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In focus

What do rising bond yields mean for the US stock market?

June 2021

The fear of inflation is leading investors to speculate that the Federal Reserve may withdraw its stimulus measures sooner rather than later. This prospect has spooked markets as it would imply higher bond yields and therefore lower equity market valuations. However, this does not mean returns have to suffer. In the past, equities have been able to absorb the impact of rising yields, as improving earnings more than offset valuation contractions. Looking ahead, we believe US equities can still generate positive returns for investors, as long as yield increases are gradual and roughly proportionate to earnings growth.

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Recently bond yields have surged to their highest level in more than a year, as markets price in the prospect of stronger economic growth and higher inflation. For example, the 10-year US Treasury yield has climbed from a record low of 0.5% in 2020 to 1.6% today. But this trend is making some equity investors nervous. All else being equal, higher yields erode the present value of future earnings and hence lower stock market valuations (see our previous note for the maths behind this effect).

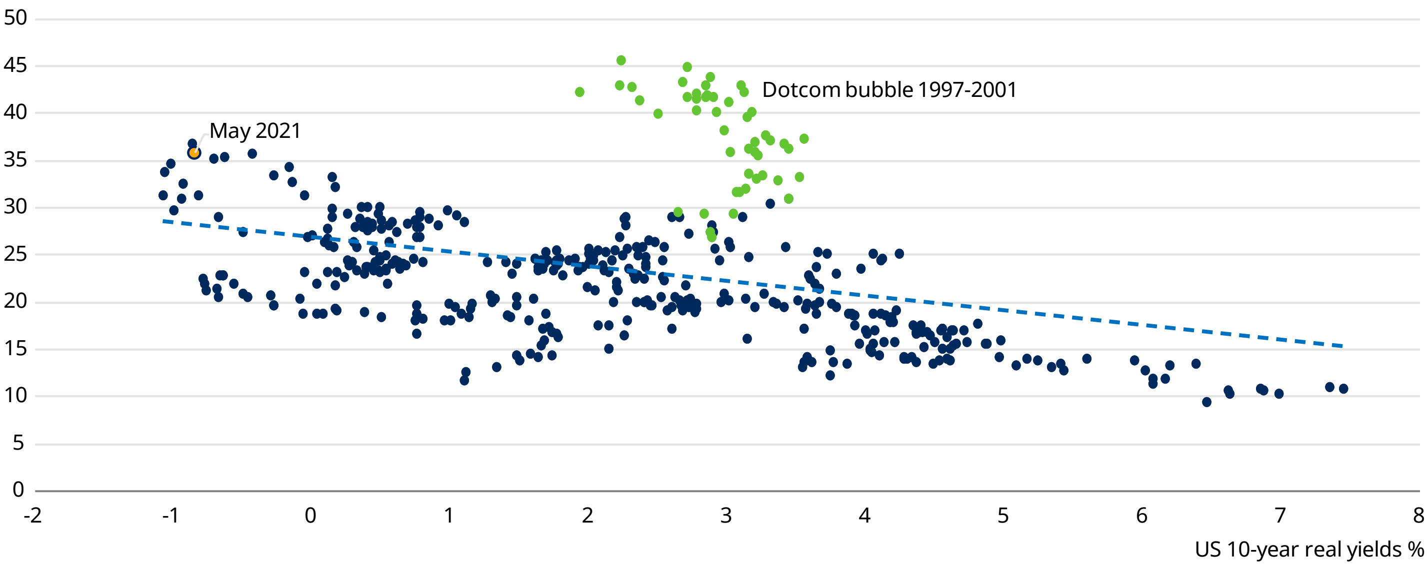
This relationship is illustrated in Figure 1. The cyclically adjusted price-to-earnings ratio (CAPE), which divides stock prices by average profits over a 10-year period (in real/inflation-adjusted terms), tends to be inversely related to the level of real bond yields. Currently, US bond yields are at historical lows while valuations are at extreme highs, so the risk is that equity markets suffer if yields rise and valuations contract.

However, rising yields do not always spell trouble for markets. The net effect can be positive if bond yields rise alongside an increase in risk appetite and valuations, as has been the case lately. Alternatively, earnings may grow fast enough to offset the negative impact of higher discount rates. The real danger is if earnings fail to grow fast enough, or if bond yields rise too quickly leaving the market with insufficient time to absorb the impact.

Whichever scenario occurs, history suggests that the fear of an extended market sell-off may be overblown. Over the past five decades, US equities have delivered positive total returns throughout most rising rate cycles. Of course, there is no guarantee that this pattern will repeat itself going forward. How equity markets react to rising yields will ultimately depend on the speed of the yield increase and the trajectory of earnings.

Figure 1: Equity market valuations tend to be inversely related to bond yields

Cyclically adjusted price-to-earnings ratio, US equity market



Past performance is not a guide to future performance and may not be repeated. Source: Datastream Refinitiv, Cleveland Fed and Schroders. Data from December 1974 to April 2021. Notes: US equities is MSCI USA Index. Real yields from 1982 to 2003 are Cleveland Fed modelled data, 2003 to 2021 is 10-year US TIPS yield.

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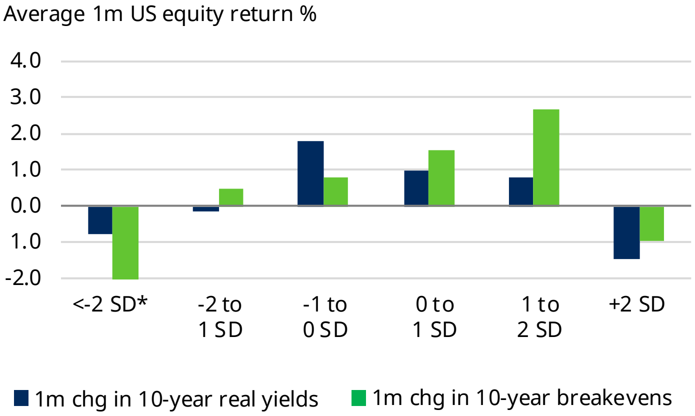
Not all yield rises are equal

Although sharp yield moves can pose a serious challenge to equities, investors have generally coped with a gradual yield increase. For example, a more than two standard deviation rise in real bond yields over a month (e.g. 25 basis points today) is, on average, accompanied by a negative equity market return. But when real yields have risen by two or fewer standard deviations, returns have been positive (Figure 2). What's more, although one-month returns tended to be negative when bond yields increased sharply, six-month returns were positive 73% of the time. This means, on average, investors who reduced their equity holdings after being spooked by a sudden spike in yields may have missed out on future gains.

Figure 2: Equities have coped with a steady rise in yields, but sharp moves in either direction can hurt returns

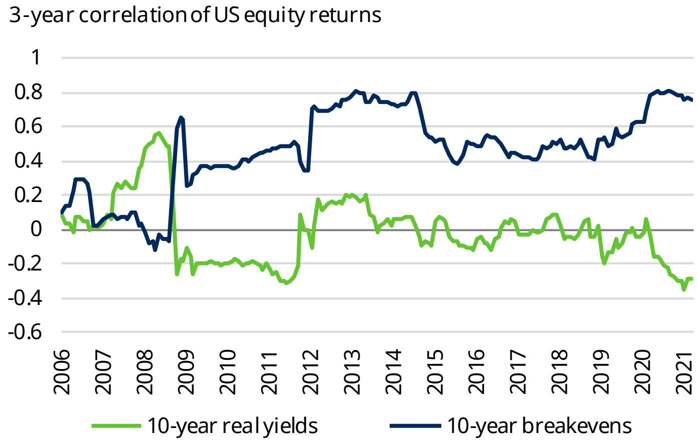


Past performance is not a guide to future performance and may not be repeated. Source: Datastream Refinitiv, Cleveland Fed and Schroders. Data from December 1982 to April 2021. Notes: interest rate changes expressed as standard deviation of monthly changes over previous three years. *-5.1% return for 2SD fall in breakevens. US equities is MSCI USA Index. Real yields and inflation expectations from 1982 to 2003 are Cleveland Fed modelled data, 2003 to 2021 is 10-year US TIPS yield and breakeven inflation rate.

In fact, equities tend to perform better when yield rises are driven by breakeven inflation expectations, as measured by the yield difference between nominal and inflation-linked bonds. This should be intuitive as low and rising inflation is often accompanied by a stronger economy, which is supportive for stock prices. In contrast, if rising bond yields are driven by real rates, this is often viewed as a precursor to tighter monetary policy. The result can be slower economic growth and therefore lower equity returns.

This distinction is conveyed in Figure 3, as equity returns have been recently positively correlated with inflation expectations, but weakly and negatively correlated with real yields. These relationships though can vary over time. For example, inflation expectations were negatively correlated with equity returns in the 1970s/80s when the US economy was combating both high inflation and falling output.

Figure 3: Equities have been positively correlated with inflation expectations, but negatively correlated with real yields



Past performance is not a guide to future performance and may not be repeated. Source: Datastream Refinitiv and Schroders. Data from January 2003 to April 2021. Notes: Based on 10-year US Treasuries and TIPS.

Profits can cushion impact of rising rates

Since the 1970s, there have been approximately 11 rising yield environments (see appendix for full breakdown). Yet, contrary to popular belief, these periods were overwhelmingly positive for the stock market. For example, US equities delivered a positive total return in nine of these episodes, with an annualised performance of 13.4%.

Around half of the time, equity markets were unable to absorb the impact of higher bond yields and so trailing price-to-earnings (P/E) valuations contracted. However, equities still fared well overall because earnings grew fast enough to offset the lower valuation multiple (% change in stock prices = % change in P/E x % change in earnings). These results are summarised in Figure 4.

Figure 5: Rising yields need not be an impediment to achieving satisfactory equity returns

Annualised change for each period

Period	Chg in 10yr nominal yield	Chg in 10yr real yield	% chg in P/E	% chg EPS	Total return %
1971-75	0.7	-0.4	-9.6	5.1	-1.6
1976-81	1.9	0.7	-8.9	10.0	5.7
1983-84	3.3	1.1	-24.5	20.6	-4.7
1986-87	2.5	0.6	28.9	-4.3	27.3
1993-94	2.2	1.4	-20.2	24.7	2.4
1995-96	2.1	0.9	0.2	10.1	12.9
1998-20	1.7	0.7	15.1	11.1	29.4
2003-06	0.6	0.2	-6.8	17.5	11.5
2008-10	1.1	-0.6	29.3	-4.5	26.2
2012-13	1.1	1.0	18.9	3.6	26.0
2016-18	0.8	0.5	-3.9	14.7	12.5
		Average	**1.7**	**9.9**	**13.4**
		Median	**-3.9**	**10.1**	**12.5**
		# positive	**5/11**	**9/11**	**9/11**

Past performance is not a guide to future performance and may not be repeated. Source: Datastream Refinitiv, Cleveland Fed and Schroders. Data from October 1971 to October 2018. Notes: US equity return based onMSCI USA Index where total return = (1+P/E % chg) x (1+EPS % chg) x (1+income % return). Real yields from 1971 to 1981 are 10-year US Treasuries minus CPI inflation %, 1982 to 2003 are Cleveland Fed modelled data, 2003 to 2021 are 10-year US TIPS yields.

Do relative equity and bond valuations matter?

The impact of rising rates on equity valuations should also depend on their relative attractiveness versus bonds. This is often measured as the yield gap between earnings and bonds. A small gap means equities are expensive versus bonds, on this measure, and vice-versa. So if equities are already expensive relative to bonds, then higher yields (cheaper bonds) should reduce the appeal of owning equities further. If investors respond this could push equity valuations lower/cheaper. On the other hand, if equities appear cheap relative to bonds (large yield gap) and rates rise, equity valuations could climb even higher. In this scenario, equities could become more expensive *relative to bonds* (via a smaller yield gap).

Nevertheless, whilst relative valuations should intuitively matter, they have not always correctly predicted market behaviour. For instance, if equities appear expensive relative to bonds, but market optimism prevails, then it's perfectly conceivable for valuations to increase alongside higher bond yields. This is what occurred in the late 1990s during the dotcom bubble, even though equities were the most expensive on record and the yield gap was well below average. The opposite is also true. If risk appetite is lacking and investors are pessimistic about the future, then equity markets can de-rate despite appearing cheap relative to bonds. This was the case in the 1970s/80s inflation crisis.

Where is the tipping point for equity returns?

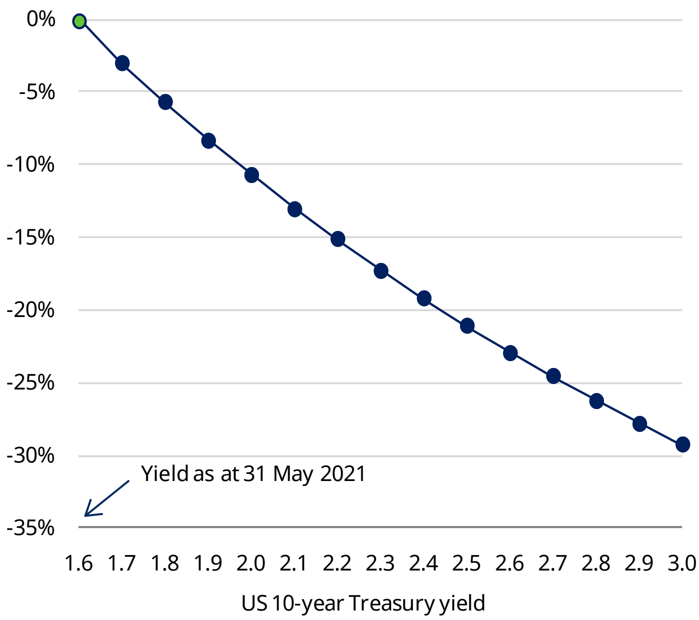
Looking ahead, as the global vaccine roll-out accelerates and economic restrictions are loosened, it is reasonable to assume bond yields will increase further from their current levels. So far, this has not derailed the equity market rally as investors have been willing to pay higher valuations in anticipation of a post-pandemic surge in corporate profits. However, with valuations already at near record highs, this is unlikely to be sustainable. Meanwhile, although the yield gap remains above its long term average (Figure 5), it has tightened considerably this year. That puts the onus on earnings growth to support future returns. If that disappoints, equity returns could come under pressure.

Figure 5: Equities look cheap relative to bonds using their long-term valuation average, but the gap is closing

Past perforance is not a guide to future performance and may not be repeated.
Source: Datastream Refinitiv and Schroders. Data from December 1974 to May 2021.
Notes: US equities = MSCI USA Index.

To illustrate this, let us assume that the yield gap between earnings and bonds stays constant. We can then infer the percentage change in the market P/E ratio for a given increase in bond yields. For example, if the US Treasury yield increased to 2% from 1.6% today (bonds cheapen), the P/E would need to contract by 10.7% in order for the relative asset class valuations to remain unchanged. Historically, the yield gap has declined in rising rate cycles, meaning P/Es should contract by less than this forecast, so we recognise that this is a simplified example. These potential scenarios are shown in Figure 6.

Figure 6: Implied % change in US equity P/E ratio for a given increase in bond yields

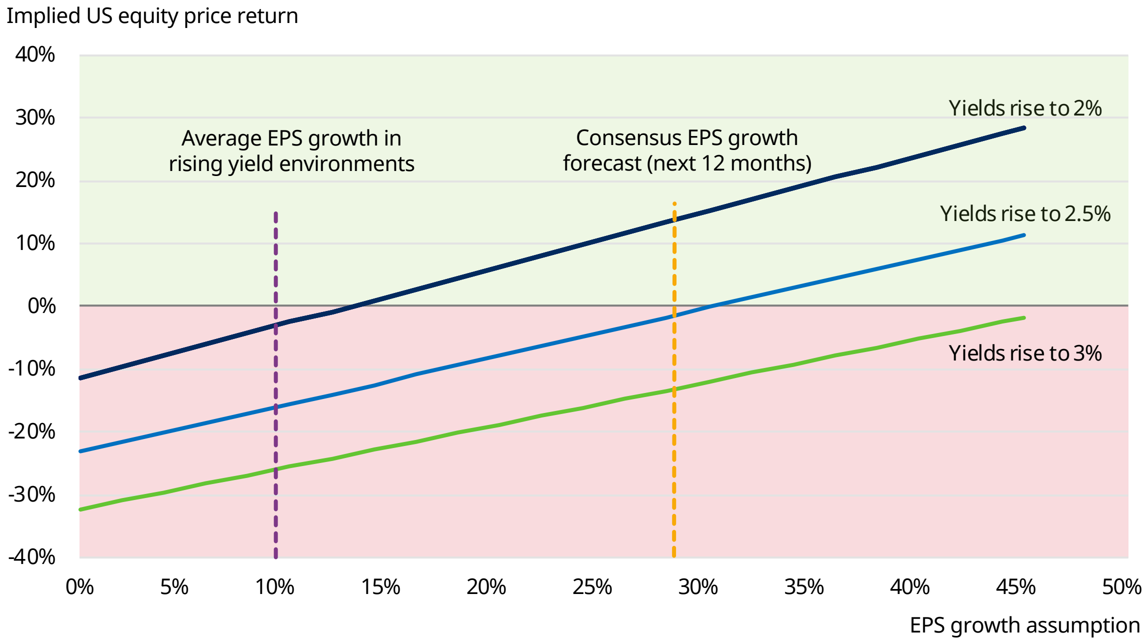


Forecasts should not be relied upon and are not guaranteed. Source: Datastream Refinitiv and Schroders. Data as at 31 May 2021. Notes: MSCI USA Index 12-month trailing P/E = 29.5x, starting earnings yield = 3.4%, starting bond yield = 1.6%.

Analysts are forecasting that earnings-per-share (EPS) will grow by 28% over the next 12 months. What would happen to stock prices, assuming 1) they are right, 2) bond yields rise to 2% over the same period, and 3) relative valuations between equities and bonds (as defined by the yield gap) remain unchanged? Well, they would appreciate in value by 13% = (1 – 10.7%) x (1 + 28%) -1. In fact, at that level of earnings growth, equities can tolerate yield levels of up to 2.5% before returns start to suffer.

However, if earnings fail to live up to expectations and yields only rise to 2%, EPS would still need to grow by at least 13% to offset the impact. These results are summarised in Figure 7. Of course, all of this assumes a linear increase in bond yields. An abrupt yield increase to 2% alongside a fraction of the projected earnings growth could leave investors facing short-term losses. Similarly, if yields increased to 2.5% over a period of 18 months, there would be more time for markets to absorb the impact and for earnings growth to come through. As a result, equities may still generate positive returns.

Figure 7: Equities may tolerate yield increases of up to 2.5% before returns start to suffer



Yields rise to 2%: earnings have to grow by at least 13% to prevent stock prices from falling.

Yields rise to 2.5%: earnings have to grow by at least 30% to prevent stock prices from falling.

Yields rise to 3%: earnings have to grow by at least 45% to prevent stock prices from falling.

Source: Forecasts should not be relied upon and are not guaranteed. Source: Datastream Refinitiv and Schroders. Data as at 31 May 2021. Notes: MSCI USA Index 12-month trailing P/E = 29.5x, starting earnings yield = 3.4%, starting bond yield = 1.6%. Assuming unchanged earnings trajectory. Return excludes any dividend payments.

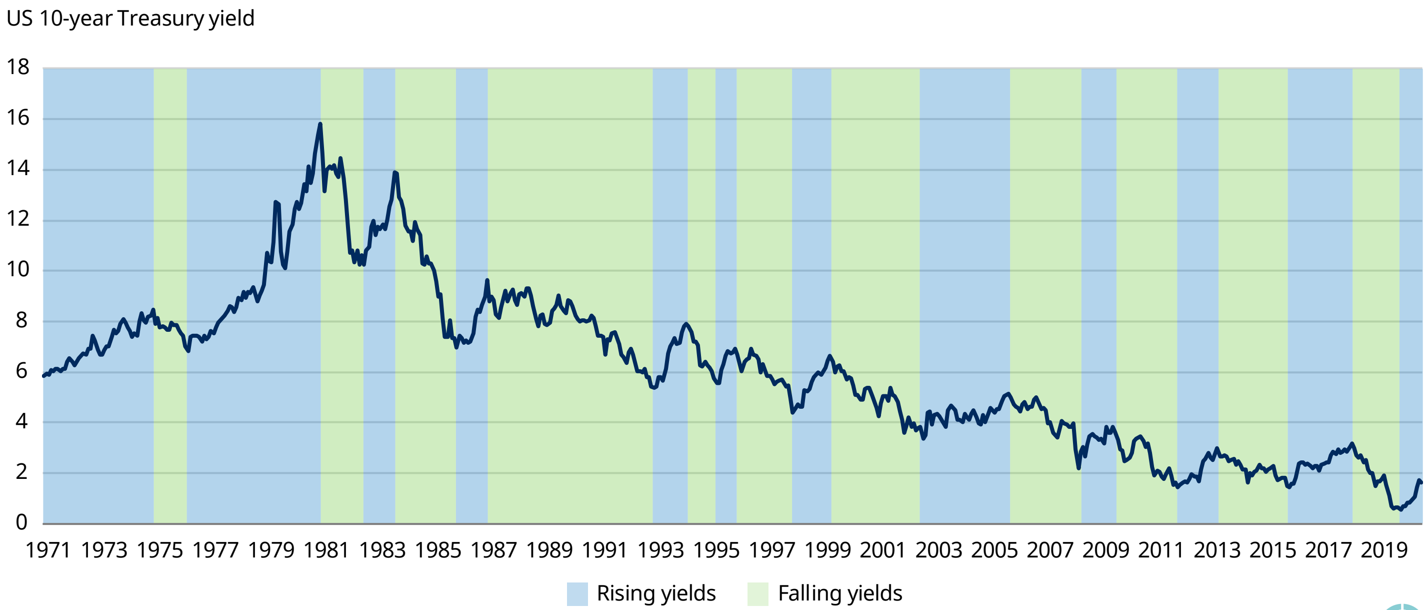
Conclusion

Rising bond yields alone are not necessarily bad for equity returns. Most of the time, markets can absorb the impact because earnings growth is strong enough and/or valuations expand. None of this is particularly surprising as rising rate cycles often coincide with improving growth prospects and inflation, which are supportive for stock prices.

The problem now is that US equities appear extremely expensive on an absolute basis, meaning valuations may be vulnerable to further yield increases. Although the post-pandemic recovery in corporate earnings should help to insulate equity returns, current market optimism means there is a risk that earnings fall short of what analysts are forecasting.

This does not mean returns have to suffer. Our analysis finds that US equities can still generate positive performance for investors as long as yield increases are gradual, limited to a level of around 2.5% and roughly proportionate to earnings growth.

Appendix



Source: Datastream Refinitiv and Schroders. Data from October 1971 to April 2021.

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