SEPTEMBER 2013

INVESTING IN A RISING RATE ENVIRONMENT

MARKET

PERSPECTIVES

EXECUTIVE SUMMARY

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US interest rates have spiked sharply higher in recent months. The yield on the US 10-year Treasury is now more than 100 bps above last summer's all-time low. For investors, this has important implications, potentially creating an investment landscape not seen in years—and impacting both stocks and bonds. This paper takes a look at what this means for investors, focusing on three areas:

Why rates are rising. Higher rates are not, as some might have expected a few years ago, a function of rising inflation expectations. By virtually every measure, inflation is flat or falling and investors have been downgrading their expectations for future inflation. Instead, rising real rates are responsible for the backup in nominal yields. As investors have repriced the timing and pace of a Federal Reserve (Fed) "tapering," real rates have risen from negative territory and are slowly normalizing, albeit at still low levels.

The outlook for rates. While we expect this process to continue over the next 12 to 18 months, we do not expect a "melt-up" in interest rates. There are several headwinds to a quick rise in rates, including: short-term rates still anchored at zero, few inflationary pressures, a dearth of private sector supply due to the ongoing deleveraging, less issuance from the US government thanks to smaller deficits, significant buying by other central banks, and demographics.

What it means for investors. We don't believe we are facing the bond market meltdown that some fear, but even a modest backup in yields will have a significant impact on asset allocation:

- Within fixed income portfolios, lower duration and employ more flexible strategies.
- Raise the allocation to equities. While not a panacea, in the past equities have offered some diversification and have outperformed bonds in a rising rate environment.
- Within equities, investors should avoid heavily indebted sectors and those viewed as bond proxies, which are the most vulnerable to multiple compression.
- From a style perspective, large and mega cap valuations typically withstand rising real yields better than small and mid cap names.

THE END OF THE AFFAIR

"It was the best of times, it was the worst of times"
— Charles Dickens

Looking back a few years from now, investors are likely to have mixed emotions. Few are likely to feel nostalgic for the repeated summer swoons or dysfunctional public policy debates. That said, the volatility of the past four years had one consistent feature: whatever happened, it seemed to always trigger a rally in bonds, pushing US bond yields lower. So low in fact, that by the summer of 2012 the yield on the US 10-year note hit an all-time low, below 1.4%. For bond investors, those were the best of times.

At first, this low-rate regime seemed to persist into 2013. As recently as early May, interest rates were still flirting with all-time lows, with the 10-year yield back down to 1.6%. Since then yields have risen abruptly, although it is still important to highlight that compared to any period of the past 60 years, rates still remain unusually low (see Figure 1).

As Figure 1 illustrates, even today rates are a fraction of levels seen in the 1980s and 1990s. Interest rates even appear low compared to the 1950s and 1960s. Over the past three years, the yield on the 10-year Treasury note has averaged 2.3%, a level that is barely half the average of the period 1953 to 1970. While many investors have pointed out that the recent inflection point represents an end to the 30+ year bull market in bonds—a proposition we would agree with—long-term yields are only back to where they were two summers ago.

NOT THE USUAL SUSPECT

The rise in rates came abruptly, but not as a complete surprise. Investors had been expecting higher rates for years. But while the directional move was as expected, the cause was less so.

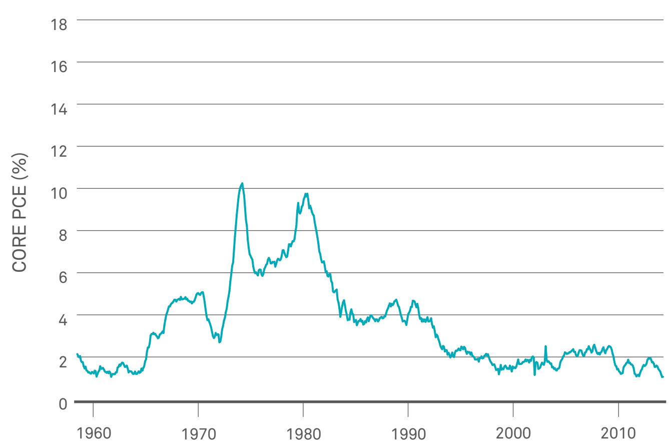
Most investors expected rates to rise on inflationary fears. Yet today, regardless of how you measure it, inflation is low. Headline inflation is currently running at 1.8%, and has averaged just 2.2% for the past three years. Stripping out more volatile factors like food and energy, so called core inflation is running around 1.6%, right in line with the three-year average. Finally, based on the Fed's preferred metric, the personal consumption expenditure, inflation is bouncing along at multi-decade lows of just over 1% (see Figure 2).

From the perspective of bond markets, even more important than actual inflation are inflation expectations. While the two are obviously closely related—for example, expectations for future inflation are heavily influenced by the recent past—it is the expectations component that is a key driver of nominal rates. Today, as you'd expect in an environment in which inflation is low and by some measures falling, inflation expectations are also low (see Figure 3). As of mid-July, breakeven rates on 10-year Treasury Inflation-Protected Securities (TIPS) were around 2%, in line with the 15-year average. Again, the interesting thing to note is that inflation expectations have actually been falling while nominal rates have been on the rise.

FIGURE 1: US LONG-TERM INTEREST RATES STILL UNUSUALLY LOW

Source: Bloomberg 7/15/13.

FIGURE 2: INFLATION AT MULTI-DECADE LOW: CORE PERSONAL CONSUMPTION EXPENDITURE (1960 TO PRESENT)



Source: Bloomberg 7/15/13.

THE REAL REASON

Rather than rising inflation expectations, the backup in yields can be wholly attributed to rising real, or inflation-adjusted, yields with investors anticipating an end to the Fed's quantitative easing (QE) program. The yield on 10-year TIPS—a proxy for real interest rates—ended June at 0.45%, up from a low of -0.86% in late 2012 (see Figure 4). That said, while real rates have backed up substantially, they are still extremely low by historical standards. In the 10 years between 1997 and 2007, real 10-year yields averaged 2.86%, close to where economic theory suggests they should be. It should come as no surprise that investors have been so fixated on Fed policy, particularly QE; historically, real rates are largely driven by the Fed. That has certainly been the case in recent years.

Why the backup in real rates? The likely answer is that real rates have been and, to a large extent, continue to be artificially low thanks to the Fed's asset purchase or QE programs. In recent months real yields have adjusted as investors began to anticipate an end to Fed buying, currently $40 billion a month in mortgage-backed securities and another $45 billion of long-dated US Treasuries. Investors always understood that the program came with an expiration date, but the timing of the Fed's statements took most by surprise—particularly considering that economic growth is still stuck below the 2% level. This led to a quick repricing based on the timing and speed of a Fed exit, pushing long-term rates up in the process.[1]

To the extent that the Fed's buying has kept rates lower than they would have otherwise been, the current repricing is a rational response to changing expectations. And while the recovery is still far from impressive, certain metrics—notably housing and the labor market—are improving. Home prices are up in the double digits year-over-year and job creation has accelerated modestly—from around 180,000 a month in 2012 to roughly 200,000 a month in 2013. In other words, while growth remains slow, it is still fast enough that, in the absence of Fed buying, real rates would likely be higher than they are today.

For example, the improvements in the housing and labor markets, coupled with a resurgent stock market, have led to a predictable surge in consumer confidence. From the end of January through the end of June, the Conference Board's Measure of Consumer Confidence improved from 58.4 to over 81, a 5+ year high. Based on the historical relationship between consumer confidence and real interest rates, you would expect real rates to rise by approximately 80 bps. As investors look to a future with a less aggressive Fed, this normalization in yields is starting to occur (see Figure 5).

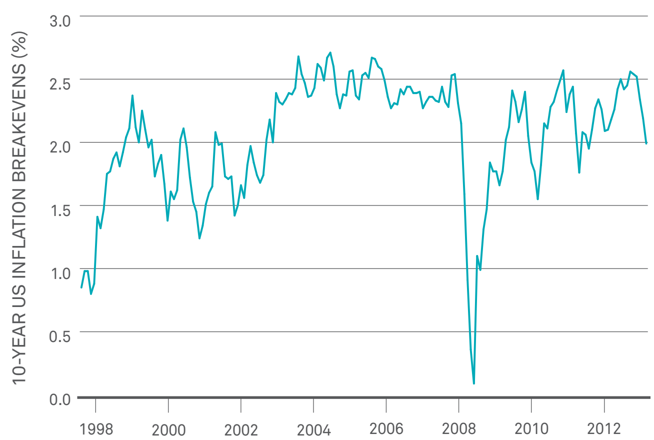
1. Source: Bloomberg. Unless otherwise indicated, the source of data in this paper is Bloomberg as of 7/15/13.

HOW HIGH?

While the backup in rates has been contained to date, most investors are more worried about what happens next. The short answer is that interest rates, particularly real rates, are likely to continue to rise in the coming years. Without assuming any meaningful acceleration in inflation, rates still have more room to rise, as real interest rates remain exceptionally low by most standards.

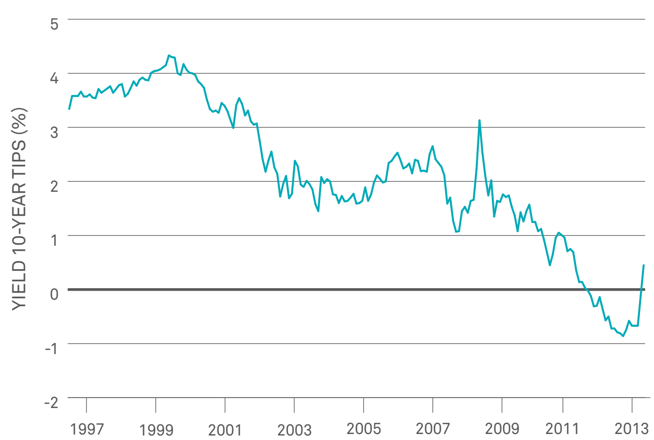
Prior to the introduction of the TIPS markets in 1997, it was harder to calculate the real interest rate. A simple metric—10-year yield minus core inflation—provides a rough proxy. Over the past 60 years, US 10-year real rates have averaged around 2.50% (see Figure 6). Real rates were low or negative for much of the 1970s due to unexpected inflation and they were unusually high in the 1980s. But up until the start of the financial crisis, real yields were relatively stable over the long term.

FIGURE 3: US 10-YEAR INFLATION EXPECTATIONS (1998 TO PRESENT)



Source: Bloomberg 7/15/13.

FIGURE 4: US REAL INTEREST RATES (1997 TO PRESENT)



Source: Bloomberg 7/15/13.

Assuming no change in inflation expectations, were real rates to revert back to their historical average, the yield on the 10-year note would climb another 2% to approximately 4.5% to 5% in the coming years. Obviously, if markets begin to fear that the Fed is losing control of inflation, the backup in yields would be much more pronounced. But even a 4.5% or 5% 10-year yield would still be a radical departure from today's environment.

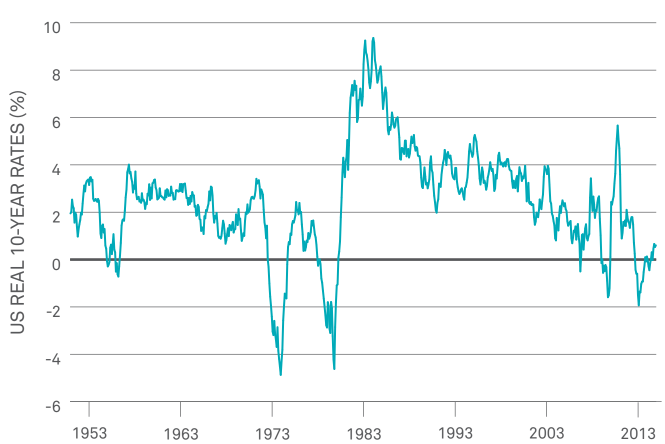
Fortunately, even if we do gravitate back toward this level, the path may be slower than some expect. There are several cyclical factors, as well as a few longer term ones, that are likely to combine to restrain the rise in rates.

First, given the uneven pace of the recovery we would expect that the Fed is likely to continue to purchase long-dated bonds into 2014. And while the pace will slow, it is important to put the deceleration in buying in the context of an improving US fiscal position. Between 2009 and 2012, the US fiscal deficit was consistently at or above $1 trillion. This year the deficit is likely to be significantly lower, in the $500 billion range. While the Fed will be buying less, there will be less supply to absorb.

FIGURE 5: US CONSUMER SENTIMENT & REAL RATES (1997 TO PRESENT)

Source: Bloomberg 7/15/13.

FIGURE 6: US REAL LONG-TERM RATES (1953 TO PRESENT)



Source: Bloomberg 7/15/13.

Second, as the Fed has gone to pains to highlight recently, cessation of QE does not necessarily translate into rising short-term rates. Slow improvement in the labor market, low inflation and a preponderance to keep monetary policy loose suggest that short-term rates are likely to remain close to zero for at least another year, and perhaps much longer. With short-term rates anchored at zero, there are practical limits to how far long-term rates are likely to rise.

Third, if the Fed allows rates to rise too quickly, it would most likely hurt the housing recovery and the household sector by extension. Higher home prices and the accompanying "wealth effect" have to some degree been propping up the consumer. A sharp rise in rates could undercut that trend, leading the Fed to take steps to rein rates back in.

Fourth, it is important to note that the Fed is not the only large institutional buyer of US Treasury debt. Other official institutions have also been active buyers, and are likely to continue to be so in the coming years. While private foreign investors sold long-term government US debt in May, official sector institutions—such as the Bank of Japan and the People's Bank of China—were big buyers. In May, China bought about $22.5 billion in Treasury notes and bonds, the third largest gain since records began in 1985. This drove Chinese holdings to a record $1.316 trillion, compared with the previous peak of $1.315 trillion in July 2011. In addition, Japan also remains a big buyer of both US Treasury and Agency debt (see Figure 7).

Finally, there is a dearth of high quality long-dated bonds. As the private sector deleveraging continues, there are fewer sources of debt. This leaves pension funds, insurance companies and other large institutions scrambling for bonds in an environment of diminished supply.

BABY BOOMER BOND BINGE?

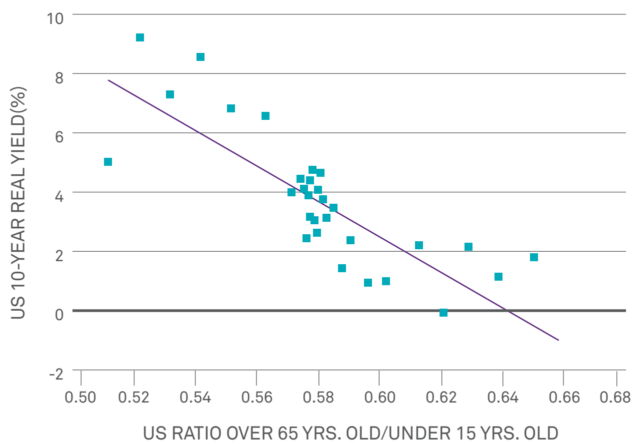
There is an additional factor that may act to suppress yields, not only over the next year or two but over the longer term. As everyone is aware, demographics are changing rapidly. And while the United States looks much better than virtually any other developed country, the United States is still aging. This has important implications for real interest rates. As we first outlined in "Not So Golden Years: How an Aging Society

FIGURE 7: FOREIGN CENTRAL BANK HOLDINGS OF US TREASURIES

	TSY Holdings ($bn)	Agency MBS Holdings ($bn)
China	1,170	196
Japan	1,133	258
Middle East	260	12
Brazil	257	2
Taiwan	193	45
Switzerland	187	19
Russia	164	0
UK	145	11
Luxembourg	145	26

Source: BlackRock, Bloomberg

FIGURE 8: US REAL 10-YEAR YIELDS AND DEMOGRAPHICS (1981 TO 2011)



Source: Bloomberg 7/15/13.

Can Impact the Markets," (*Market Perspectives*, June 2012), there is a significant body of evidence to suggest that, all else equal, older populations are generally associated with lower real interest rates.

There are at least two mechanisms by which demographics impact the cost of money, as measured by real rates. First, older people generally consume and borrow less, suggesting less supply of mortgage- and asset-backed securities. As the supply drops, prices rise and yields fall. Second, more retirees imply more demand for fixed income instruments, which will also have the effect of raising the price and lowering the yield. Indeed, at least historically, US real yields have generally fallen as the population has aged (see Figure 8). Demographics actually explain a significant portion of the variation in real yields over the past 30+ years.

MUCH ADO ABOUT NOTHING

Of course, the question of inflation is the specter hanging over the future direction of rates. As noted above, rising inflation expectations could lead to a much larger and quicker backup in interest rates. What is the outlook for inflation then?

Given the unprecedented nature of the current monetary experiment, the long-term outlook for inflation is very uncertain. But in the near term, there appears to be little inflationary pressure. This is true not only in the United States, but also in other large, developed countries. Core inflation among Organization for Economic Co-operation and Development (OECD) countries is currently running at approximately 1.50% (we focus on core inflation as current core prices are a better indicator of future inflation than the headline number). Furthermore, in the United States a strong dollar has also helped contain inflation. Import prices are up a scant 0.2% and are actually down 0.5% once you strip out energy.

Wage inflation also remains almost non-existent. This is important, as it will be difficult to see a broad acceleration in inflation with wages still stagnant. Spare capacity in the labor market has kept a tight lid on income growth. While the unemployment rate has dropped roughly 2.5% from its recent peak of 10% in October 2009, much of the fall has been driven by a lower participation rate, i.e., fewer working age Americans engaged in the labor force. When you broaden the definition of unemployment to include those in part-time work looking for full-time work, one in seven Americans are underemployed.

With excess capacity still persistent in the US labor force it is no surprise that wage growth has been anemic. Disposable income in the United States is up less than 3% year-over year. Not only is this well below the 50-year average of nearly 7%, it is also comfortably below the even more muted gains of the past three years. Without a pickup in wage inflation, it will be difficult to witness a meaningful acceleration in inflation.

The final point is that even for monetarists—those who focus on the quantity of money—a pickup in inflation does not look likely over the next one to two years. M2, the most popular definition of the money supply, is up barely 7% year-over-year and monetary velocity, the turnover in money, is close to a historical low. While the Fed has dramatically expanded the monetary base, also known as "base money," the supply of money has not increased dramatically. This is because credit creation has been sluggish in the face of a consumer deleveraging and a multi-year effort by banks to repair their balance sheets.

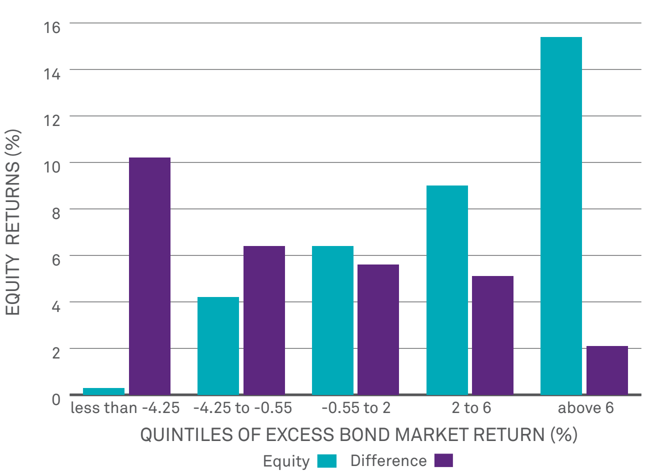
True, certain measures of credit creation, notably commercial and industrial loan demand, have accelerated over the past few years, but a cautious consumer means that overall credit growth remains weak. Finally, even when credit growth begins to accelerate, there is likely to be some lag before inflation really heats up. At least historically, there has been a significant lag (around two years) between acceleration in money supply growth and higher inflation. This suggests that even if credit growth starts to accelerate, we're unlikely to see a significant pickup in inflation before 2015.

WHAT TO DO? EQUITIES OVER BONDS

Many investors have already started repositioning their portfolios for a rising rate environment, but this is likely to be a multi-year process. The implications on the bond side are fairly well understood: move into lower duration investments, embrace the use of more flexible mandates and consider floating rate instruments. In addition, we would be cautious on TIPS. Many investors incorrectly believe TIPS will provide protection in a rising rate environment. In fact, TIPS are designed to help protect investors against rising inflation; with real rates rising —and inflation held in check—TIPS are unlikely to provide the protection many investors are assuming.

What to do on the equity side is often less intuitive. Here are a few guidelines:

FIGURE 9: EQUITY RETURNS BASED ON BOND MARKET PERFORMANCE (1900 TO PRESENT)



Source: DMS data is collected by Dimson, Marsh and Staunton as described in "101 years of global investment returns" (2002) and updated annually.

> *"The upshot is that investors who are concerned about rising rates can benefit from a larger equity allocation."*

Shift the portfolio mix toward stocks. While equity returns are correlated with bond returns over the long term, the correlation is relatively low. In other words, equities still tend to be diversifying. More importantly, at least historically, as you would expect they have withstood rising rates better than bonds.

My colleague Dr. Daniel Morillo recently outlined the sensitivity of equities to different bond market regimes.[2] Over the long term, the average excess return of equities is higher than that of bonds; stocks do improve portfolio performance during periods of rising rates. The accompanying chart (see Figure 9) illustrates the return for equities and the difference in equity returns and bond returns for periods sorted (in quintiles) by the excess return of bonds. The leftmost bar in the chart shows that during periods when bond excess returns are in their lowest quintile (i.e., negative 4.25% or less) equity returns are, on average, 10% better than bond returns.

The upshot is that investors who are concerned about rising rates can benefit from a larger equity allocation. Assuming nominal rates are being driven higher by rising real rates, this typically happens in the context of an improving economy. To the extent stronger economic growth drives faster earnings growth, this helps offset the impact of higher rates.

However, if unexpected inflation is driving rates higher, both stocks and bonds tend to get hit. The cost of the higher equity allocation will be higher volatility. As always, there is no free lunch and investors must decide just how much more risk they are comfortable taking in exchange for potentially better results if rates do continue to rise. In short, while equities can be a useful diversification and counterpoint for bonds in periods of rising rates, investors need to evaluate how much of that "risk cost" they are willing to take on as they assess how much they use equities and how much they reduce duration to position for rising rates.

Within equities, avoid segments of the market that are most vulnerable to rising rates, such as utilities. Utility companies, often considered bond market proxies, typically respond poorly to rising real rates. While returns are not overly dependent on real rates, valuations are. When real rates

2. "The Risk of Using Equities as a Rising Rate Hedge," Daniel Morillo, August 2013. Accessed at http://www.blackrockblog.com/2013/08/06/risk-equities-rising-rate-hedge/

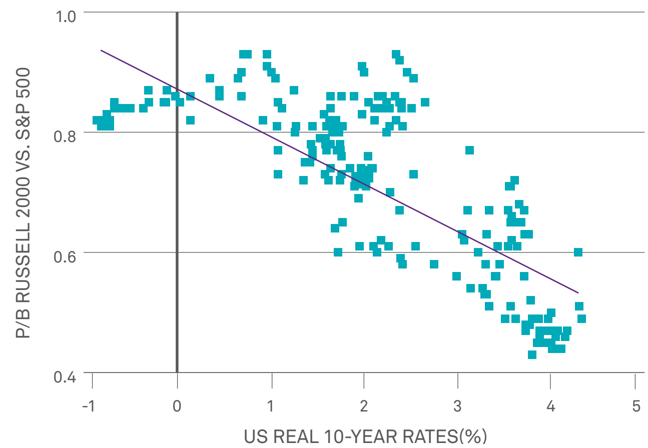
rise, the relative valuation of utilities—the sector's P/E relative to the market—compresses. This suggests that if utility valuations are high, as they are today, the sector is likely to underperform in a rising rate environment as investors become less willing to pay up for each dollar of earnings.

Equity sectors that are resilient to rising rates? Technology, for one. Certain sectors, such as technology, actually have a tendency to undergo multiple expansion when real rates are rising. There are several reasons why this is so. First, the technology sector carries little debt, which means tech firms are less vulnerable to margin compression from rising rates. Second, as with other cyclical companies, real rates generally rise in the context of a strengthening economy, a regime favorable to cyclical companies like technology.

Finally, prefer large and mega cap stocks over small and mid cap. From a style perspective, while all parts of the market witness slightly lower valuations when real rates are higher, the most sensitive are mid and small caps. The intuition is that these companies, along with other risky assets, typically perform best in an environment when monetary policy is very accommodative—evidenced by low real rates—and investors are in a "risk seeking" mode. During these periods, small and mid cap companies tend to trade at higher valuations relative to larger, more stable companies. As real rates rise, valuations relative to large cap firms tend to decline (see Figure 10).

Today, small cap stocks are trading at a relatively expensive level versus large cap companies. When real rates were negative, this premium may have been justified. However, to the extent that real rates continue to normalize, it will be harder to defend this premium, suggesting some compression in the valuation of small caps relative to large caps. Unless small cap companies can generate significantly faster earnings growth, this suggests large and mega caps are likely to do better in an environment of higher real interest rates.

FIGURE 10: REAL RATES AND SMALL CAP RELATIVE VALUATION (1997 TO PRESENT)



Source: Bloomberg 7/15/13.

CONCLUSION

"If you do not change direction, you may end up where you are heading."
—Lao Tzu

Long-term interest rates are rising but remain low, whether measured by nominal or real rates. Still, it is hard to argue that the recent backup in rates has brought the bond market back to equilibrium. While several factors are conspiring to prevent a melt-up in rates, even if inflation remains tame real rates are likely to rise in the coming years. This suggests that investors will want to continue to adjust and change their portfolios in the coming months.

For bond investors, the prescription is to lower the portfolio's duration while considering mandates that can be opportunistic and tactical, taking advantage of overshoots in the bond market.

For equity portfolios, the guiding principle is to reduce allocations to two groups of stocks: those heavily reliant on debt financing and bond market proxies. In addition, small cap stocks, particularly at these valuations, appear vulnerable to a less accommodative monetary environment. At the same time, investors should have more confidence in the resilience of large and mega cap companies to withstand rising rates.

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