The Case for Duration Neutrality

Betting on the direction or timing of interest-rate changes is risky business.

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The result of the U.S. general election in 2016 was a surprise to many, but some investors also were caught off guard by the reaction of U.S. Treasury yields. Instead of a flight-to-quality decline driven by uncertainty, yields moved sharply upward, reflecting the anticipation of tax reform and infrastructure spending.

By December 2016, this so-called "reflation" narrative had taken full hold of investors' psyche, and yield forecasts for the 10-year Treasury approached 3% and higher. In the midst of this momentum, further driven by economic fundamentals of higher inflation and growth, a common question to us and other investment professionals was: "Do you *really* want to be duration neutral in your core fixed-income portfolios? Shouldn't you decrease duration and lower mark-to-market risk?"

According to Bloomberg, the 10-year Treasury yield *did* move higher—reaching a peak of approximately 2.6% on December 15, 2016 at the height of "reflation" euphoria; but instead of rising to the forecasted levels of 3% and above, it then tumbled to a low of about 2.1% by June. This decrease was a result of two factors: 1) inflation measures (in particular, the Consumer Price Index and the Personal Consumption Expenditure Price Index) were in the midst of a four-month consecutive decline, and 2) the Trump administration was finding it difficult to pass any legislation, with the result that expectations of fiscal support declined precipitously.

Just as interest rates have defied forecasts recently, they also have done so in the past, and they are likely to do so again at some point in the future. The problem is that market participants often overestimate their ability to predict what lies ahead. That makes constructing an investment portfolio based on a projection of future interest rates very risky—and therein begins our case for duration neutrality.

THE RELIABILITY OF INTEREST-RATE FORECASTING MODELS

There are volumes of published research on the reliability of interest-rate forecasts, including a paper on term-structure forecasting[1] from the board of governors of the U.S. Federal Reserve (the Fed). The Fed paper concurs with our own empirical analysis that forecasting rates has an uneven chance of success, at best. Following are three of the paper's key observations:

1. "Whereas fitting interest movements over time is already a strenuous task, accurately forecasting future interest-rate levels is an even more difficult challenge."

The paper's authors remind us that it is difficult, using a few factors, to explain the reason for even *historical* interest-rate movements; common sense would then apply that, quantitatively, it's a much more difficult challenge to forecast *forward* movements. The Fed's own research supports this conclusion. While it is possible, the paper's authors say, to be correct on interest-rate forecasting, the chances of that are very episodic in nature. That is, you may be lucky from time to time, but you will not be able to predict with accuracy *consistently* over the longer term.

2. "Yields of all maturities are close to being nonstationary, which makes it hard for any model to outperform the simple random walk no-change forecast."

Many economic and financial variables are nonstationary—that is, they do not revert to a constant mean. Instead, they have means and variances that change over time. Nonstationary behaviors can be trends, cycles, random walks, or a combination of all three. Gross domestic product (GDP) is an example of a purported nonstationary data series: its behavior through time can be described as a trend but not necessarily returning to a long-run mean over time.

Stationary behavior, on the other hand, reverts around a constant long-term mean and has a constant variance independent of time.

Unlike stationary data, nonstationary data, as a rule, are unpredictable and cannot be modeled or forecasted. The report's authors conclude that yields of all maturities are largely nonstationary, which makes it difficult for any yield-forecasting model to outperform a model that is just based on random walk theory. You might as well flip a coin.

3. "It seems an overly daunting requirement for any individual model to be capable of consistently producing accurate forecasts under potentially very different interest-rate regimes."

As we noted earlier, forecasting models that were predicting at year-end 2016 higher U.S. interest rates in 2017 were promptly invalidated six months later, when inflation declined and prospects of strong fiscal support (through tax reform and infrastructure spending) evaporated on political gridlock. Suddenly, a "very different interest-rate regime" was in place.

Another example of a change in interest-rate regimes occurred in 2000, when, after a fairly stable period, the Fed eased monetary policy in light of the burst dot-com bubble and the subsequent recession.

As a matter of history, when regime changes occur, they tend to result in very large market moves. In both of the above examples, the forecasting models may have been correct during the prior regimes, but, in our opinion, the subsequent regime changes, with their consequent dramatic shifts in market expectations, most likely nullified any prior benefit the models may have provided.

OUR OWN ANALYSIS

The Fed research report confirms Lord Abbett's empirical analysis of the reliability of forecasting models, which we have conducted by using J.P. Morgan data dating back to June 1991. Every week, for 26 years, J.P. Morgan has conducted a survey of approximately 40–60 client accounts, including money managers, hedge funds, and sovereign wealth funds. The survey asks clients to select one of three positions: are they "long duration," "neutral duration," or "short duration"? This essentially is asking the clients: "What is your view on interest rates?" If they are short, they're betting that Treasury rates are heading higher. If they are neutral, they have no opinion on the direction of rates. If they are long, they believe that Treasury yields will decline.

Every week, we use this J.P. Morgan data to determine the percentage of the target client base that is net long—that is, the percentage of respondents saying they are long duration minus the percentage saying they are short duration. If net long is a positive number, that week's survey shows that the market (as represented by these investors) on net believes that Treasury yields are going to decline. If net long is a negative number, then the market expects that Treasury yields are going to head upward.

What, then, do we do with that information? First, we take a look at what happened to the 10-year Treasury yield over the subsequent one-week, one-month, and three-month periods after the survey is taken. So, if the investors were positive net long—meaning they believed Treasuries will decline—they are proven right if Treasury yields actually declined over a subsequent one-week, one-month, or three-month period. If investors were negative net long, they are proven right if Treasury yields actually increased over a subsequent time frame. As Table 1 shows, the batting average (fourth column) suggests that the clients surveyed (as a market-representative group) *were not right a majority of the time*.

TABLE 1. INVESTORS FAILED TO FORECAST THE DIRECTION OF INTEREST RATES CORRECTLY A MAJORITY OF THE TIME

JP Morgan Treasury Client Survey (data from June 30, 1991–January 30, 2017)

% Net Long = **% Respondents Long Duration** − **% Respondents Short Duration**

"Right" Over Subsequent:	# of Observations	# of "Rights"	"Right" Batting Average
1 week	1308	635	48%
1 month	1304	578	44%
3 months	1296	589	45%

Source: JPMorgan and Lord Abbett. JPMorgan Treasury Client Survey is a weekly survey of 40-60 clients (real money, leverage, sovereign) to inquire of effective duration positioning of long, short, and neutral. The series begins in June 1991.

CAPTURING CONVICTION

What if, though, Treasury yields over the subsequent one-week, one-month, or three-month periods moved in the "right" direction (i.e., as forecasted by investors), but by only one basis point (0.01%). The investors were "right," but were they really "right"? In our opinion, they might as well have been neutral.

So, the second part of our analysis of the J.P. Morgan data attempts to capture conviction—that is, how much confidence did the investors surveyed have in their forecasts? More to the point, did they at least get it "right" when they had high conviction? A high conviction number will be closer to the end points of -100 and +100, meaning that there is a high conviction that Treasury yields are going to move a certain way. For example, if there is a percentage long number that is a very large *positive* number, it means that investors believe strongly that Treasury yields are going to decline. If there is a percentage long number that is a very large *negative* number, it means that investors believe strongly that Treasury yields are going to rise.

The dots of charts 1, 2 and 3, below, represent, respectively, the change in the 10-year Treasury yield over the subsequent one-week, one-month, and three-month periods after the survey was taken. To help our readers get better oriented, the X axis is the conviction axis, so if you move all the way to the right, +60 is the percentage net long number (80% net long - 20% net short = 60% net long). The number +60 shows a strong conviction that Treasury yields are going to decline. When all the forecasts are aligned against the actual movement of Treasury yields—whether one week, one month, or three months after the survey, and over a 26-year period of survey results—the line on each chart is the one that best statistically fits all of the subsequent yield changes. And it is, more or less, a straight horizontal line.

CHART 1: FORECAST VERSUS ACTUAL TREASURY YIELD ONE WEEK AFTER SURVEY

Change in 10-year Treasury yield (%) versus % net long

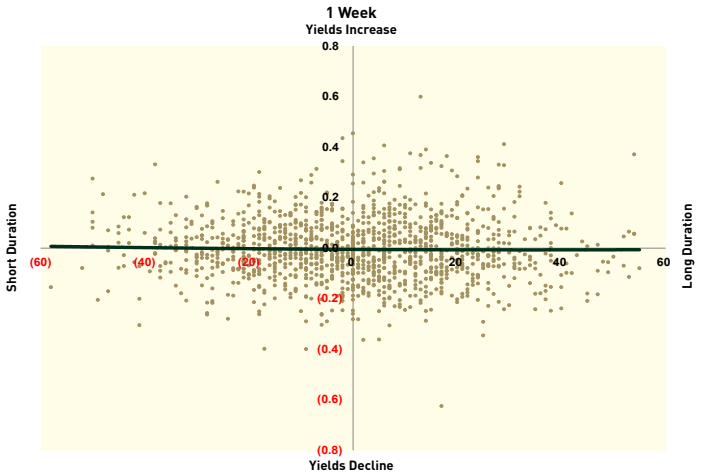


CHART 2: FORECAST VERSUS ACTUAL TREASURY YIELD ONE MONTH AFTER SURVEY

Change in 10-year Treasury yield (%) versus % net long

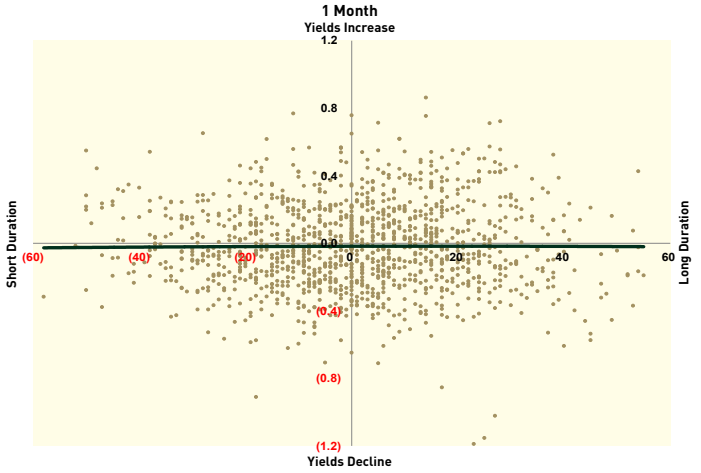
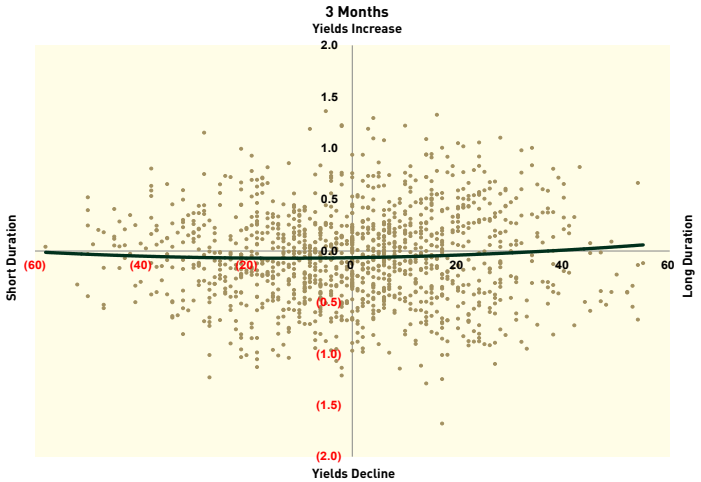


CHART 3: FORECAST VERSUS ACTUAL TREASURY YIELD THREE MONTHS AFTER SURVEY

Change in 10-year Treasury yield (%) versus % net long



Source for charts 1, 2 and 3: Lord Abbett calculations based on data provided by JP Morgan.

One might have expected to see a line that moved sharply upward, from bottom left to top right, for example, on the high conviction that yields are going to decline because yields actually did decline. Or the line might have gone sharply downward, from top left to bottom right, which would have meant that the forecasts were largely wrong. But it did neither: it went exactly down the middle. Or said another way: on average, the subsequent yield change was close to 0 basis points, no matter the investors' level of conviction.

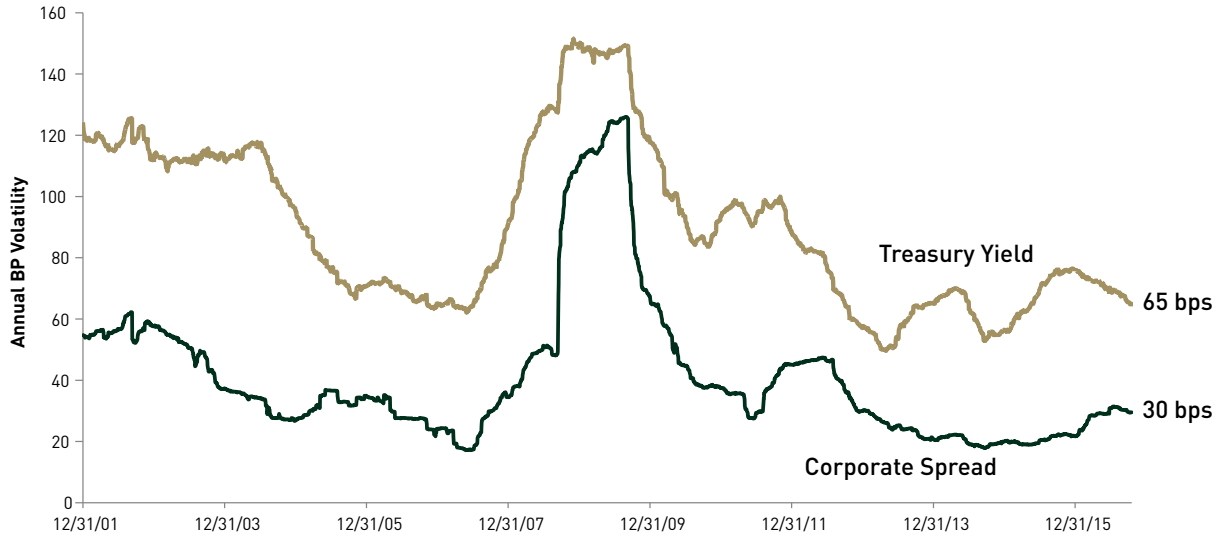
The time frame was of no consequence. It is a coin flip, pure and simple.

As Table 1 illustrates, the batting average for the surveyed investors was approximately 45–48%. Lord Abbett's own analysis concludes that if we were to dedicate significant resources to forecasting the direction or timing of interest-rate changes, we might be right more than 50% of the time—and that would be a success, given the difficulty of forecasting rates.

In fairness, an investor might suggest that a 50% chance of getting it right represents a 50% chance of increasing the return on a portfolio. But there also would be added risk to the portfolio in terms of increased volatility.

CHART 4: TREASURY YIELDS ARE MORE VOLATILE THAN CORPORATE SPREADS

Rolling one-year basis (annualized), December 31, 2001–December 31, 2015



Source: Lord Abbett calculations based on data provided by Barclays Capital.

Past performance is not a reliable indicator or guarantee of future results. The historical data shown in the chart above are for illustrative purposes only and do not represent any specific portfolio managed by Lord Abbett or any particular investment. Indexes are unmanaged, do not reflect the deduction of fees or expenses, and are not available for direct investment.

Would it be worth the risk? As Chart 4 illustrates, Treasury-yield volatility is higher than corporate-spread volatility (a measure of credit risk). That means it wouldn't take much of a move in Treasury yields, compared to what's happening with risk, to negate any benefit of assuming credit risk in a portfolio.

In brief, interest-rate betting would mean that the volatility of Treasury yields would be transmitted into a greater volatility of portfolio performance—and given the difficulty of forecasting (as we've discussed), we believe it is not worth exposing the portfolio to the resulting performance volatility.

THE GOAL OF CONSISTENT PERFORMANCE OVER TIME

Given that our own empirical analysis and those of others suggest the futility of trying to forecast the direction or timing of interest rates consistently over time, we only would add that betting on interest rates would be counter to a goal of providing consistent, risk-adjusted returns over the long term.

As investors, we will always gather knowledge, opine, and be aware of Treasury-yield scenarios and risks, but we always choose to be duration neutral to manage the risk of portfolio volatility. ■

[1] Michiel de Pooter (Federal Reserve Board), Francesco Ravazzolo (Norges Bank), and Dick van Dijk (Erasmus University, Rotterdam), "Term Structure Forecasting Using Macro Factors and Forecast Combination," Board of Governors of the Federal Reserve System, January 2010.

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Glossary of Terms

The **Consumer Price Index (CPI)** is a measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food and medical care. Changes in the CPI are used to assess price changes associated with the cost of living; the CPI is one of the most frequently used statistics for identifying periods of inflation or deflation.

The **Personal Consumption Expenditures Price Index (PCE Index)** measures the price changes of consumer goods and services. Expenditures noted on the index include actual expenditures and expenditures that are attributed to households in the United States; data that pertains to services, durables and non-durables is measured through the index. The PCE is part of the personal income report issued by the Bureau of Economic Analysis of the Department of Commerce.

Duration is a measure of the sensitivity of the price of a fixed-income investment to a change in interest rates. A portfolio is **duration neutral** to its benchmark when it does not express a view on the direction or timing of interest-rate changes. The larger a duration, the larger a mark-to-market impact to prices in a portfolio on yield movements. When yields rise, prices decline and vice versa.

The **yield** is the income return on an investment, such as the interest or dividends received from holding a particular security.

The **yield spread** or **credit spread** is the difference between the quoted rates of return on two different investments, usually of different credit qualities but similar maturities. It is often an indication of the risk premium for one investment product over another.

Treasuries are debt securities issued by the U.S. government and secured by its full faith and credit. Income from Treasury securities is exempt from state and local taxes. Although U.S. government securities are guaranteed as to payments of interest and principal, their market prices are not guaranteed and will fluctuate in response to market movements.

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