

What Happens to Stocks when Interest Rates Rise?

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Interest rates have fallen since the early 1980s, and during this time stocks have enjoyed generally strong returns. For many investors, falling interest rates are the only environment they have known. Now, as interest rates start to rise, many investors are wary of the effects that rise will have on stocks. Numerous warnings can be found in the practitioner and popular press. For example, *Investment News* stated in its February 5, 2018, edition (Waggoner [2018]): “The problem with higher rates is that they may ultimately hit the stock market harder than the bond market. Higher interest rates slow the economy and the stock market.”

That higher rates are bad for stocks seems to be conventional wisdom for many, but is such an assumption valid? More generally, what is the relationship between changes in interest rates and various segments of the equity market? This article seeks to answer these questions. Generally, there is no definitive relationship between stocks and changes in interest rates, although in some segments of the market caution may be warranted.

I start with an overview of the interest rate environment over time and then briefly discuss theoretical reasons for stocks’ potential reactions to changes in these rates. Next, I examine the historical evidence, starting with both the U.S. and international broad equity markets, and find little predictability.

I then look at a variety of market segments given by equity factors and sectors. Although in most cases there is little relationship, investors should be wary of higher-dividend-yielding stocks and the utilities sector.

DATA

All data used in this article come from well-known, publicly available sources. I do this for three reasons: (1) I’m lazy. (2) Whereas using my own data might raise suspicions of special definitions to serve my purpose, the data here come from well-respected academics, practitioners, and organizations. (3) Readers can easily access the data to replicate results and try their own variations.

Specifically, S&P return data and U.S. bond yields and returns come from the websites of Professors Aswath Damodaran¹ and Robert Shiller.² Damodaran’s website also provides bond returns whereas Shiller’s has dividends. International bond yields come from the Organisation for Economic Co-operation and Development (OECD).³ International stock returns and the domestic

¹http://www.stern.nyu.edu/~adamodar/New_Home_Page/data.html.

²<http://www.econ.yale.edu/~shiller/data.htm>.

³http://stats.oecd.org/index.aspx?DatasetCode=MEI_FIN.

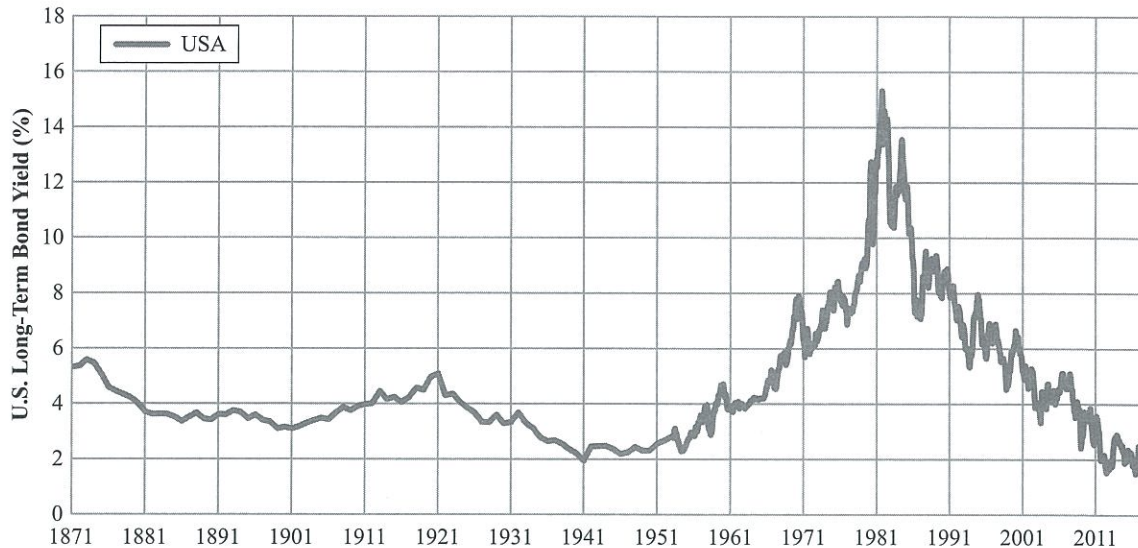
Roll, R. 1977. "A Critique of the Asset Pricing Theory's Tests Part I: On Past and Potential Testability of the Theory." *Journal of Financial Economics* 4:129–176.

Saxena, K. 2017. "Unconditional Asset Pricing When Betas Covary with the Riskless Rate." Working Paper, SSRN, <https://ssrn.com/abstract=2667504/>.

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EXHIBIT 1

U.S. Long-Term Bond Yield, 1871–2017



Source: Robert Shiller (see footnote 2).

quality minus junk (QMJ) factor are provided by AQR.⁴ Other factor returns and sector returns come from Professor Ken French's data library.⁵ Three-month Treasury bill yields are from the St. Louis Federal Reserve.⁶ Data always end in December 2017, and I go back as far as the sources allow. All data were downloaded on February 15, 2018.

BOND YIELDS: HOW LOW CAN YOU GO?

Exhibit 1 shows historical long-term U.S. government bond yields going back to 1871. A key point is that we have really had just two and a half cycles of bond yields in this history: a fall and then a rise in rates with peaks in 1873, 1921, and 1981. Since then we have had about 35 years of falling rates, which is all that many investors have experienced in their careers. Bond cycles are very long indeed, and any attempt to extrapolate history must be cognizant of the very limited set of cycles from which we can draw. Indeed, at the start of this history the United States was a very different place—an emerging market fresh off the bitter Civil War. There

is no guarantee that the next cycle of rising rates will look like the two we have in our history.

Yields are obviously very low today, although still over a percentage point higher than the historic lows of 2012 and 2016. However, although it may seem that yields are bound to rise from here, that is certainly not guaranteed. At multiple times in the past, few decades' yields experienced upward spikes, and numerous prognosticators called the end of the bond bull market. Indeed, we saw this as recently as 2012. Yet rates ended up falling back each time. A key point for those planning for an increase in interest rates is that such an occurrence may not happen anytime soon.

The possibility of such a continued fall in interest rates is confirmed by looking at international government bond data, as seen in Exhibit 2. The data go back to 1989, which is when OECD's history of Japanese bond yields starts. Selected countries are shown to make the point that, although U.S. bond yields are low relative to their history, they are not that low compared to other countries. Germany, Japan, and Switzerland all have lower rates, as do many other nations. Japan has been below 2% for most of two decades, so low rates can certainly persist. Germany's rates tracked the United States' fairly well until 2013 and then dipped much lower. All three of these other countries saw negative yields on

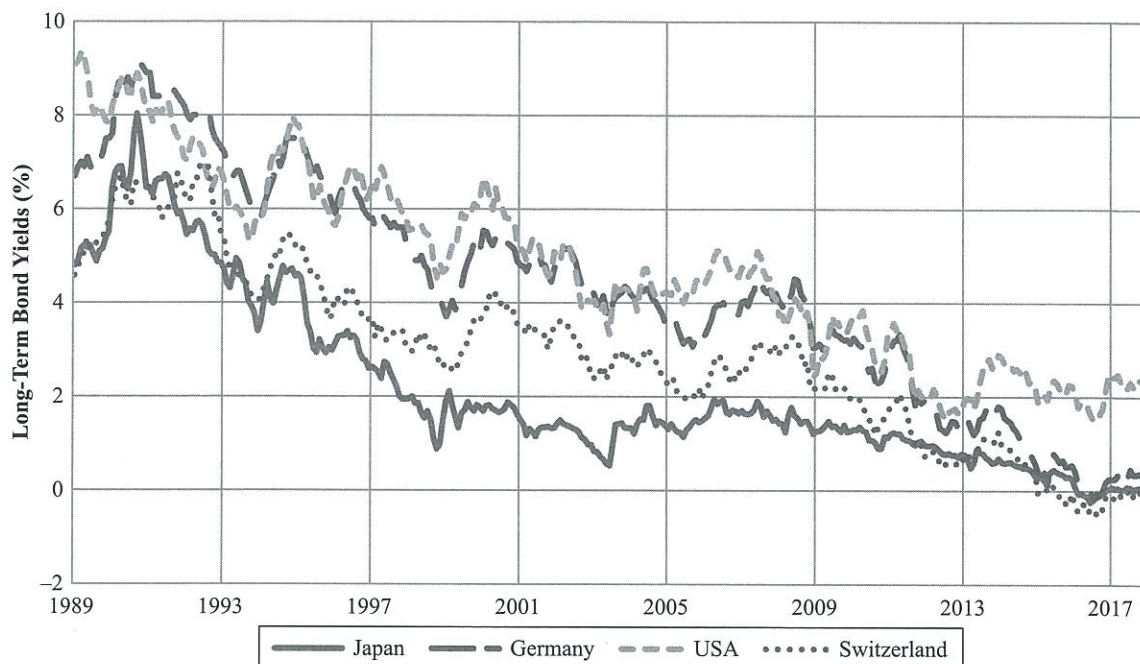
⁴<https://www.aqr.com/library/data-sets>.

⁵http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.

⁶<https://fred.stlouisfed.org/>.

EXHIBIT 2

Select Global Long Bond Yields



Source: OECD (see footnote 3).

their long-term bonds, with Switzerland still below zero at the end of 2017.

As we look at what happens when interest rates rise, it is important to remember that such a rise may not come for a long time and that indeed rates could still fall further. Plus, we have a limited history to look back on in terms of interest rate cycles. Within these long cycles, however, have been periods when rates rose as well as fell, and we can use these data to get information on what happens to the equity market when rates change. Before doing so, let's look at what theory has to say.

BOND RATES AND STOCK RETURNS: THE THEORY

Why might stocks go down when yields rise? Basic investment theory says that the value of an investment should equal the sum of its discounted future cash flows. Therefore, as interest rates rise, so should the discount rate, which implies that stocks should be worth less. Higher rates also slow the economy, which can dampen earnings and cash flows. Furthermore, higher yields

make fixed income more attractive, and equity valuations may suffer.

However, there are also reasons why stock returns may be positive in the face of higher yields. Rising rates reflect a robust economy, which should enhance corporate profits and cash flows. Additionally, the market should have already priced in expected changes in interest rates and cash flows. Certainly, a rise in bond yields is not unexpected.

There are good reasons for both sides of the direction of stocks, and which side will win out is hard to say. In contrast, bond math is very clear for fixed income: As yields go up, bond prices come down. A key point for investors is that, instead of fixating on equities, they should be very concerned with the fixed income side of their portfolios.

As noted in the introduction, I find interest rates have little predictability for stock returns. Of course, equities are influenced by a variety of factors, and a multivariate model may be more appropriate. One approach is to identify a set of variables and then systematically use techniques such as regression to make forecasts. However, a paper by Welch and Goyal [2008]

EXHIBIT 3

Returns of U.S. Stocks and Bonds

	Yield Down or Up		Quintile by Magnitude of Yield Change				
	Down	Up	Down Most	Down	Mid	Up	Up Most
Panel A: Return of the S&P 500 According to Direction of 10-Year Bond Yield							
Mean	10.81%	12.22%	10.00%	10.84%	11.25%	16.52%	9.03%
Stdev	19.68%	19.76%	20.14%	19.35%	20.88%	17.09%	21.71%
Count	44	46	18	18	18	18	18
Min	-36.55%	-43.84%	-36.55%	-25.12%	-35.34%	-14.31%	-43.84%
Max	52.56%	49.98%	37.20%	46.74%	52.56%	43.81%	43.72%
Panel B: Return of 10-Year Bond According to Direction of 10-Year Bond Yield							
Mean	10.32%	0.21%	17.23%	6.41%	3.07%	1.61%	-2.56%
Stdev	7.28%	4.03%	6.10%	2.86%	1.75%	1.98%	4.79%
Count	44	46	18	18	18	18	18
Min	2.49%	-11.12%	8.79%	2.97%	0.92%	-2.02%	-11.12%
Max	32.81%	8.22%	32.81%	13.73%	8.22%	6.24%	8.20%

Note: Data from 1928 to 2017.

Source: Aswath Damodaran (see footnote 1).

examined a number of variables identified in the literature and found “these models would not have helped an investor with access only to available information to profitably time the market.”

Another more subjective approach is based on the investor’s view of the scenarios and variables they think will matter in the future. For example, the IS-LM model gives the relationship between interest rates and gross domestic product (GDP) by looking at the intersection of the investment-saving (IS) and liquidity preference–money supply (LM) curves. Based on this model, an investor would need to forecast the future direction of interest rates and their impact on GDP, comparing that with what is anticipated by other investors.⁷ Such an approach allows one to change the variables and techniques depending on the situation. However, such flexibility also makes assessing the predictive power ahead of time more difficult.

Ultimately, assessing the combination of interest rates and other variables is beyond the scope of this article. My aim here is motivated by the large amount of attention given to interest rates alone and the belief in their negative impact on equities. I next analyze the historical evidence to see if such claims are warranted.

⁷I thank an anonymous referee for this point, as well as comments on other parts of the article.

BOND RATES AND STOCK RETURNS: THE EVIDENCE IN THE UNITED STATES

Because theory is ambiguous, let’s take a look at what has actually happened to stocks when interest rates change. I am interested in intermediate- to longer-term results throughout this article; thus, returns are at an annual level or longer. Such longer time frames lessen the impact of noise from short-term fluctuations, the details of timing, and transaction costs.

Exhibit 3 shows the returns of U.S. stocks (Panel A) and bonds (Panel B) according to the contemporaneous change in bond yields for a given year. Similar tables are used throughout this article, so I will go over it carefully here. The left two columns of numbers give returns according to the direction of the change in yields. These 90 years were split almost evenly between negative (44 years) and positive (46 years) changes in yield. Whether yields were up or down, stocks did quite well on average. The mean return to the S&P 500 was 10.81% when yields fell and somewhat higher at 12.22% when yields rose. In both cases, however, there was large variation in returns, as can be seen by standard deviations of almost 20%. Furthermore, minimum and maximum returns were quite extreme whether yields were up or down.

Panel B, on the other hand, tells a different story for bonds. Unsurprisingly, given the bond math, returns

EXHIBIT 4

Mean S&P 500 Return by Direction of 10-Year Bond Yield

	Yield Down or Up		Quintile by Direction of Yield Change				
	Down	Up	Down Most	Down	Mid	Up	Up Most
Same Year	10.73%	10.19%	9.26%	12.80%	10.08%	11.55%	8.62%
Next Year	13.31%	7.55%	14.17%	11.33%	11.23%	6.23%	8.80%

Note: Data from 1871 to 2017.

Source: Robert Shiller (see footnote 2).

were quite nice at 10.32% annually on average when yields fall. When yields rise, the average return was just 0.21% because the yield component was just enough to overcome the fall in prices. Standard deviations are much lower than for equities, reflecting that bonds move much less than stocks. Similarly, the minimum and maximum returns shown in the bottom two rows have a lower range than for equities. However, the worst year for bonds when rates fall still sees a positive 2.49%, whereas when rates rise, stock returns are more symmetric about zero.

Thus, there is little evidence that rising rates alone are bad for stocks, whereas bonds are weak. But what about sharper rises in rates? The rightmost five columns of Exhibit 3 give the same data for stocks and bonds, but now the change in rates is divided into quintiles. The Down Most column gives results for the 20% of years when rates fell the most, and the Up Most column is for the 20% of years when rates rose the most. Intermediate cases are in the middle three columns.

Again, for stocks, we see little difference in returns with the magnitude of rate changes. In all cases, stock returns are on average quite strong, although with a high deviation and wide dispersion. Bond returns, however, fall monotonically as we move from the largest drop in rates to the sharpest rise. Equity investors need not fear a rise in bond yields as anything special, but fixed income investors should.

These results are for returns in the same year as yield changes. Perhaps there is a delayed reaction, in which the impact of a rise in rates hits stocks later. Such an effect would be good to recognize because an investor would be able to look at a change in rates this year and make decisions about prospective returns next year.

Exhibit 4 uses an even longer series of returns to examine stock returns in the year after a rate change.⁸ The top row of numbers gives average stock returns in the same year as a rate change. Despite the longer history, qualitative results are the same as in Exhibit 3, with stocks doing fine in all rate environments. The second row gives average stock returns in the year after a rate change. Here, we see some evidence that stocks do better when rates fall. When yields move, lower equities returned 13.31% on average in the next year, compared to 7.55% in the year after rates rose. Looking by magnitude of yield change, stock returns are highest at 14.17% in the year after rates rose the most. This is notably higher than equity returns when rate changes are in the upper two quintiles.

However, a crucial point is that stock returns are still nicely positive in all cases. On average, an equity investor has done just as fine after bond yields rise as when they fall. There is still a lot of variation in these returns; stocks are volatile. Although not shown, standard deviations, minimums, and maximums of returns are all qualitatively similar to those shown in Exhibit 3.

Long-term bond yields are only one way to measure interest rates. Although not shown here for brevity, I also found that stock returns have no consistent relationship with the level of bond yields, the level or change of short-term Treasury bills, and real (inflation-adjusted) yields. Looking at longer-term stock returns of 3, 5, and 10 years also showed no effect. Whatever the variation of measuring rates, the main conclusion still holds: Stock returns in the United States are quite strong on average, with lots of variation, independent of the rate environment. This does not imply that stocks will rise the

⁸Shiller does not provide bond returns; hence, the shorter series by Damodaran is used in Exhibit 3. The history of Exhibit 3 also aligns with that of the factor and sector returns I will examine later.

EXHIBIT 5

Returns of Global Stocks and Bonds

	Yield Down or Up		Quintile by Direction of Yield Change				
	Down	Up	Down Most	Down	Mid	Up	Up Most
Panel A: Stock Market Same Year Return by Change in Long Bond Yield							
Mean	10.71%	15.07%	18.03%	5.92%	5.99%	18.07%	13.29%
Stdev	27.31%	25.81%	28.14%	28.62%	22.86%	25.06%	26.88%
Count	468	244	140	143	145	141	143
Min	-62.69%	-67.10%	-52.66%	-62.69%	-48.68%	-67.10%	-61.90%
Max	138.45%	133.45%	138.45%	101.71%	78.96%	87.27%	133.45%
Panel B: Stock Market Next Year Return by Change in Long Bond Yield							
Mean	16.15%	4.80%	18.95%	20.34%	9.81%	10.94%	1.42%
Stdev	26.31%	25.87%	27.71%	26.44%	24.68%	23.42%	26.53%
Count	464	238	143	143	141	131	144
Min	-51.10%	-67.10%	-41.95%	-51.10%	-48.68%	-62.69%	-67.10%
Max	138.45%	101.71%	138.45%	87.27%	63.95%	101.71%	68.65%

Note: Countries are Austria, Australia, Belgium, Canada, Denmark, Finland, France, Germany, Great Britain, Greece, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, and the United States.

Sources: OECD for bond yields (see footnote 3); AQR for stock market returns see (footnote 4).

next time interest rates go up; there is simply too much variation in returns, and each situation will be different. Rather, the historical record shows that interest rates alone are not a good indicator of how equities will perform.

BOND RATES AND STOCK RETURNS: THE EVIDENCE GLOBALLY

The United States is just one country, and although it does have almost 150 years of data, as we saw that is just two and a half cycles of the bond market. I thus turn to global markets for additional data. As shown in Exhibit 2, bond yields do not move exactly in lockstep.

Exhibit 5 shows results for global data, using 22 developed markets for which both bond yields and stock returns are available from the sources. We now have over 700 data points. Much of the international data go back only to the mid-1980s, and so we have about twice the number of years with falling rates. Panel A gives stock returns in the same year as rate changes and is qualitatively similar to Panel A of Exhibit 3. Whether rates rise or fall, stock returns are still quite positive on average. There is greater dispersion in returns, reflecting the higher volatility of international equities. Looking by magnitudes of yield changes, the middle and modestly

down quintiles⁹ have lower returns than the rest but are still nicely positive. The stock market does quite well indeed when yields rise the most, at 13.27% annually on average.

Panel B gives stock returns for the year after a change in rates. Returns are notably weaker although still decently positive when yields rise, at 4.80% annually, compared to 16.15% when yields fall. When yields rise the most, equity returns are weaker yet at just 1.42%. In contrast, returns are quite strong when yields fall the most or in the next quintile of moderate falls.

Panel B gives stock returns for the year after a change in rates. Returns are notably weaker although still decently positive when yields rise, at 4.80% annually, compared to 16.15% when yields fall. When yields rise the most, equity returns are weaker yet at just 1.42%. In contrast, returns are quite strong when yields fall the most or in the next quintile of moderate falls.

⁹The counts of each quintile are not equal. This results from ties and, in Panel B, from using the same ranks as in Panel A (Exhibit 5). There are fewer data points in Panel B because for countries in which bond history is shorter than equity history we lose the initial year of stock returns because the prior year's change in yield is unavailable. Using the same ranks can lead to slight differences in counts. Whichever way ranking is done, differences in results are slight.

EXHIBIT 6

Stock Market Next-Year Mean Return by Change in Long Bond Yield

	Yield Down or Up		Quintile by Direction of Yield Change				
	Down	Up	Down Most	Down	Mid	Up	Up Most
Non-Europe	12.91%	9.50%	18.38%	6.90%	14.05%	6.65%	10.91%
Europe	17.57%	1.58%	22.08%	18.27%	16.44%	8.91%	-2.02%
Club Med	15.53%	-1.12%	23.55%	13.30%	13.44%	8.05%	-3.17%

Note: Club Med countries are France, Italy, Greece, Portugal, and Spain.

Sources: OECD for bond yields (see footnote 3); AQR for stock market returns (see footnote 4).

Examining the results by country shows that the weakness in stock returns the year after rates rise can be traced to European countries, as shown in Exhibit 6. For the rest of the world, stock returns are comparable and strong whatever the rate environment. In contrast, European stocks were uninspired on average when rates rose at just 1.58% annually. In the fifth of the times in which rates rose the most, European equities lost over 2% annually. Further inspection shows that the so-called Club Med countries were weaker yet, but the rest of Europe still performed poorly when rates rose. Much, but not all, of this weakness was driven by low stock returns in 2008 after the European Central Bank raised rates. The main take-away from a consideration of global stock returns is that there is some evidence of stocks suffering after yields rise. However, the time span considered is more limited and colored by the bear market year of 2008; outside of Europe, stocks hold up just fine.

BOND RATES AND SEGMENTS OF THE EQUITY MARKET

Although stocks as a whole hold up just fine when yields rise, perhaps some segments of the market are affected more than others. In this section, we examine various types of stocks as given by factors known to affect equity risk and return, as well as by sectors. We start with dividend-paying stocks.

High Dividend Yield

Exhibit 7 shows the history of both bond and dividend yields in the United States going back to 1871. For decades, the perception of stocks was that

they were so risky that their dividend yields needed to be higher than government bond yields as compensation. This changed with greater acceptance of stocks and increased regulatory oversight. As bond yields have come down, however, more investors have been reaching for yield in higher-dividend-paying stocks. One can see this, for example, in the large flows into high-dividend exchange-traded funds. Higher-dividend payers have historically been value stocks, with higher book-to-market ratios. In recent years, though, their book-to-market ratios have been comparable to the overall market.

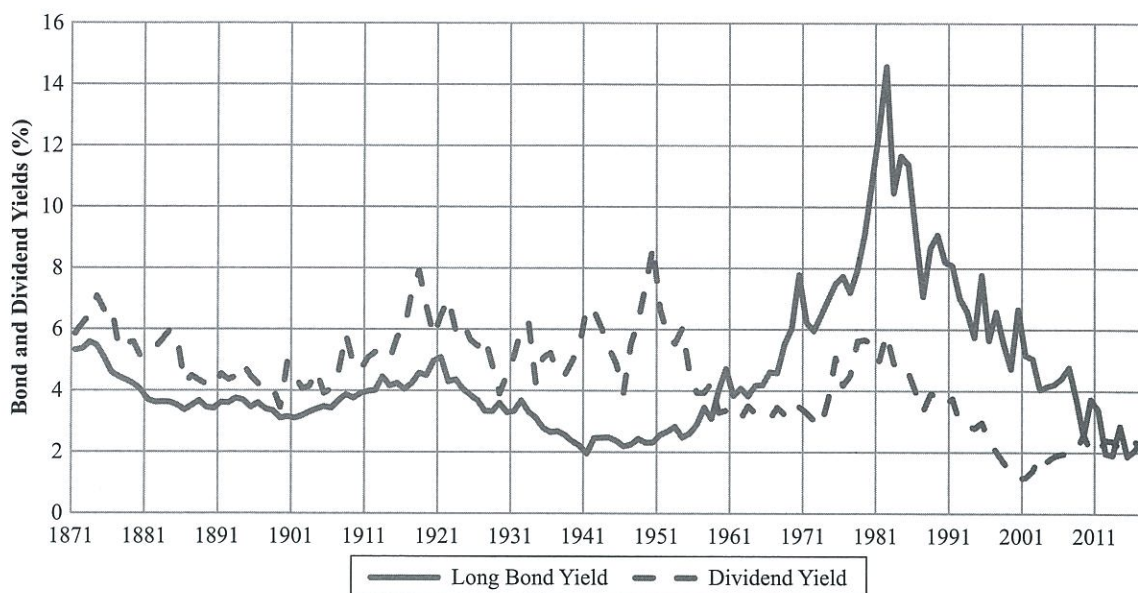
Exhibit 8 shows the effects of yield changes on high-dividend stocks, defined here as the top 30% of stocks that do pay dividends. From Panel A, these higher-dividend stocks outperform nicely when interest rates fall. When rates rise, they lag the overall market modestly by 0.19%. However, when rates rose the most, high-dividend stocks had a 4.20% shortfall relative to the market in that same year. There is a lot of variation in the returns, although not as much as when looking at overall market because we are now looking at returns relative to the market.

Interestingly, the results reverse when looking at returns in the year after a rate change, as seen in Panel B. High-dividend stocks do quite well the year after a rate increase and are particularly strong for the largest rises. Meanwhile, returns for this higher-yielding segment are weak when rates fall. Perhaps such behavior reflects reversion after a same-year sell-off, but such a study is beyond the scope of this article.

Although not shown here for brevity, high-dividend stocks also see similar behavior when short-term rates rise, although the reversion is not as strong in the next year. A negative spread between longer- and

EXHIBIT 7

U.S. Bond and Dividend Yields



Source: Robert Shiller (see footnote 2).

EXHIBIT 8

Returns of High-Dividend Stocks Relative to Market

	Yield Down or Up		Quintile by Direction of Yield Change				
	Down	Up	Down Most	Down	Mid	Up	Up Most
Panel A: High-Dividend Stocks Relative to Market Same-Year Return by Direction of 10-Year Bond Yield							
Mean	3.91%	-0.19%	6.81%	0.68%	4.95%	0.84%	-4.20%
Stdev	11.99%	11.92%	13.89%	9.20%	12.27%	6.82%	14.50%
Count	44	46	18	18	18	18	18
Min	-15.10%	-38.29%	-10.93%	-15.10%	-13.83%	-10.39%	-38.29%
Max	49.71%	33.80%	49.71%	17.69%	33.80%	12.46%	23.78%
Panel B: High-Dividend Stocks Relative to Market Next-Year Return by Direction of 10-Year Bond Yield							
Mean	0.55%	3.13%	-0.68%	0.64%	3.87%	0.54%	5.18%
Stdev	11.78%	12.42%	14.87%	8.63%	8.73%	9.02%	16.89%
Count	43	46	18	18	17	18	18
Min	-38.29%	-24.58%	-38.29%	-11.28%	-13.28%	-13.83%	-24.58%
Max	33.80%	49.71%	33.80%	14.72%	17.69%	18.93%	49.71%

Notes: Data from 1928 to 2017. High-dividend stocks are the top 30% of dividend-paying stocks.

Sources: Ken French's data library for dividend and market returns (see footnote 5); Aswath Damodaran for bond yields (see footnote 1).

shorter-term bond yields is also bad for dividend payers both in the same and next year.

For investors in high-dividend-yielding stocks, the upshot is to be wary of an increase in interest rates.

Results can vary substantially, but on average, returns are weak when rates rise. For those who can hang on to these stocks, however, they have tended to subsequently recover.

EXHIBIT 9

SMB Return By Change in 10-Year Bond, 3-Month T-Bill Yield, and Spread

	Yield Down or Up		Quintile by Direction of Yield Change				
	Down	Up	Down Most	Down	Mid	Up	Up Most
Bond Change, Same Year	1.94%	4.51%	-2.01%	4.94%	2.71%	1.54%	9.11%
Bond Change, Next Year	3.33%	3.16%	6.99%	-0.55%	6.18%	-0.85%	4.62%
T-Bill Change, Same Year	3.49%	3.01%	2.20%	1.02%	12.86%	-2.25%	2.45%
T-Bill Change, Next Year	4.26%	2.16%	5.36%	4.49%	6.92%	2.22%	-2.81%
Spread Level, Same Year	-2.81%	3.93%	-0.99%	1.04%	-0.97%	6.07%	11.13%
Spread Level, Next Year	8.80%	2.62%	6.38%	-1.69%	-2.85%	7.28%	6.83%
Spread Change, Same Year	1.82%	6.00%	-0.57%	-1.14%	4.08%	11.31%	3.40%
Spread Change, Next Year	2.10%	5.39%	0.76%	-0.06%	1.64%	10.33%	4.37%

Note: Data from 1928 to 2017.

Sources: Ken French's data library for SMB returns (see footnote 5); Aswath Damodaran for bond and bill yields (see footnote 1); St. Louis Federal Reserve for T-bill yields (see footnote 6).

Small versus Large Stocks

I next examine the performance of small stocks relative to large stocks, using the Fama and French [1992] small minus big (SMB) factor. There is an argument that smaller stocks should suffer when rates rise because they are more susceptible to economic slowing and higher borrowing costs. Exhibit 9 gives the actual history.

When long bond yields fall, smaller stocks have lower returns that same year. This is contrary to the logic of higher rates hurting small stocks. Furthermore, there is no distinct pattern the year after bond rates change. There is also no clear trend in the same year that short-term rates change. However, small stocks do lag in the year following a sharp rise in short-term rates. Thus, although there is some evidence that yield changes affect smaller stocks, results are quite mixed and often do not conform to the logic that has been given.

Looking at both level and change in the rate spread does offer some additional insights. When the spread is negative, smaller stocks do lag larger ones notably in that same year. A negative spread is often seen as a precursor to economic slowing and recession, so the results do match the story. Although negative spreads occurred in only 9 of the 90 years of data, the lowest three quintiles by spread all have low or negative small stock returns relative to large. Returns the next year seem to have little dependence on the prior year's spreads, however. Decreases in the spread do seem to also generate weaker relative returns for smaller stocks.

Thus, when the spread between long-term and short-term interest rates falls, investors may wish to be more wary of the risks of smaller stocks. This is especially true should the spread go negative.

Other Styles

Aside from high dividend payers and small stocks, I also examined a number of other market segments, as defined by well-known styles. I looked at value stocks as defined by Fama and French's [1992] HML from their three-factor model, the profitability and investment factors proposed by Hou, Xue, and Zhang [2015] using the robust minus weak (RMW) and conservative minus aggressive (CMA) factor definitions of Fama and French [2015], momentum (Carhart [1997]) using up minus down (UMD) from Ken French's data library, and quality as given by AQR's QMJ factor (Asness, Frazzini, and Pedersen [2014]). None of these factors showed any distinguishing pattern with interest rates. Thus, it is quite difficult to make the case that a change in yield has an effect on these factors and the market segments they represent.

Sectors

I also examined the response of different sectors to interest rates. I used the 12 industry portfolios from Ken French's data library as my sectors, which go back to 1927. For most of these sectors, no distinguishing

pattern is seen; returns are independent of interest rates. Two possible exceptions are utilities and durables. Utilities have low returns in years when bond yields rise the most, but this tends to revert in the next year. Such behavior is similar to what is seen for high-dividend payers, which utilities tend to be. Durables also have weak returns in years when short-term rates rise the most, and they become even weaker the following year. This may be an effect of higher borrowing costs for a capital-intensive sector or possibly just random noise given the number of different sectors and scenarios considered. For both utilities and durables, there is plenty of variation around these returns as well. Generally, although the popular press has many stories about which sectors will do well or poorly when rates move, there is little evidence to support it.

CONCLUSION

Although there has been much worry about the effects of rising interest rates, such concerns may be misplaced. Rates may not rise any time soon and, as seen in other countries, could even go lower. Warnings of rising rates have been heard for years now. Eventually, rates will increase, but more generally that does not necessarily spell doom for equities. Investors worried about rising interest rates should be most concerned about the fixed income portion of their portfolios. Although there are reasons stocks may suffer, there are also reasons they may thrive. Historical evidence shows that equities do just as well when rates rise as when they fall, albeit with plenty of variation. Stocks, after all, are risky, no matter the interest rate environment. But that risk has come with reward, on average, whether rates fall or rise.

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