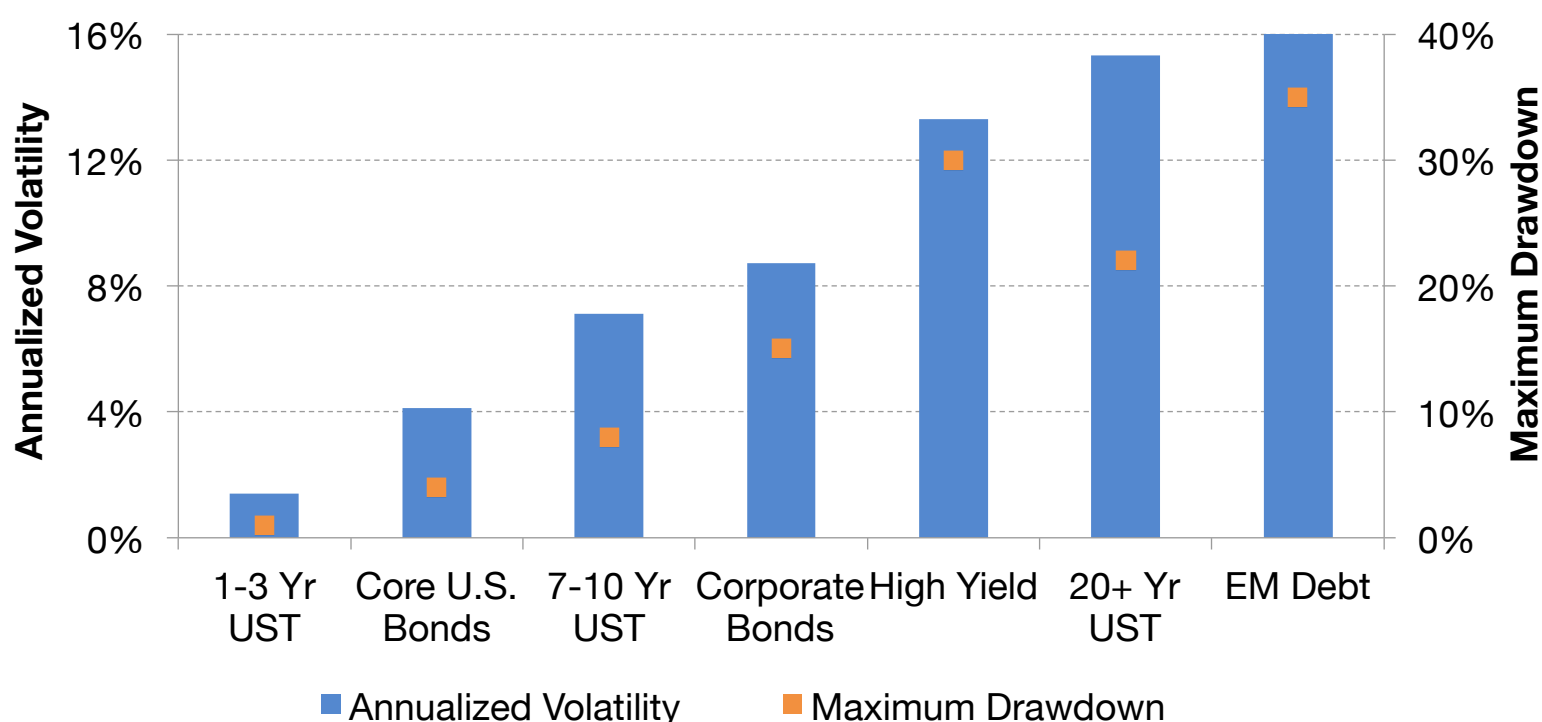
While missing left tail months in fixed income still leads to better risk-adjusted returns, this may not be in line with an investor's reasons for holding fixed income in the first place.

### 2. FIXED INCOME VARIES FROM RISK-FREE TO RISKY

Relative to other asset classes, equities tend to simply be varying degrees of "risky."

Fixed income, on the other hand, spans a wider scale of risk. On the safer side, you have short-duration U.S. Treasuries, often the very definition of "risk-free" within the market. On the riskier side, you have high yield bonds and emerging market debt.

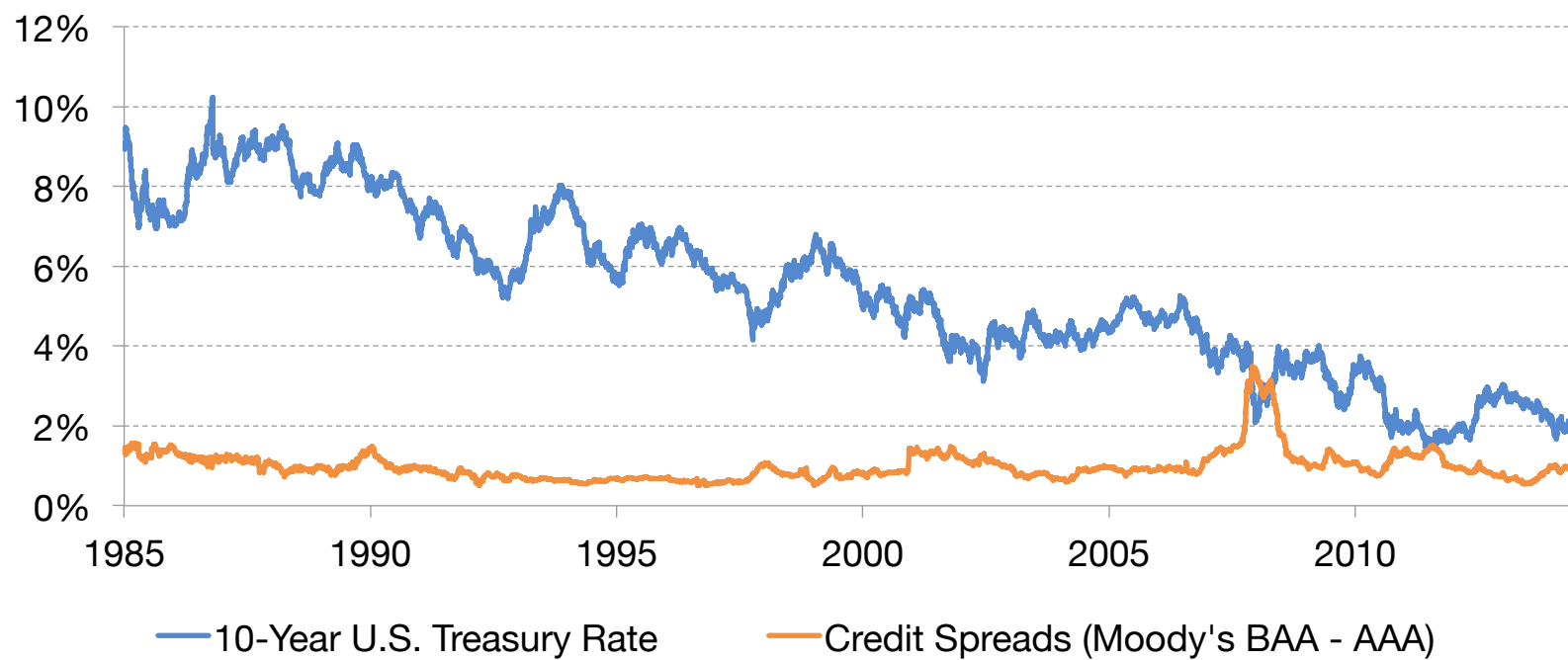
But even long-dated U.S. Treasuries may be considered "high risk" in the right scenario. And that's because...



*While short-term U.S. Treasuries generally have low volatility and drawdown, high yield bonds, emerging market debt, and long-term U.S. Treasuries may exhibit volatility and drawdowns more in line with equities.*

Source: Yahoo! Finance, Newfound Research. Data is from November 2007 – April 2015.

## Fixed Income is Sensitive to Multiple Variables



Many fixed income investments are sensitive to interest rates and the credit of the issuer.

Two sensitivities means two risks to quantify and two economic knobs that influence the price.

Source: Federal Reserve Bank of St. Louis. Data is from December 1985 – April 2015.

### 3. FIXED INCOME HAS MORE THAN ONE BETA

Equities, broadly, tend to be sensitive to a single risk factor: economic growth expectations. Fixed income, on the other hand, has two primary drivers: interest rates and credit spreads – both of which have a complex relationship with economic growth and inflation expectations. Furthermore, interest rate risk can be broken down across the yield curve.

That means instead of simply having a single sensitivity to dial exposure to, as we often do with tactical equity, we now have many. We have to determine both our preferred interest rate exposure at a variety of maturities and our preferred credit exposure.

We embrace a momentum-driven approach for many asset classes because we believe that sensitivity to different risk factors are ultimately distilled into returns. However, in fixed income, momentum is not always applicable.

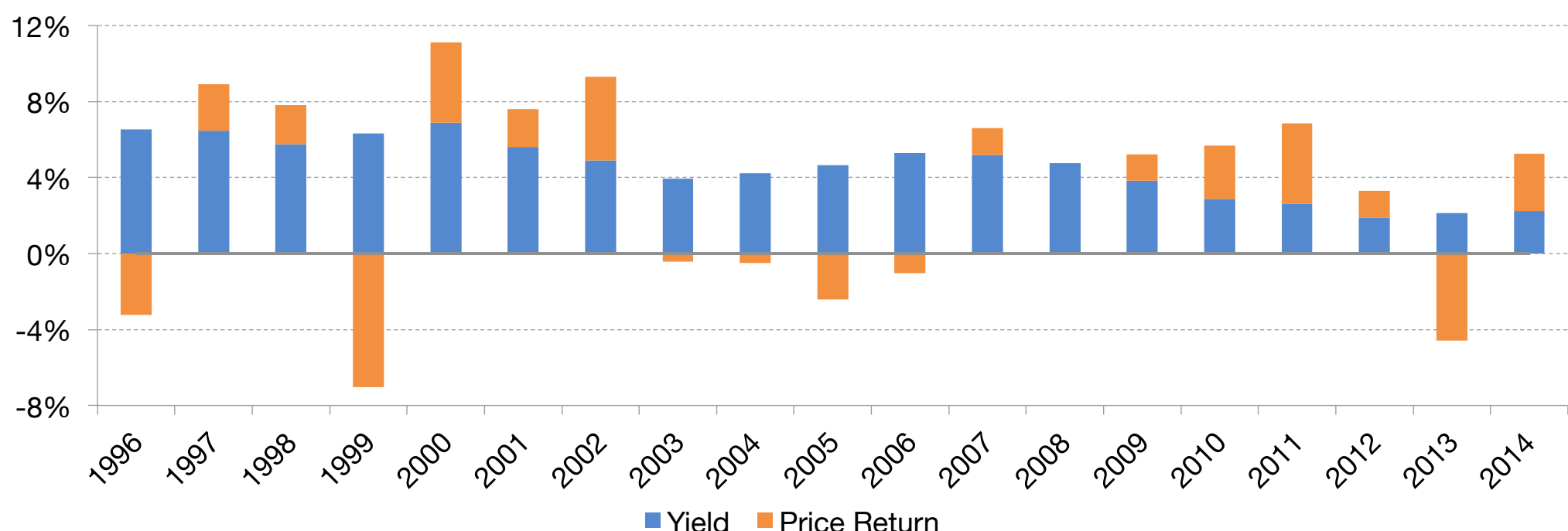
### 4. INCOME IS A KEY COMPONENT OF TOTAL RETURNS

With fixed income, investors can generate significant income-based returns even if prices don't move.

From January 1980 to April 2015, income made up 80% of the Barclays Aggregate Index's total return (assuming no reinvestment and 0% return on cash). Over this same period, income for the S&P 500 only made up 18% of the total return. Even in the low interest rate environment of April 2009 to April 2015, income still comprised 60% of the bond index's total return.

The chart below shows the annualized yield and price return of the Barclays U.S. Aggregate Bond Index from 1996 to 2014. On average, the contribution of yield is 1.9x that of price return.

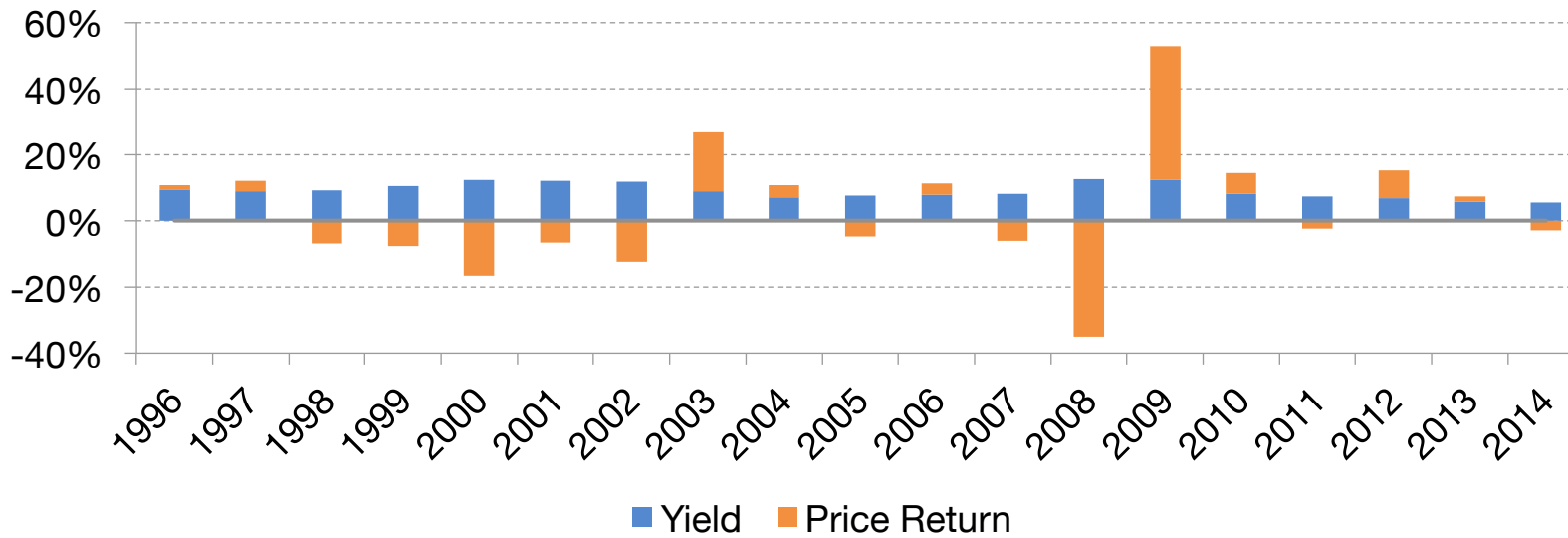
### Barclays Aggregate Bond Index Annualized Yield and Price Return



Source: Morningstar, Newfound Research. Data is from January 1996 – December 2014.

## Historical Yield and Price Return Contribution

### Barclays High Yield Index Annualized Yield and Price Return



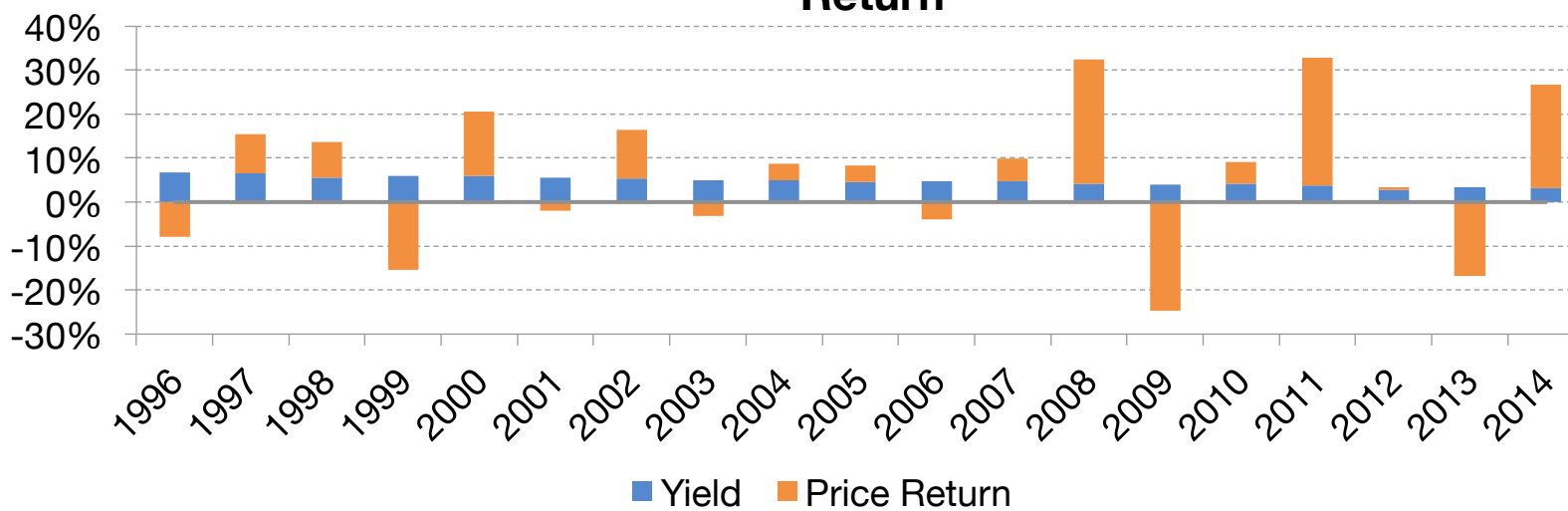
Ratio of Yield to Price  
Return Magnitude

**1.3x**

Average Historical Yield

**9.0%**

### Barclays 20+ Year Treasury Index Annualized Yield and Price Return



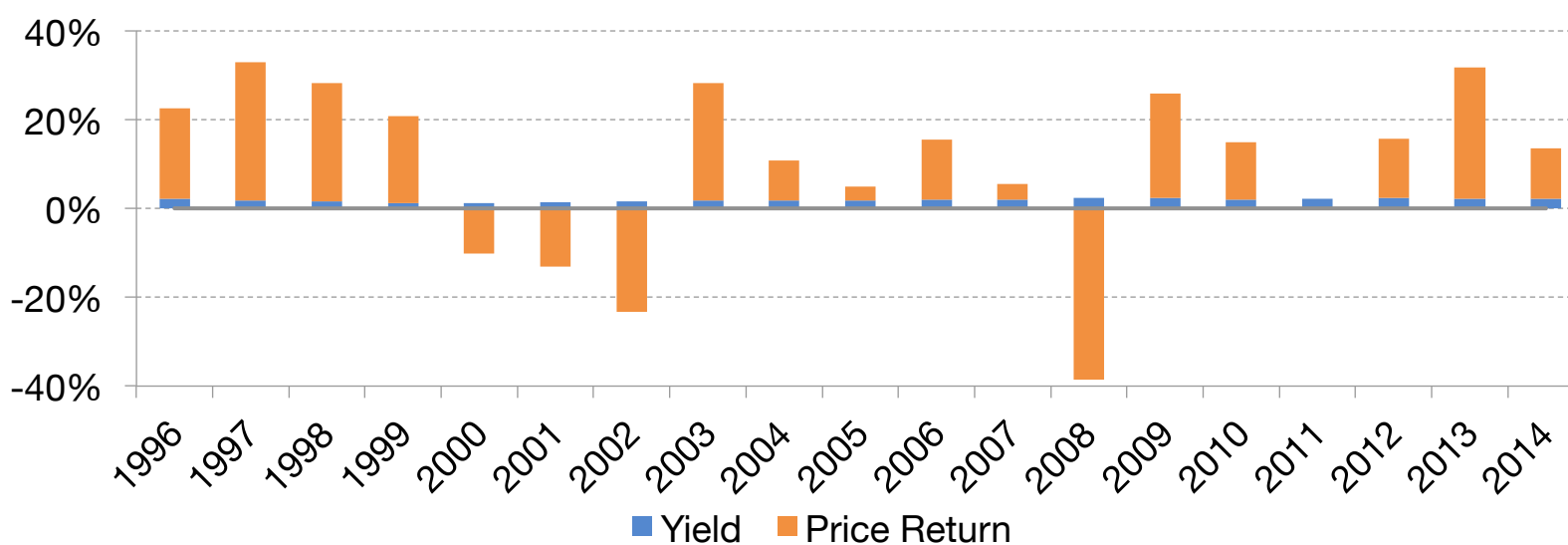
Ratio of Yield to Price  
Return Magnitude

**1.1x**

Average Historical Yield

**4.8%**

### S&P 500 Index Annualized Yield and Price Return



Ratio of Yield to Price  
Return Magnitude

**0.1x**

Average Historical Yield

**1.9%**

Source: Morningstar, Newfound Research. Data is from January 1996 – December 2014.

For fixed income, the high relative magnitude of yield versus price return is true no matter the risk profile. The chart on the next page shows the same data for the Barclays High Yield Corporate Bond Index. Again, on average, the contribution of yield is 1.3x that of price return. In the low interest rate environment from 2010 on, this factor has increased to 1.8x, on average.

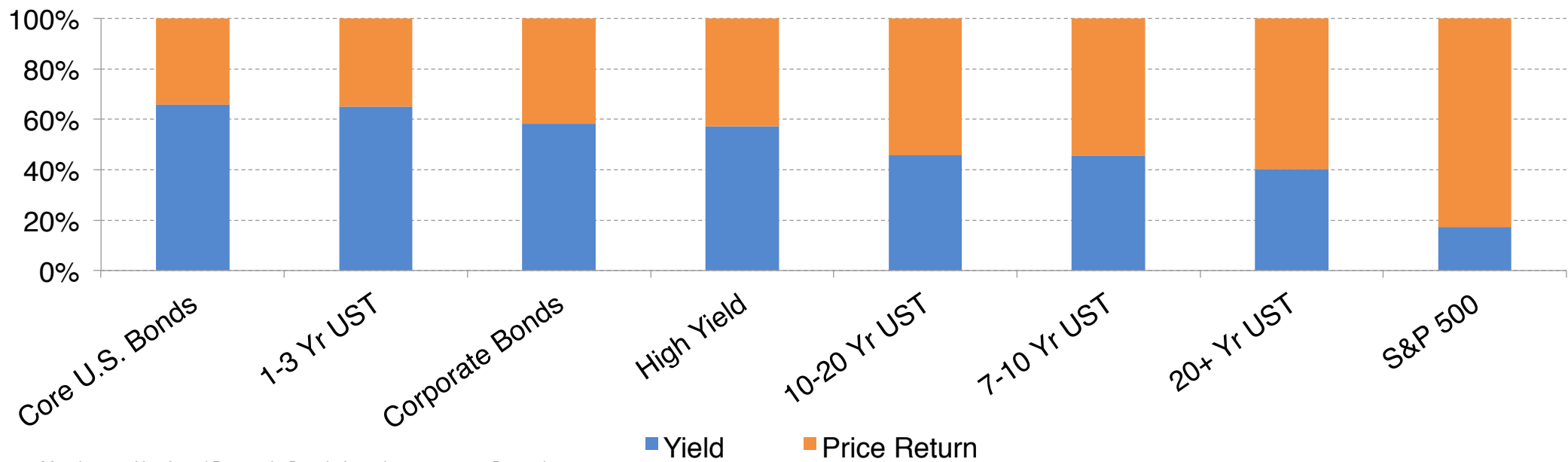
Of course, this relationship is largely driven by

environment. With 20+ Year U.S. Treasuries, price return swamps yield in years with significant credit events ("flight to safety" – 1999, 2008, 2009, 2011) or significant interest rate events (2000, 2013, 2014). In "normal" years, however, the magnitude of yield-based return was 1.1x that of price return.

Compare these statistics to that of the S&P 500, which had a yield that was only 0.14x the magnitude of price return (ignoring the 2011 outlier).



### Average Relative Absolute Contribution of Yield and Price Return



Source: Morningstar, Newfound Research. Data is from January 1996 – December 2014.

To summarize across assets, the chart above shows the relative absolute contributions of yield and price return for a variety of fixed income asset classes and the S&P 500 in decreasing order of yield contribution.

Viewed another way, we can plot the yearly average yield contribution in the fixed income asset classes along with the yield contribution in the S&P 500. With the exception of 2011, when the S&P 500's price was essentially flat, the yield-based return contribution of fixed income is higher than that for equities in every year. In fact, on average, the contribution in fixed income is 5.6x higher.

With these complexities in mind, let's start with a common approach to tactical strategies and see how a viable tactical fixed income strategy can emerge.

short-run (though, dividends over the long run accounts for a significant component of equity market total returns). So the opportunity cost of moving from equities to cash – in terms of missed income – is very small relative to the total return profile of equities. In essence, investor's hold equities for price appreciation, so to get out of equities and into cash, which is an entirely different investment, when you think they are going to lose value makes perfect sense.

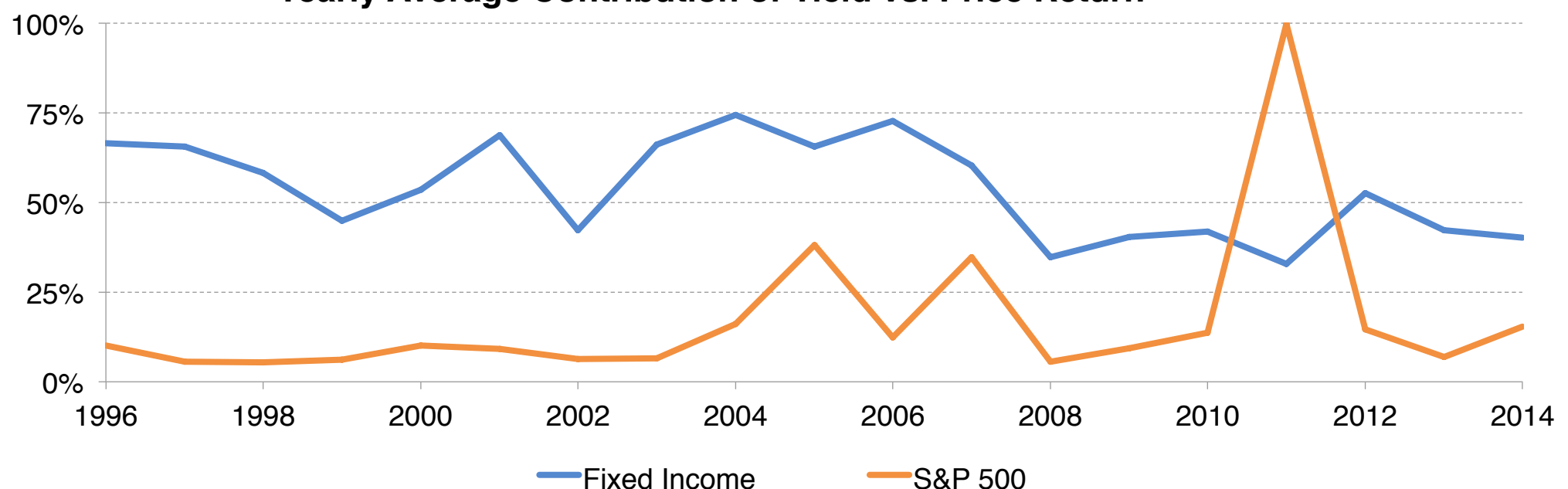
Moving from fixed income to cash-equivalents, on the other hand, can be incredibly detrimental to overall returns because the yield component is such a large piece of the return stream, as we saw in the examples earlier. While it may make sense in certain environments with certain instruments (e.g. long-dated treasuries in a duration driven environment or high yield in a credit driven environment), there are many environments when the potential yield sacrifice for price return control does not align with investor objectives.

For every day we are out of fixed income and sitting in cash, we sacrifice valuable accrued interest. We may be missing price declines, but it might not be enough to offset the forfeited income.

## APPLYING A "STANDARD" TACTICAL MODEL

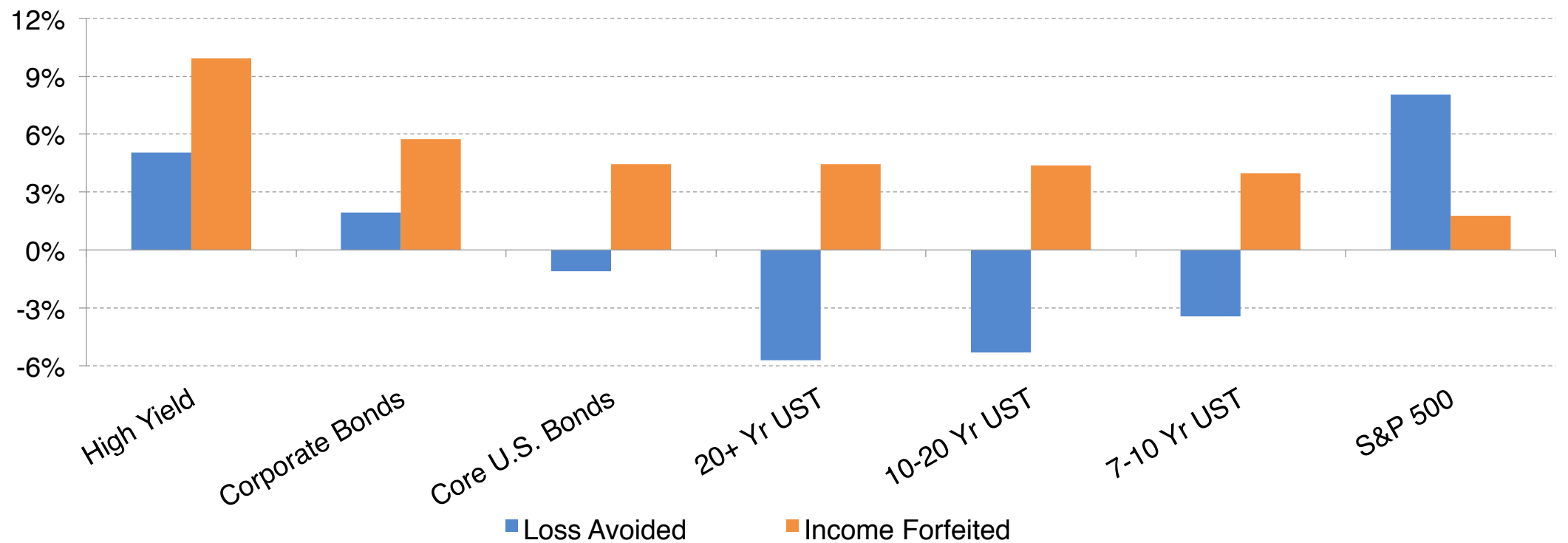
Being tactical in the "go to cash" sense is a clear choice for equities because price return on equities swamps yield in the

### Yearly Average Contribution of Yield vs. Price Return



Source: Morningstar, Newfound Research. Data is from January 1996 – December 2014.

### Annualized Income Forfeited and Loss Avoided by "Going to Cash"



Source: Morningstar, Newfound Research. Data is from January 1996 – April 2015. Information in the chart above is backtested and hypothetical.

The chart above illustrates these concepts using a simple tactical model with a momentum signal derived by comparing current price to the 10-month average price over the period from February 1995 to April 2015.

In equities, this simple tactical model resulted in the largest price loss avoided and the smallest amount of income forgone. Using the model naïvely on fixed income to “go to cash” left significant yield-based return on the table. The results for the price return were mixed, with the model on credit sensitive bonds avoiding some losses, though not enough to compensate for the forfeited income, and the U.S. Treasuries model experiencing significant whipsaw. That is, you actually avoid gains in addition to losing income, a highly undesirable combination.

But what if going to cash is the wrong approach to tactical fixed income?

## THE INGREDIENTS AND THE RECIPE

One of our core philosophies is that tactical portfolio construction depends both on the ingredients and the recipe.

Writing off tactical fixed income simply because a naïve “go-to-cash” strategy does not work the way one hopes does with equities would be narrow-minded; maybe we just need a different recipe for combining the ingredients.

The chart above only shows the ingredients. In its most basic form, momentum on fixed income ignores the inherent traits of the asset class, discussed earlier, that make a tactical fixed

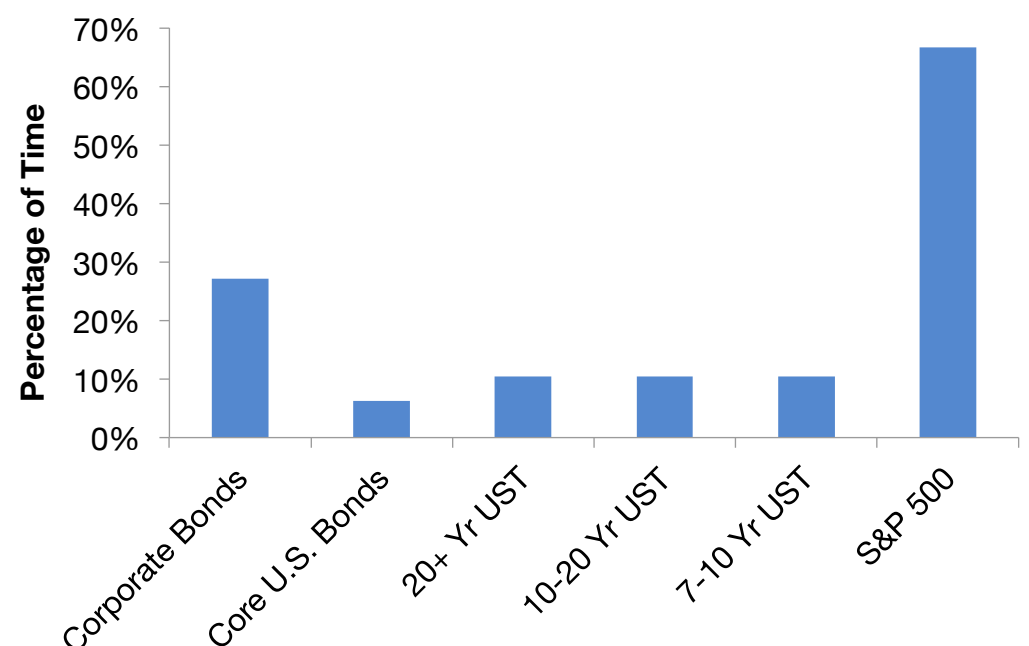
income portfolio different than a tactical equity portfolio. Instead, we must tailor the recipe to the objectives of the tactical fixed income portfolio.

What the chart neglects to show is the timing of each signal, more specifically, the relationship between the momentum signals on each pair of assets. Off signals do not always coincide.

For example, off signals between corporate bonds and 20+ year U.S. Treasuries only overlapped off signals in high yield bonds 27% and 10% of the time, respectively.

This observation can be a key driver behind a successful recipe for a tactical fixed income strategy.

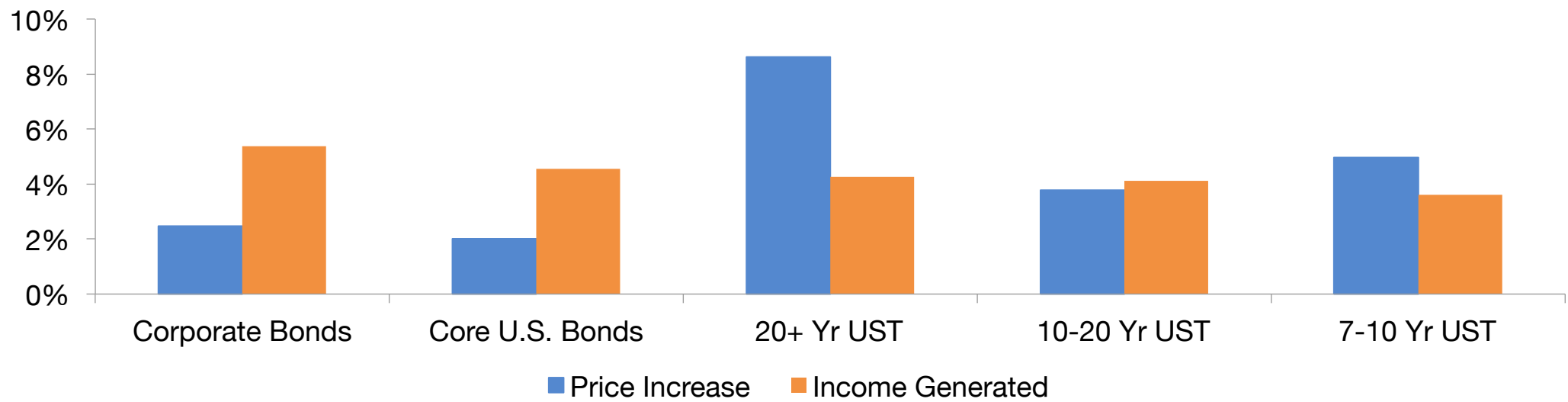
### Probability that Signal was Off Given that High Yield was Off



Source: Morningstar, Newfound Research. Data is from January 1996 – April 2015.

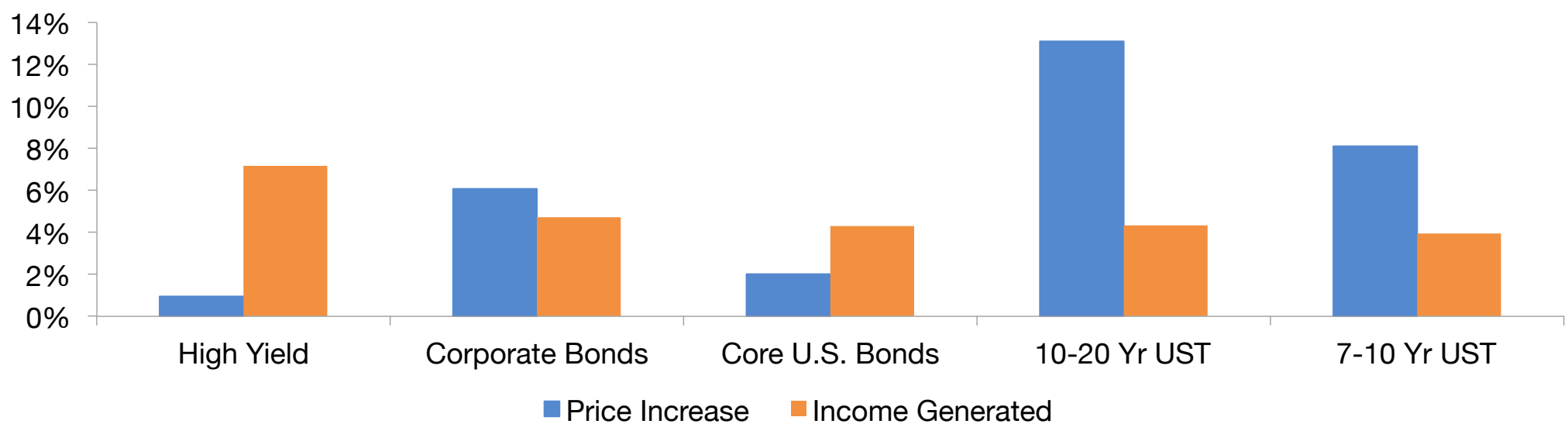


### Benefits of Going Elsewhere when U.S. High Yield is Off



Source: Morningstar, Newfound Research. Data is from January 1996 – December 2014. Information in the chart above is backtested and hypothetical.

### Benefits of Going Elsewhere when 20+ U.S. Treasuries are Off



Source: Morningstar, Newfound Research. Data is from January 1996 – April 2015. Information in the chart above is backtested and hypothetical.

## THE BENEFITS OF “GOING ELSEWHERE”

We have shown that our recipe cannot simply be, “hold cash when the momentum signal is off, and hold the asset when the signal is on.” Doing so would forfeit a significant portion of income with little protection against price declines.

Modifying the recipe to take individual tactical signals from a diverse portfolio of income focused assets and allocate to whichever ones are exhibiting positive momentum is a more prudent approach to tactical fixed income. By having other assets to go to when fixed income is exhibiting negative momentum (“going elsewhere”), we can mitigate some of the detriment of forfeiting income.

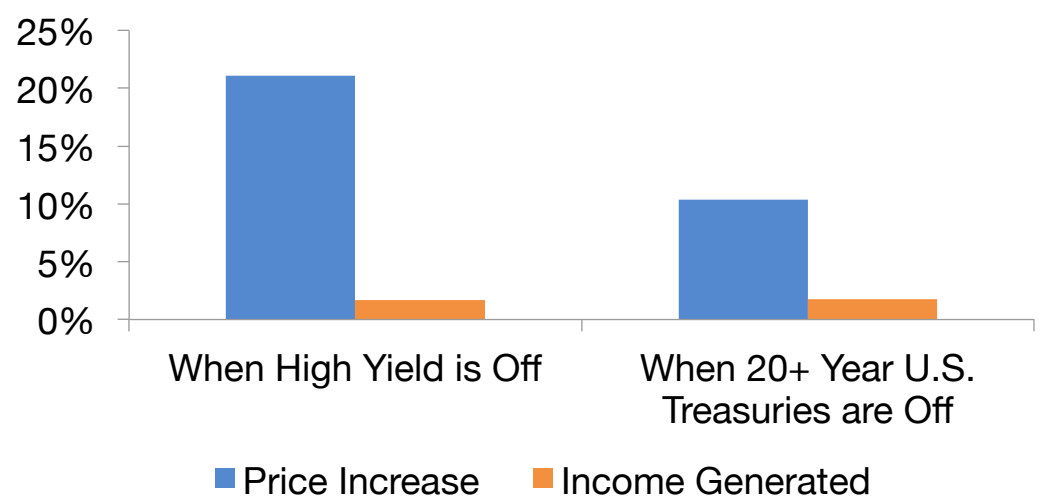
The benefits of “going elsewhere”, both to income generation and capital growth, can be seen in the graphs above.

Even in this limited universe of fixed income, when high yield and 20+ U.S. Treasuries were off, there were a handful of

opportunities to maintain portfolio income without sacrificing any portfolio value.

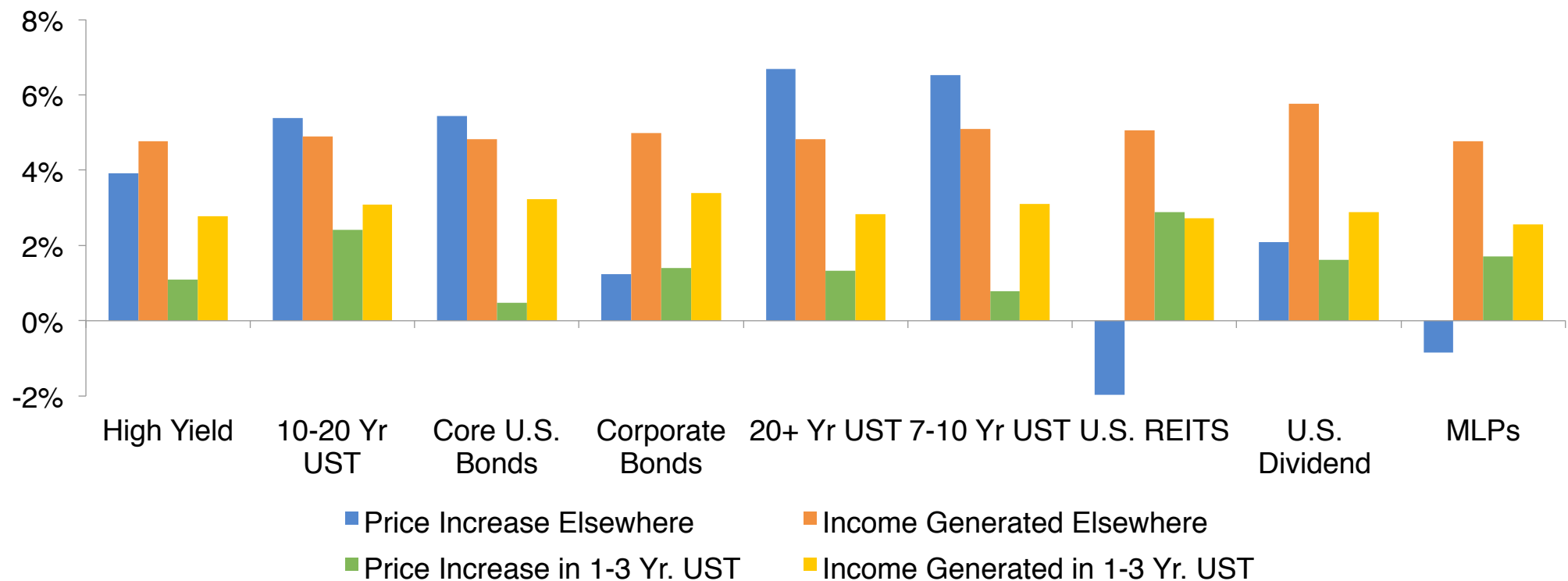
A further benefit of this approach can be seen by looking at the S&P 500 during these two scenarios.

### Benefits to Going to the S&P 500



Source: Morningstar, Newfound Research. Data is from January 1996 – April 2015. Information in the chart above is backtested and hypothetical.

### Average Price Increase and Income for Going Elsewhere and Short-term U.S. Treasuries



Source: Morningstar, Newfound Research. Data is from January 1996 – December 2014. Information in the chart above is backtested and hypothetical.

Even though the S&P 500 is not known as a high income generating asset, it gives a significant boost to the price (and total return). Diversifying income sources out of the realm of traditional fixed income can provide opportunities for maintaining the level of portfolio income without sacrificing the capital base.

What if we consider expanding the investment universe to include other equity-like asset classes, such as REITs, MLPs, and dividend equities. If we add those assets to the universe for this analysis, we can see the increased benefit of that going elsewhere has on sustaining the income level in the portfolio versus going to cash. The general price increases are not a bad side effect.

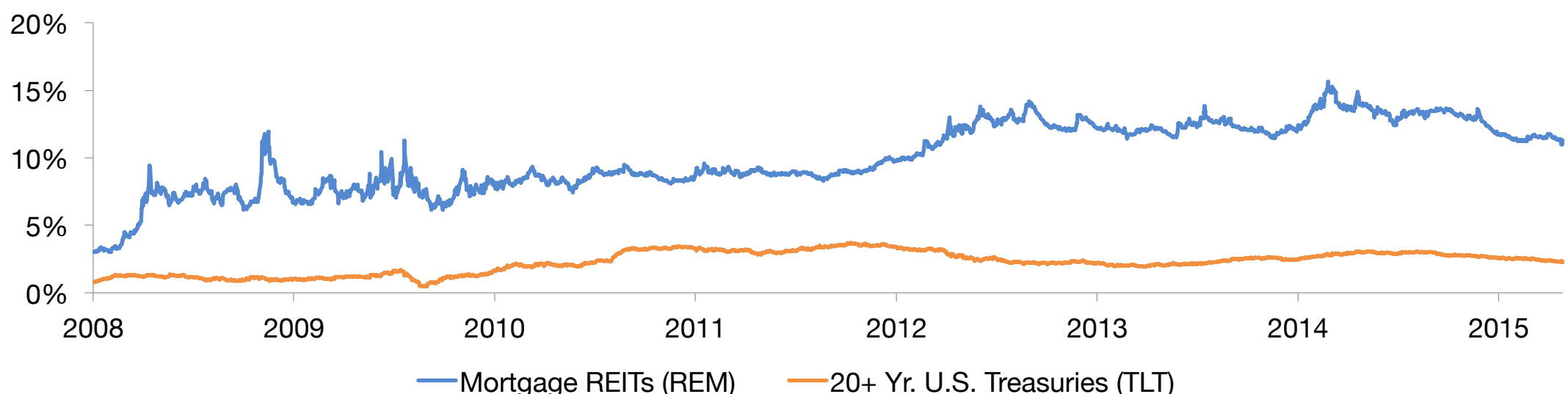
“Going to cash” is also somewhat of a loose term. In this analysis, we assumed that the strategy holds cash earning 0% interest. In actuality, a strategy would often hold short-term U.S. Treasuries, which earn some yield. But even if we set the bar higher by allowing the strategy to hold 1-3 Yr. U.S. Treasuries, the net income generated by going elsewhere (orange bar minus yellow bar) is still 2.0%, on average, and

the price increase (blue bar) eclipses that in 1-3 Yr. U.S. Treasuries (green bar) in 6 out of the 9 asset classes.

Of course the benefits of going elsewhere are universe dependent: having a wide variety of other assets to invest in increases the chances of having other income generating opportunities that are better than cash. Having a well-diversified investment universe that includes other income-focused asset classes such as mortgage REITs, emerging market bonds, international Treasuries, covered calls, bank loans, convertibles, and preferreds in addition to the assets discussed previously increases opportunities to generate yield when specific assets exhibit negative momentum. These asset classes are diversified across a variety of risk factors including core interest rates, currency, oil, the broad equity market, and credit.

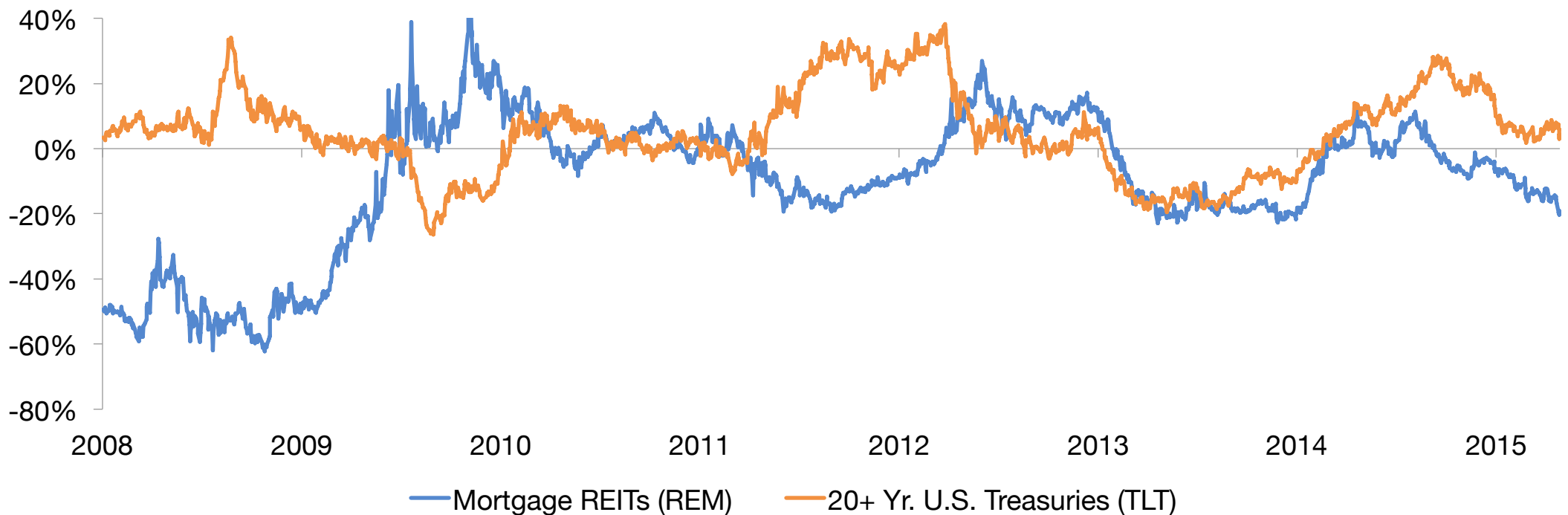
The benefits are also dependent on how you allocate to the other opportunities. For example, shifting an allocation away from long-term U.S. Treasuries, which have yielded under 5% since mid 2004, to mortgage REITs, which commonly yield more than 10%, will provide a large boost to income.

### One Year Rolling Realized Excess Yield



Source: Yahoo! Finance, Newfound Research. Data is from May 2007 – August 2015. Information in the chart above is backtested and hypothetical.

### One Year Rolling Price Return



Source: Yahoo! Finance, Newfound Research. Data is from May 2007 – August 2015. Information in the chart above is backtested and hypothetical.

However, that extra income comes with extra risk to capital during many time periods.

In 2008 and 2011, the yield you would have earned in mortgage REITs (REM) would not have done much to alleviate the decline in price. Again, this illustrates the necessity of combining ingredients using a well-constructed recipe. One possible solution is to recognize this tradeoff between yield and risk by weighting the assets based on their risk-adjusted yields.

While income can often be found elsewhere when using a momentum model to tactically move into and out of fixed income assets, income is only one piece of the puzzle; it is not the only reason why tactical is different in fixed income...

## INVESTORS USE FIXED INCOME FOR A VARIETY OF REASONS

Investors buy equities for growth. Investors buy fixed income for several reasons, including: capital preservation, diversification, and income generation. Since equity markets cannot go up and down simultaneously, accessing growth and protecting capital are not objectives that are at odds with one another in a tactical equity portfolio.

The same is not true within fixed income, where the decision to preserve capital and "go to cash" may be in direct opposition of an income-based need the investor has. In addition, removing high quality, interest rate sensitive Treasuries right before an unexpected equity market crash may rob the portfolio of much needed diversification. Therefore, while almost all tactical equity strategies are constrained to a "protect and participate" type mandate, a tactical fixed income portfolio could focus on a variety of

objectives.

A tactical fixed income portfolio with a primary focus on income generation will likely look very different from one whose core objective is portfolio diversification, even if they both have a secondary objective of capital preservation.

## CONCLUSION

The opportunity cost of going to cash in fixed income portfolios is often a non-starter as investors commonly expect more than "just growth" out of this allocation. Year-to-year, on average, the relative magnitude of yield to price return in equities is approximately 0.14x. For core fixed income, this number jumps to 1.9x, meaning that going to cash to mitigate price volatility can sacrifice a considerable opportunity in yield-based return generation.

While we believe that a tactical approach to fixed income is more relevant today than it ever has been, we cannot blindly apply the methods we utilize with equities and call it a day. Rather, we must thoughtfully consider not only the important differences between the asset classes themselves, but also the unique motivations for investors to hold each asset class in the first place.

Through prudent risk management and a thoughtful recipe for portfolio construction, we can construct tactical fixed income solutions that seek to achieve a variety of objectives, such as income generation, diversification, and tail-risk.

By developing tailored recipes for for both equities and fixed income, we aim to harvest the many benefits of tactical risk management while avoiding unintended portfolio distortions that end up ultimately causing more harm than good.



**For more information about Newfound Research call us at +1-617-531-9773, visit us at [www.thinknewfound.com](http://www.thinknewfound.com) or e-mail us at [info@thinknewfound.com](mailto:info@thinknewfound.com)**

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