Valuation matters: US high yield and US equities

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Summary

Like other predictive measures such as economic outlooks, inflation expectations and central bank policies, starting valuation plays an important role in forecasting investment returns. In this research, we look at the US high yield credits (US HY) and US equities to find out how starting valuations have historically predicted future returns, where current valuations are, and what they could imply for future returns.

Our key findings include:

– Valuations have a strong predictive relationship with future returns of risky assets like equities and high yields. We analyze this relationship for both US equity and US high yield credit, at the index level.

– US equities and US high yield credits are both classified as risky assets and highly correlated to each other. So, it is not surprising that the negative correlation between starting (high) valuations and future (low) total returns holds true for both asset classes. Using the monthly returns of the FTSE US High-Yield Market and Russell 1000 indices over the last five years, we find their correlation to be as high as 84%[1] (end-February 2023), which is also around the long-term average. It rises to 92% in the last year.

– There is an economically significant negative correlation between US equity valuations and future total returns. High US equity market valuations, notably the forward price-earnings ratios, are strongly associated with lower future long-run total returns.

– We see a similar negative correlation between starting valuations and future total returns in US HY. Tight US HY credit spreads (implying high bond prices, as spreads and yields have an inverse relationship to bond prices) are strongly associated with lower future bond returns.

[1] Asset Allocation Insights: Asset allocation insights | FTSE Russell.

– Statistical results indicate that the predictive power of starting valuation is higher in equities for longer periods (i.e.,10yr) and for shorter periods (i.e., 3yr) in US HY credits. This result is in line with the economic intuition that the predictive power aligns most closely with the duration of risky assets.

– Current US HY spreads, being at the 36th percentile (much lower than average and indicating higher-than-average bond prices), would suggest lower-than-average expected future bond returns. Similarly in the US equity market, a current forward P/E being higher than its long run average would indicate a high probability of lower future equity returns.

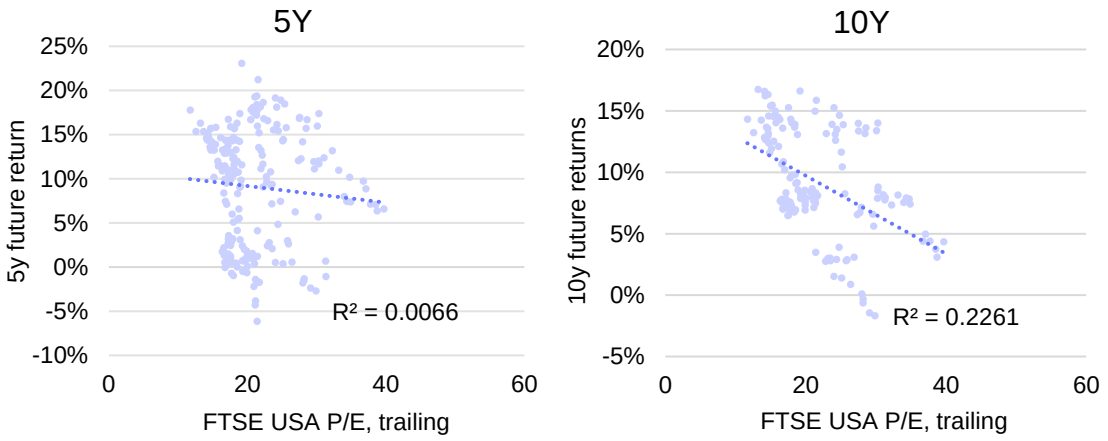
– The negative relationship between starting valuations and future equity returns tends to hold not just in the US, but in most equity markets.

Equity market valuations

Valuation ratios are widely used by practitioners to assess the relative market value of a firm to some fundamental accounting figure. The most commonly used measures are the Price-to-Earnings (P/E), Price-to-Book (P/B) and Price-to-Dividend (P/D) ratios. P/E is the most commonly used measure and therefore will be the focus in this analysis. Single stock valuation ratios are the basis of value investing, that is tilting an investment portfolio towards a low P/E, or cheap stocks, in the hope of outperforming the market. Expecting cheaper stocks to outperform expensive equivalents on average has been supported by extensive evidence [3]. Also, the aggregate market P/E ratio has been used to gauge the relative valuation of the whole equity market.

The market P/E and its inverse, the market Earnings Yield (E/P), have been extensively studied as predictors of future equity returns, and although the evidence seems compelling, using this metric – or, in fact, anything else – as measures of market timing, has proven quite difficult. High valuations imply investors are willing to pay, on average, more for each dollar of earnings. High valuations may indicate higher expected earnings growth, but at the aggregate level, there is a negative correlation between the P/E ratio and future long-term returns. High market P/Es may reflect an overly optimistic outlook of future aggregate earnings growth that may not be sustainable and could eventually lead to a correction in stock prices. Campbell and Shiller noted the extreme valuations of the US equity market in the late nineties, warning of a repricing as indeed followed with the bursting of the TMT bubble [1] and [2].

Chart 1: High valuations imply lower long-term returns (FTSE USA, TR, annualized)



Source: FTSE Russell, LSEG Data & Analytics. February 28, 2023.

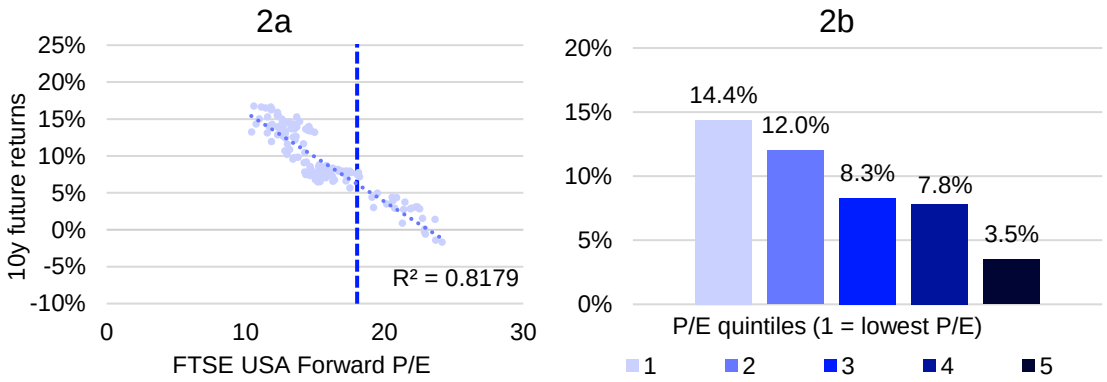
Studies have shown that a highly persistent valuation ratio causes problems to predictive regressions [4]. Using FTSE indices, we look at what market P/E has to say about future equity market returns. We start by plotting the FTSE USA P/E ratio for each month against the index future returns (annualized) for different periods. Because of the long horizon under examination, having independent data points would result in just a few observations[2]. Therefore, we use overlapping observations at the monthly frequency. Research has found [1] a negative relationship between P/E and future returns only when looking at long-term returns. Chart 1 confirms how the relationship is stronger when looking at 10 years of market returns. Both the slope and the R^2 of the fitted trendline increase when the return horizon increases. However, because of the overlapping observations, the R^2 is likely to be inflated, though the increase is still relevant.

[2] If we use five-year return we would have only four non-overlapping observations available today. The first five-year return observation starts in June 2000 and runs until May 2005, therefore the second one would start in June 2005, and so on. With monthly overlapping observations, the second data point starts in July 2000 and ends in June 2005 instead.

Forward or trailing valuations?

The market P/E in Chart 1 has been calculated using trailing earnings, but asset prices should incorporate investors' expectations of future earnings. One possible proxy for earnings expectation is analysts' earnings 12-month forecast consensus.

Chart 2: Forward P/E is a better predictor of future, long term returns (FTSE USA, TR, annualized)



Source: FTSE Russell, LSEG Data & Analytics. February 28, 2023.

Chart 2a plots the 10-year future returns against the 12-month forward P/E ratio of the FTSE USA. Compared to the trailing P/E used in Chart 1, this relationship is stronger with forward P/E: High valuations are associated with low future returns. The dotted line shows where the FTSE USA P/E stands today, at around 18x, which maps to an expected annualized 5% return over the next decade. Chart 2b shows the average 10-year future return by aggregate P/E quintiles. As can be seen, the average 10-year return when P/E ratios are the cheapest is around 14% annually, as opposed to a 3.5% annual return when market valuations are the highest. Moreover, the relationship is monotonically decreasing in the forward P/E quintiles.

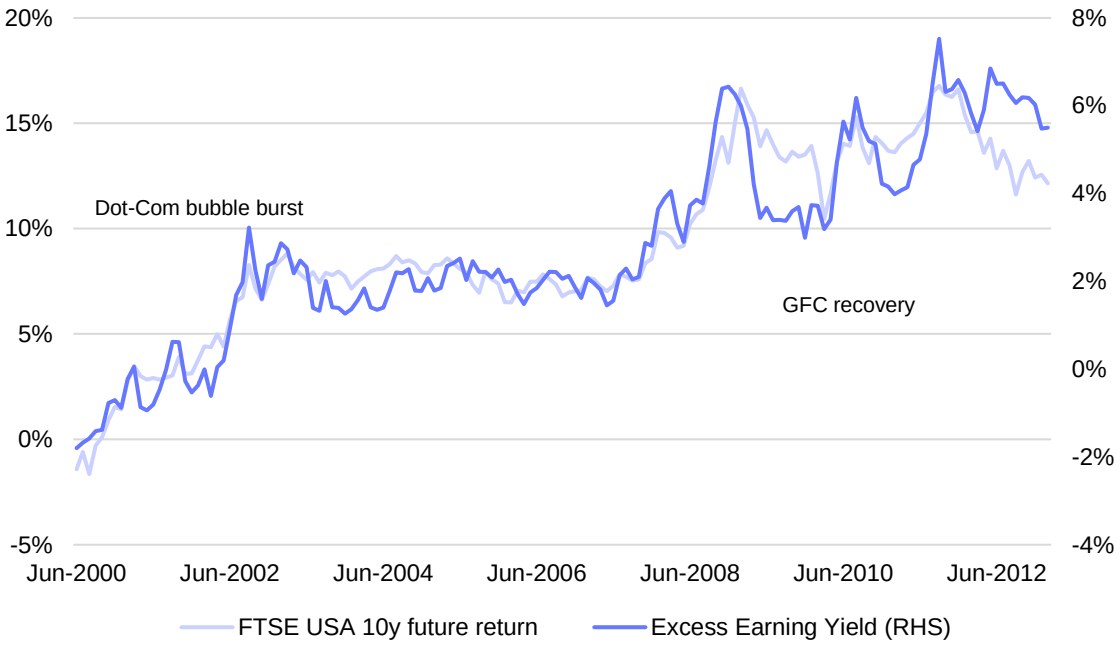
The negative correlation between market valuations and future returns has been attributed to optimistic investors sentiment or 'time varying expected returns' (see [5] for an overview). In bad times, the required returns of investors to hold risky assets is higher, and together with a lower aggregate expected earnings, prompt sell offs and P/E compressions.

The Fed model

Fed economists posited that yields on stock competes with yield on bonds, and therefore future stock returns are actually associated with the difference between earning yields and the 10-year government bond yield [6], a long-term risk-free rate.

Chart 3 plots the time series of 10-year future returns of the FTSE USA index against its earning yields, net of the government bond 10-year yield and shows an extremely tight relationship (Excess Earnings Yield), particularly during the pre-GFC period.

Chart 3: Excess Earnings Yield and future long-term returns (FTSE USA, TR, annualized)



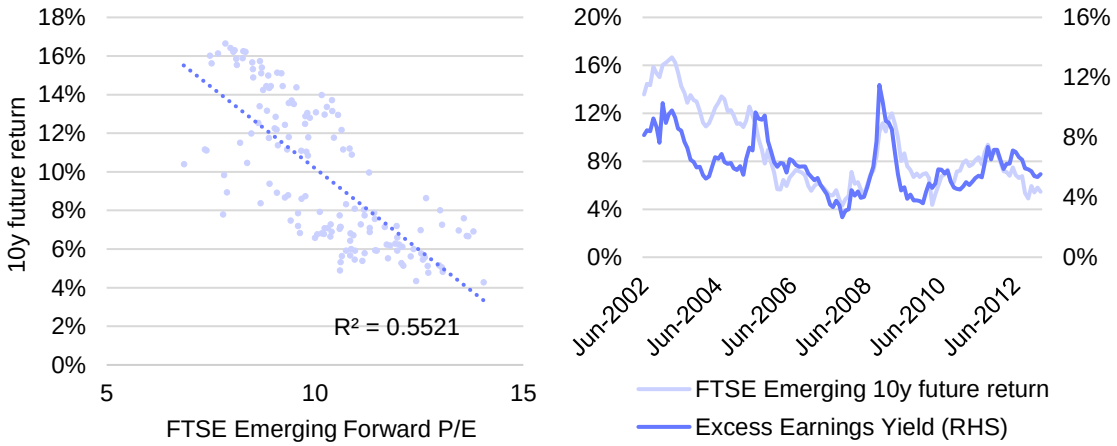
Source: FTSE Russell. February 28, 2023.

What about other regions?

We also analyzed the relationship between the forward P/E and future returns in other regions. FTSE Emerging Markets index provides an interesting laboratory, since it is multi-regional and the countries covered are significantly different compared to the US. We also provide in the appendix scatterplots of all the other regions we analyzed. Chart 4 plots the FTSE Emerging Markets P/E against future 10-year market returns. The relationship is still negative, although slightly weaker than for the US. The right chart plots the time series relationship between the FTSE Emerging Markets index future returns and its Excess Earnings Yield, again showing a clear association. Moreover, given that the Excess Earnings Yield in the emerging markets had a far greater variation than in the US, it is reassuring the close relationship between Excess Earnings Yield and future equity returns still holds.

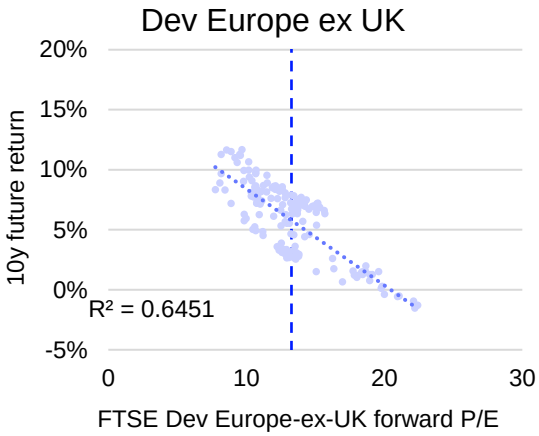
The charts in the “Additional regional results” section show the scatterplots of forward P/E against 10-year future returns for Europe, the UK, APAC and Japan. We can see the relationship is still strong in Europe, APAC and Japan. However, the UK does not show a recognizable pattern. Whether this is due to the relatively higher concentration of the UK market compared to the other region remains to be assessed.

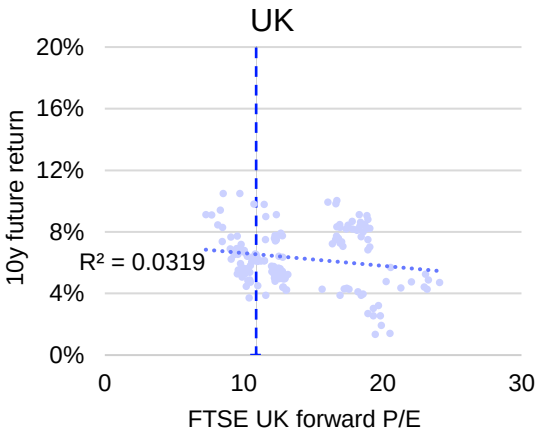
Chart 4: Low valuations imply higher future returns in emerging markets too (FTSE Emerging, TR, annualized)

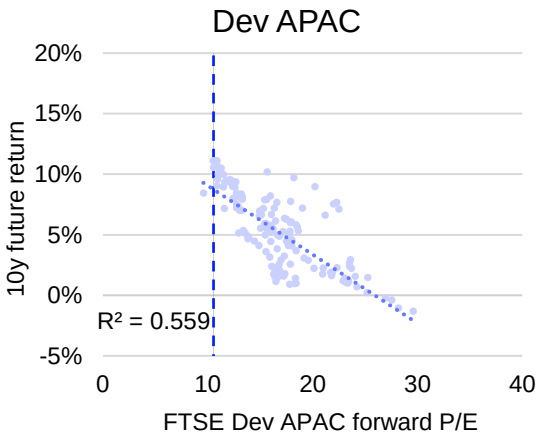


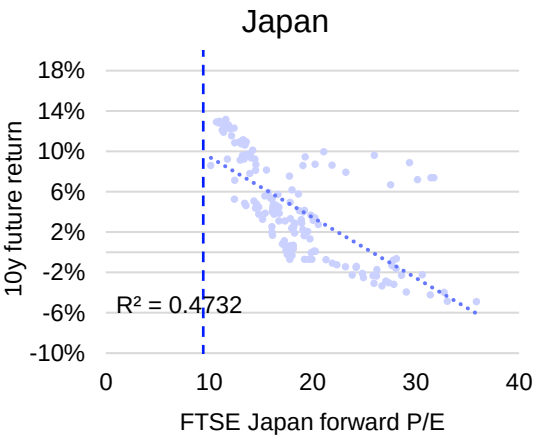
Source: FTSE Russell. February 28, 2023.

Additional regional results









Source: FTSE Russell. February 28, 2023.

High-yield corporate bond valuations

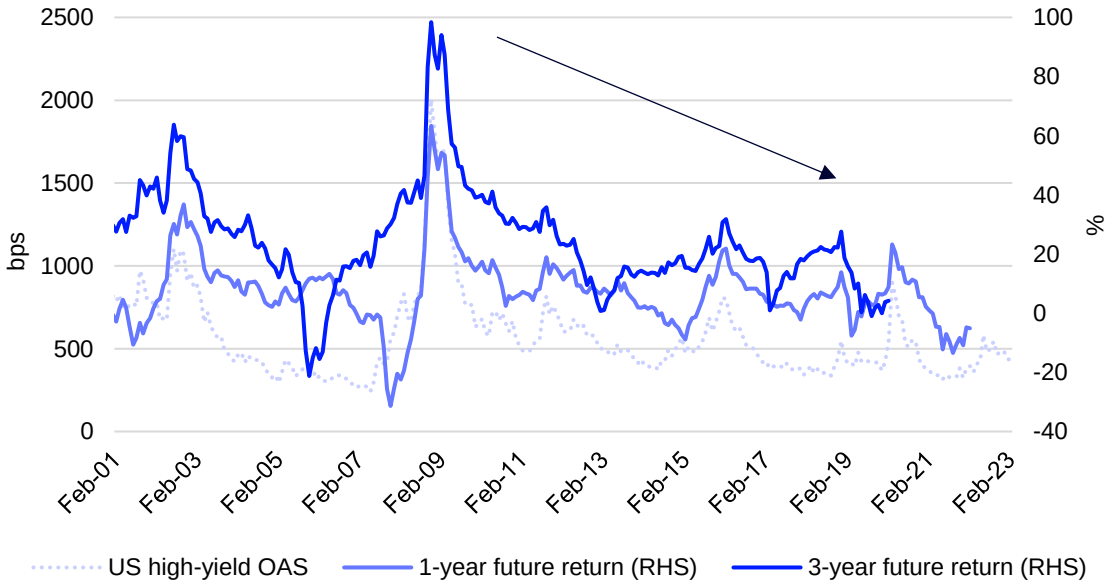
We now turn to US high yield credits. In the following analysis, the US high yield bond market is represented by a subset of the FTSE US High-Yield Market Index[3] – including only corporations domiciled in the US. Future returns are calculated as the change in index levels, e.g., the index level in time=T+1 year versus time=T, with the history going back to January 2001. We also group the US HY option-adjusted spreads (OAS) into quintiles and analyze their subsequent returns. Note that quintile 1 includes the lowest credit spreads, indicating the highest quintile of bond valuations, while quintile 5 includes the highest credit spreads, indicating the lowest quintile of bond valuations.

Future bond returns might depend on current yield spreads, like after the Global Financial Crisis (GFC)

High yield credit spreads often reflect market participants' views of future economic performance. For instance, when US HY bonds trade at yield levels close to US Treasuries, or US HY spreads are tighter, it suggests investors are optimistic about the prospects of corporate fundamentals and earnings, and anticipate low default risks. Therefore, they are willing to pay higher bond prices (higher bond valuations by way of tighter credit spreads). This can take future returns lower if bond valuations mean-revert or fail to meet expectations of higher values, i.e., higher valuations may lead to lower future returns. Conversely, investing at lower-than-average prices or lower starting valuations provides a larger chance of higher future returns.

Historical data bears out this relationship. As shown in Chart 5, US HY credit spreads have forecasted future bond returns well in the last two decades, notably during periods of contractions and crises. Spreads during the Covid shock peaked at 900bps, a much lower level than the 2000bps during the Global Financial Crisis (GFC), and US HY bond returns in the following 12 months post the Covid shock were much more modest, up 23% (from March 2020 to March 2021), compared to a return of 63% (from November 2008 to November 2009) in the following year post-GFC. Similarly, the three-year future returns of under 5% after Covid were significantly lower than those of almost 100% post-GFC.

Chart 5: A positive correlation between US HY spreads and bond future returns holds historically



Source: FTSE Russell. February 28, 2022.

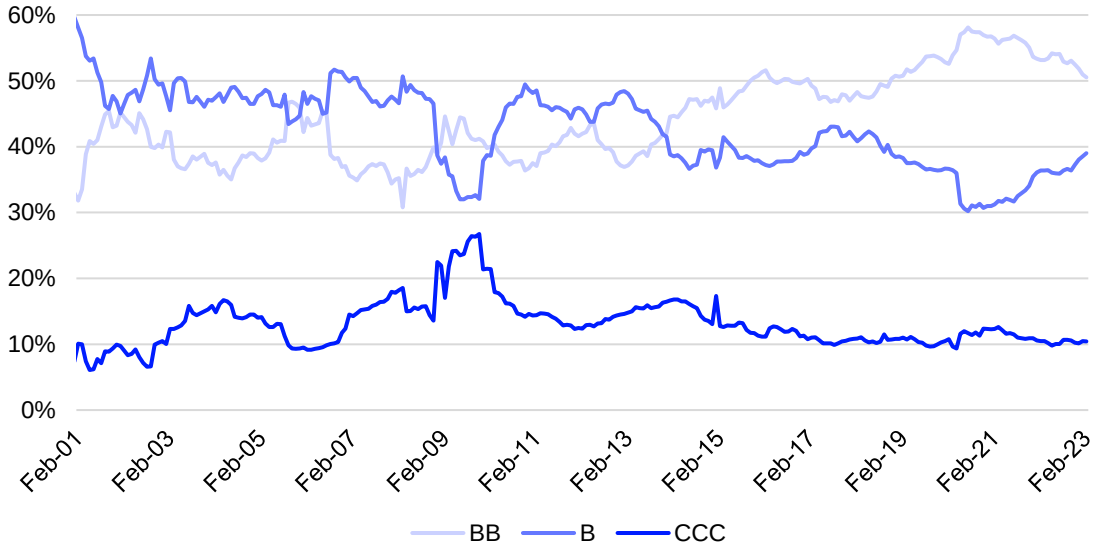
[3] Factsheets | FTSE Russell.

In the current monetary tightening cycle, as shown in Chart 5 from US HY OAS, US HY spreads have remained fairly tight at the 36th percentile,[4] despite the fastest monetary tightening in four decades. Should the historically positive correlation between spreads and returns continue, this would indicate that US HY bond returns through the next few years might be modest. An idiosyncratic factor in the current environment that may mitigate the risk of lower US HY bond returns would be the accumulated cash on corporate balance sheets that built up during QE after Covid, therefore keeping default rates low.

Improving credit quality may explain tighter spreads in part, but a potential recession adds uncertainty to future returns

The lower peak in US high yield aggregate spreads during the Covid shock compared to the GFC could be due to the improved credit quality of US HY credits today. As illustrated in Chart 6, the proportion of BB sector – highest rated in HY – in the FTSE US High Yield index has shifted to above 50%, from about 30-40% a decade ago. While the weight of B-rated US HY bonds has declined from 60% in 2001, to below 40% in the last four years, indicating a lower exposure to default risk overall. CCC's weight during the same period stabilized at around 10%, despite a surge to near 30% during the GFC.

Chart 6: The quality of US high-yield universe has been improving, although in a bumpy way



Source: FTSE Russell data, February 28, 2023.

While the improved credit quality of US HY credits may mitigate the traditional inverse relationship between bond valuations and future bond returns, the risk of recession, or slowdown in earnings growth, in 2023 does point to downside risks on future returns for US high yield corporate investors.

What does history say about the relationship between US HY spreads and future bond returns?

We look at the historical correlations between US HY spreads and future bond returns using two measures: 1. The correlation of return values; 2. The correlation of return in quintiles. Table 1 shows the correlation is generally higher when measured by continuous returns (second row) instead of by quintile (last row), since data at a granular level provides more information. Also, correlations are notably higher around three years (86-88% for two-to-four years) compared to longer periods such as 10 years or shorter, i.e., one year (less than 70%).

[4] As of February 2023, spreads percentile calculation based on the period of January 2001 through February 2023, using end-of-month data, on a monthly basis.

Considering the results of the most predictive return horizon for equities and credits, we see that starting valuations better predict the fixed income returns over a shorter time frame (under five years) compared to a longer horizon for equity returns (about 10 years). These results have the economic intuition that the most predictive return horizon is in line with the duration of the risky asset. Equities are long duration assets, while US HY bonds have had an average duration of 4.8 years during the last 20 years.

Nevertheless, the correlations of 69% and 62%, for one- and 10-year respectively, indicate that spreads could still predict returns for shorter or longer periods compared to the prediction from bonds' duration.

Table 1: Correlations between spreads and future returns are higher for duration-matching forward-looking periods of time

Correlation of	1-year	2-year	3-year	4-year	5-year	10-year
Return values	0.69	**0.87**	**0.88**	**0.86**	0.82	0.62
Return in quintiles	0.43	**0.70**	**0.73**	**0.61**	0.58	0.51

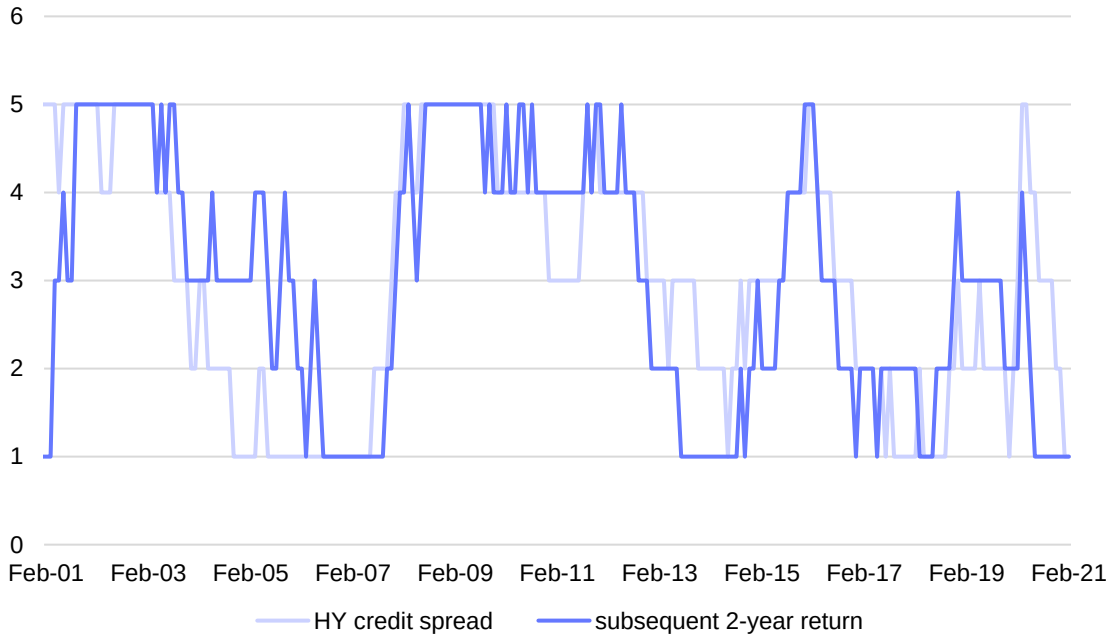
Source: FTSE Russell. Monthly data points from January 31, 2001, through February 28, 2023.

As the predictive power of credit spreads on future returns is strongest over two-to-four years, and also in order to cover post-Covid performance, we show the quintile time series of both credit spreads and two-year future returns in Chart 7, with the last observation from February 2021 (hence two-year future returns through February 2023).

As shown in Chart 7, 2-year future returns have tracked US HY credit spreads during peaks and troughs. This is particularly true when spreads reached the highest quintile levels during crises periods; the GFC in 2008-09; the energy crisis in 2015-16; and the Covid recession in 2020.

The conclusion from Chart 7 that starting spreads (or bond valuations) have a predictive relationship to future returns is generally in line with Chart 5 − US HY credit spreads have forecasted future bond returns well in the last two decades, despite a difference in time horizons of two years versus one year and three years.

Chart 7: Quintiles of US HY credit spreads vs two-year future returns (quintile 1 the lowest, quintile 5 the highest)

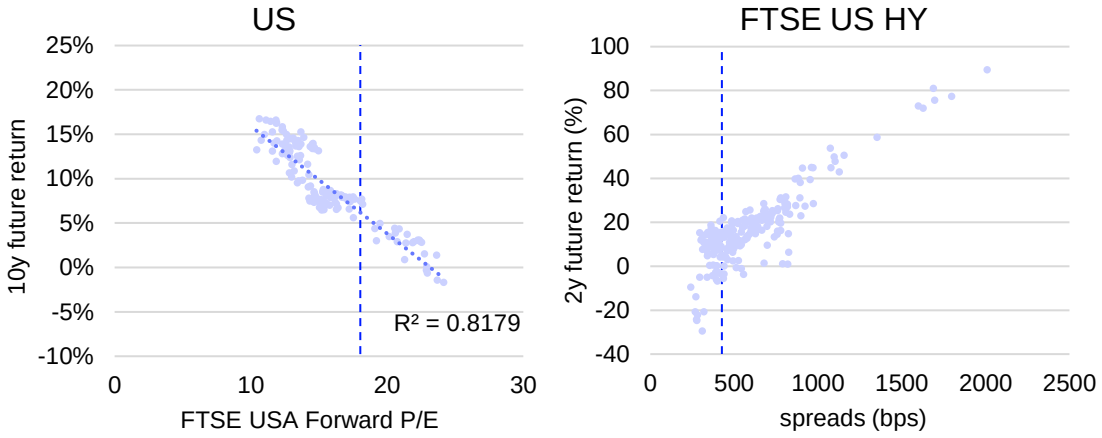


Source: FTSE Russell. February 28, 2023.

Cross asset statistics – Comparing US Equities & US HY Credit

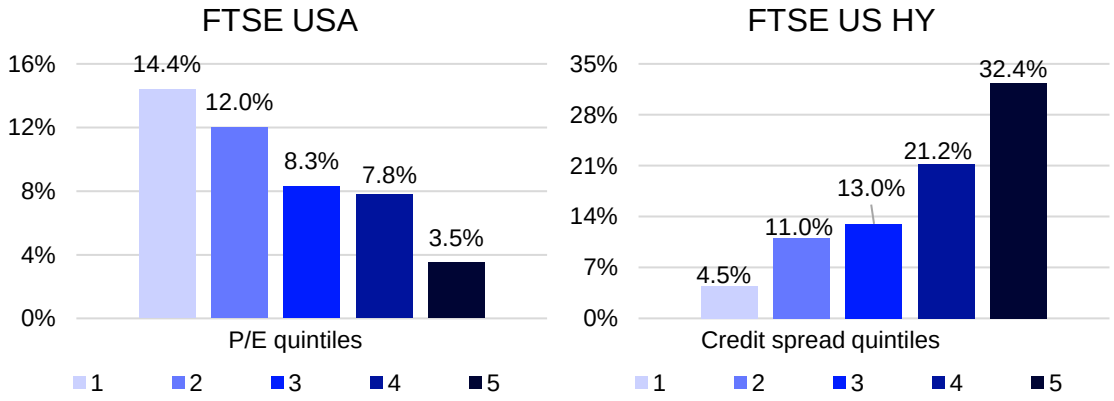
Charts 8 and 9 indicate that the negative relationship between starting valuations and future total returns hold in both US equities and credit.

Chart 8: Correlations between US equity P/Es and 10-year future returns vs correlations between US high yield spreads and two-year future returns



Source: FTSE Russell. February 28, 2023.

Chart 9: US equity 10-year average returns vs US high yield two-year future average returns, TR, annualized



Notes: In the FTSE USA, Quintile 1 is the lowest P/E (lowest valuation), and Quintile 5 is the highest P/E (highest valuation). In the FTSE US HY, Quintile 1 is the lowest spreads (highest bond prices or valuations), and Quintile 5 is the highest spreads (lowest bond prices or valuations).

Source: FTSE Russell. February 28, 2023.

References

[1] Campbell, J.Y., and R.J. Shiller. “Valuation Ratios and the Long-Run Stock Market Outlook.” The Journal of Portfolio Management, 24 (1998), pp. 11–26.

[2] Campbell, J.Y., and R.J. Shiller. “Valuation Ratios and the Long-Run Stock Market Outlook: An Update.” Cowles Foundation Discussion Paper No. 1295, Yale University, 2001.

[3] Fama, Eugene, and Kenneth French. “Common Risk Factors in the Returns on Stocks and Bonds.” Journal of Financial Economics, Vol. 33, No. 1 (February 1993), pp. 3–57.

[4] Ilmanem, Antti. “Investing Amid Low Expected Returns” Wiley (April 2022)

[5] Ilmanem, Antti. “Expected Returns” Wiley (March 2011)

[6] Weigand, R., and R. Irons. “Compression and Expansion of the Market P/E Ratio: The Fed Model Explained” The Journal of Investing Spring 2008, 17 (1) 55-64

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