Global Investment Research | US Multi Asset

Valuation Matters – are shifts in index composition impacting market valuations?

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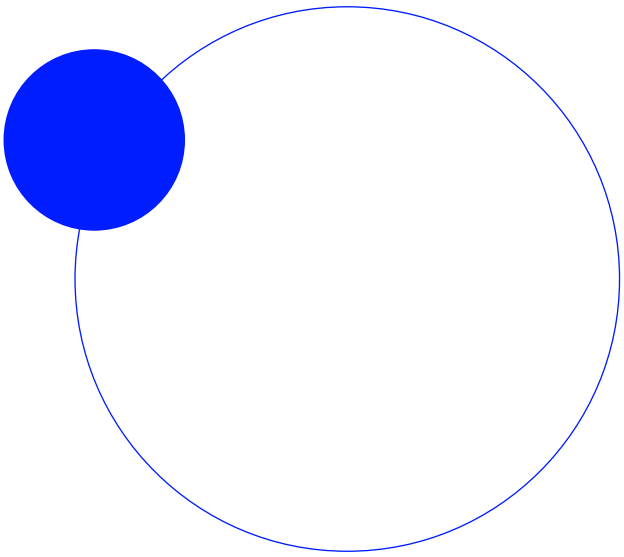
Overview

In recent years, valuations across both equity and high yield credit markets have increased markedly and have become a key focal point for analysts and market commentators alike. As of June 30, 2024, the index-level option adjusted spread for the FTSE US High-Yield Index was sitting at 354 basis points or around the 85th percentile in terms of 'expensiveness' when compared to monthly OAS over the past 20 years. Similarly, within equities, the index-level price-to-earnings multiple of the FTSE USA Index hit 21.5 at end-June or around the 85th percentile when compared to monthly readings since 2008.

With investors increasingly wary of these high valuations, we investigate to what extent valuations within both credit and equity markets have been impacted by changes in index composition and whether controlling for these changes would result in valuation metrics being less extreme on a true comparative basis. We also revisit the conclusions of a previous paper on valuations, titled "Valuation Matters – US high yield and US equities", where we showed that valuations in both asset classes have predictive power in forecasting future returns and aim to further build on that research by looking at whether valuations that control for compositional changes are more effective in forecasting.



Contents

Methodology **4**
Equities **5**
Trends in Industry Composition 5
High Yield **12**
Trends in Credit Quality 12
Trends in Maturity 17
Conclusions **22**

Methodology

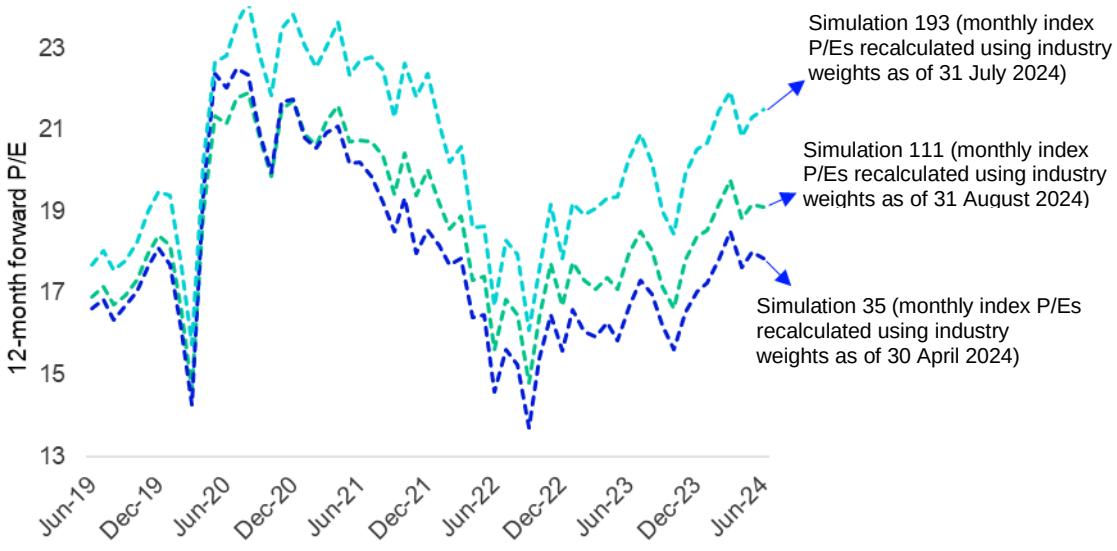
To control for the effects of index compositional changes on index-level valuations, we employ a historical simulation approach. Within this approach, for both US Equities and US High Yield, we run a series of simulations for each compositional effect we aim to control. Each simulation uses a unique set of compositional group weights and then keeps these weights constant across the entire timeseries. For each period in the simulated timeseries, index-level valuations are then recalculated using these constant weights and the actual group-level valuations from that period. This way, for each simulation, month-to month changes in valuations reflect only the changes in actual underlying group valuations, rather than changes in group weights.

As an example, a credit index's weight of BB, B and CCC-rated bonds may change over time (compositional change) and influence index-level OAS (valuation). In this case, a simulation would keep the index weight for each credit-bucket (compositional group) constant across time and recalculate monthly valuations accordingly.

A comprehensive set of simulations is constructed by running multiple scenarios, with each scenario drawing group weights from a sample of historical month-end data spanning the past 20 years (or 16 years for equities, reflecting limited ICB data). For example, simulation 1 would recalculate valuations for each period in the timeseries using group weights from June 30, 2004, while simulation 241 would do the same using group weights from June 30, 2024. Drawing from a historical sample helps to ensure that realistic weights are used.

This methodology allows us to observe a range of possible valuation levels for each period, which we can use to assess plausible best-case and worst-case valuation levels if the composition of the index were different. By examining all simulations collectively, the median simulated valuation at each point in time can serve as a "normalized" valuation. This normalized figure provides a more precise means of evaluating valuation levels within a historical context, as it strips out the influence of shifting group weights. Consequently, the valuations – and their historical percentiles – remain unaffected by compositional changes, offering a clearer, more accurate comparison over time.

Example: Controlling for the FTSE USA Index's changes in industry composition



Source: FTSE Russell, as at June 30, 2024.

Equities

Valuation multiples, such as price-to-earnings (P/E) and price-to-book (P/B), provide a quick and easy way to assess valuation levels within equity markets. Practitioners often evaluate these multiples in a historical context as a means to gauge how expensive markets are in comparison to other notable time periods. Given the role that valuations play in forecasting returns, this approach is well-founded. Historically, high valuations often imply lower forward-looking returns[1] and so broad-market index-level valuation multiples are an important metric for equity investors to track. However, as equity markets are a representation of the dynamic and changing economies that underpin them[2], the composition of a stock market index is also subject to change. This raises concerns about the reliability of evaluating index-level multiples in a historical context without controlling for these changes.

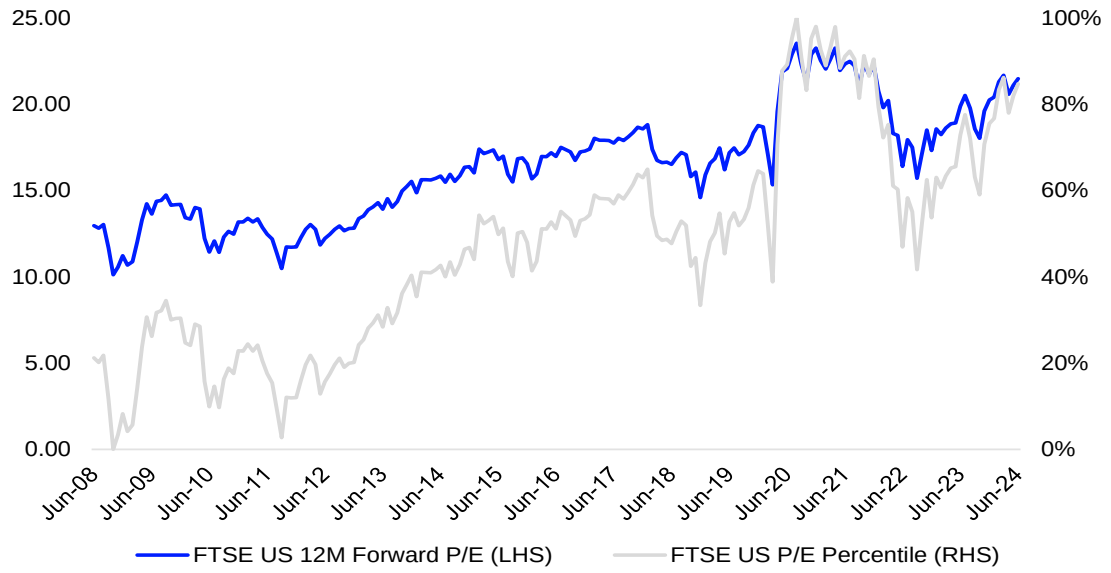
In this section, we identify changes in industry composition as the most dominant theme in recent years for US equity indices and evaluate the effect that these changes may have on one of the most used valuation multiples, 12-month forward price-to-earnings (P/E). We also build upon the work of a previous paper, "Valuation Matters - US High Yield and US Equities", which illustrated the effectiveness of valuations in forecasting returns, and investigate whether controlling for these index composition changes provides any meaningful improvement in returns forecasting.

Trends in Industry Composition

While index-level valuation multiples have expanded rapidly in the US, so too have index weightings of typically higher-multiple ICB industries, such as Technology and Consumer Discretionary. As of end-June 2024, the index-level 12-month forward P/E for the FTSE USA Index reached 21.5x, which falls within the 85th percentile of monthly P/Es since 2008. However, since 2008, higher-multiple technology companies have also seen their weighting increase within the FTSE USA Index, from 12% in December 2008, to a high of 38% in June 2024. Outside of technology, the index has also seen an increasing weight in Consumer Discretionary, as well as decreasing weights in Energy, Consumer Staples, and Financials – all of which are industries with typically lower P/E ratios.

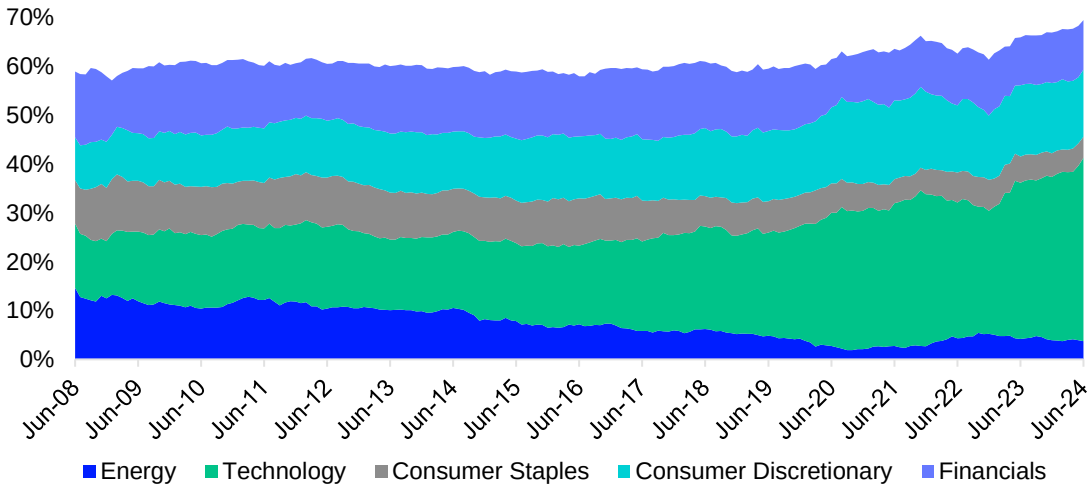
[1] "Valuation Ratios and the Long-Run Stock Market Outlook: An Update", Campbell, J.Y and R.J. Shiller, 2001
[2] Composition changes of the Russell Indexes over 40 years (lseg.com)

Figure 1: FTSE USA Index 12-month forward price-to-earnings and percentile over time



Source: FTSE Russell, as at June 30, 2024.

Figure 2: Breakdown of FTSE USA Index by select ICB industries



Source: FTSE Russell, as at June 30, 2024.

Changes in the composition of the US equity market is hardly a new phenomenon and, although our research only extends back to 2008, we note that over the past 200 years, financials, industrials, energy and technology have all held the title of the largest industry within the US equity market[3]. Several factors may explain the recent rise of technology, including successive waves of innovation through commonplace technologies, as well as ecosystem and network effects, which have benefitted mega-cap tech companies

[3] The Concentration Conundrum; What to do about market dominance (gspublishing.com)

and allowed higher levels of profitability and cashflow[4]. Growth in the technology industry may also explain the erosion of index weights in other industries, with companies from those industries seeing their share of the US equity market eclipsed, despite still retaining importance in the US economy. However, innovation and growth in technology doesn't fully explain decreasing weights for other industries. For financials, tighter regulation following the Global Financial Crisis hindered profitability for Banks, slowing growth and affecting investor sentiment towards the industry, which may have also contributed towards its decreasing weight within the US equity market.

Figure 3: FTSE USA Index weighting in select ICB Industries over time

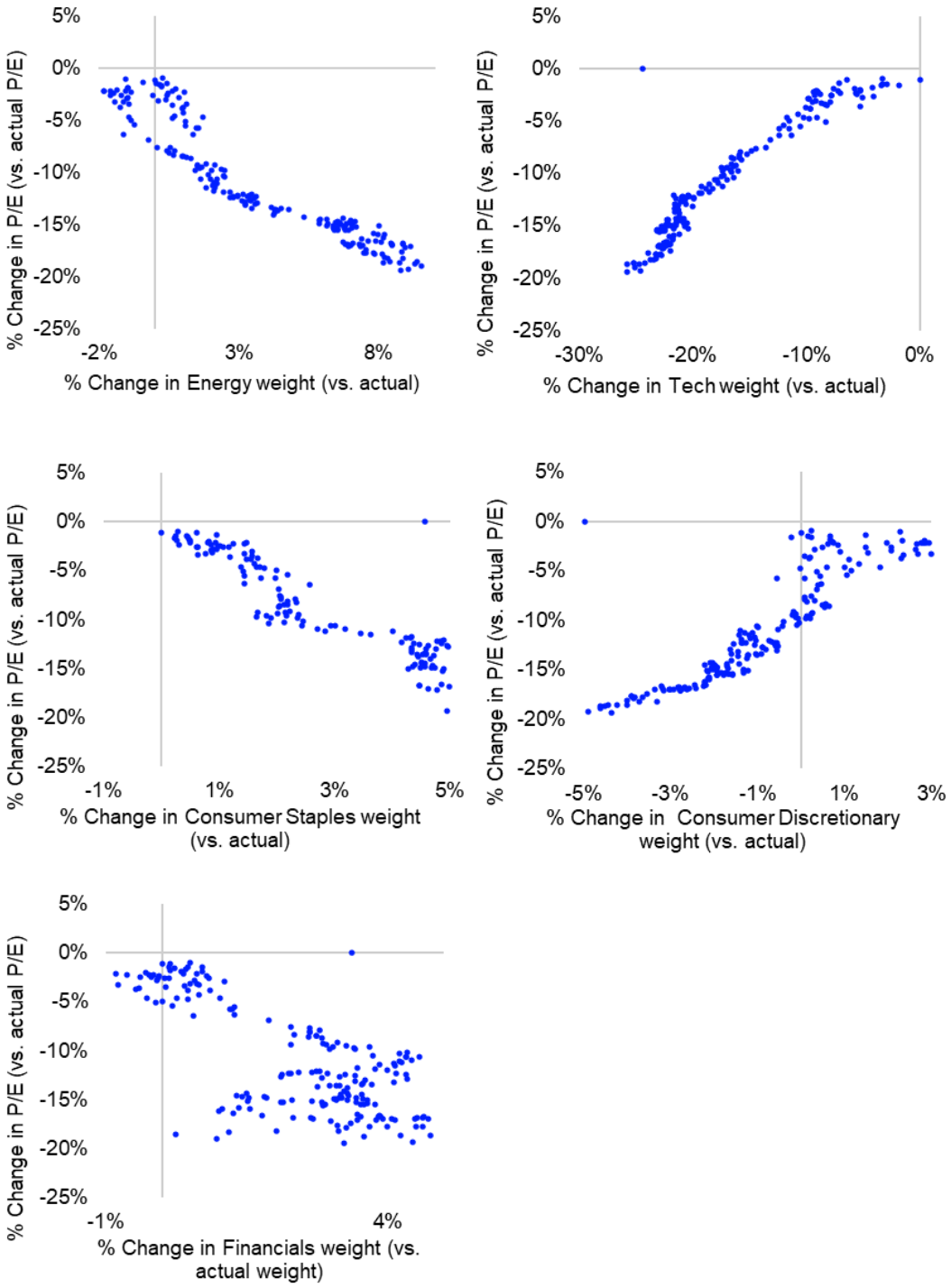
	Energy	Technology	Consumer Staples	Consumer Discretionary	Financials
June 2008	14.7%	13.12%	8.9%	8.8%	13.5%
June 2012	10.4%	16.7%	10.1%	11.7%	11.7%
June 2016	7.2%	16.1%	9.7%	12.7%	12.3%
June 2020	2.8%	27.3%	6.0%	15.6%	9.9%
June 2024	3.7%	37.6%	4.3%	13.7%	10.2%

Source: FTSE Russell, as at June 30, 2024.

This recent trend in index composition away from lower-multiple industries and towards higher-multiple industries for the FTSE USA Index suggests that a normalisation of the index may be necessary when comparing price-to-earnings across time. Without controlling for this effect, the risk is that recent valuation multiples may be artificially inflated due to changes in composition, rather than due to higher valuations of the underlying securities themselves. Using the historical simulation approach described above, we find strong evidence that any simulation which uses higher index weights for Technology and Consumer Discretionary securities and lower weights for Energy, Consumer Staples, or Financials securities, would result in a higher index-level P/E. Given that industry weights for each simulation are drawn from the historical sample of monthly data since 2008, the scale of the x-axis varies depending on the range of observed weights for each given industry.

[4] Composition changes of the Russell Indexes over 40 years (lseg.com)

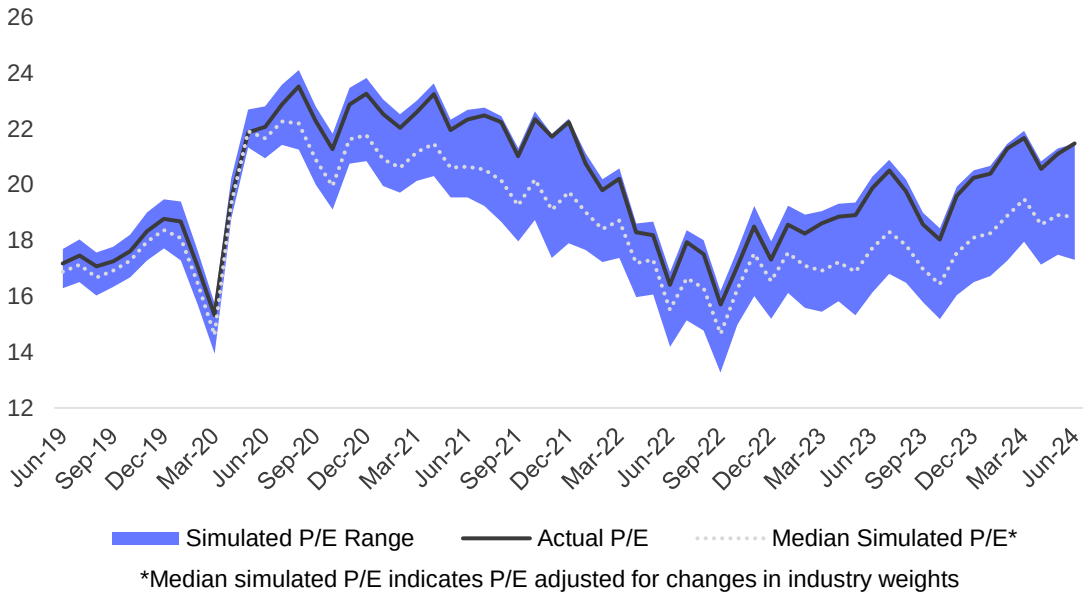
Figure 4: FTSE USA Index's relationship between simulated ICB industry weights and P/E for June 2024



Source: FTSE Russell, as at June 30, 2024.

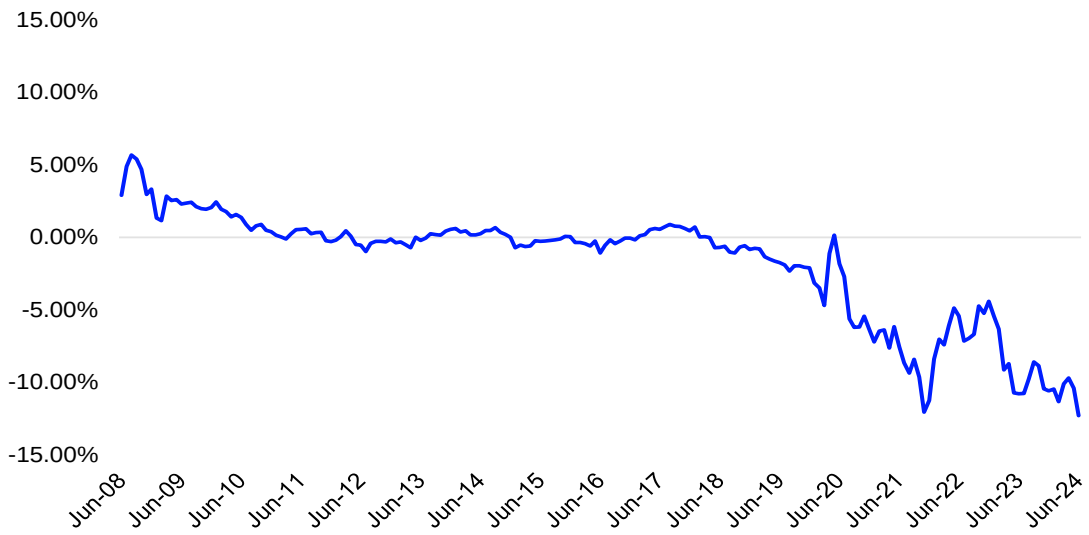
The results of our historical simulations, where we attempt to normalise changes in industry weights on the FTSE USA Index, can be seen in Figures 4 and 5. These results confirm that the trend in the index composition away from lower-multiple industries and towards higher-multiple industries has likely resulted in artificially inflated index-level valuations. Notably, the median simulated or 'normalised' P/E is almost consistently lower than the actual index P/E between early 2018 and June 2024. We also find that the simulated P/E range for the index is particularly wide, which suggests that the magnitude of the effect of varying industry weights on valuation levels is significant. As of end-June 2024, the median simulated or 'normalised' P/E came in at 18.8x, which puts it in the 73rd percentile and compares to a non-normalised P/E of 21.5x, sitting in the 85th percentile.

Figure 5: FTSE USA Index P/E over time using historically simulated industry weights



Source: FTSE Russell, as at June 30, 2024.

Figure 6: Variation between FTSE USA Index's normalised P/E (industry-adjusted) and actual P/E



Source: FTSE Russell, as at June 30, 2024.

However, the question remains as to whether using these normalised valuations would result in any meaningful improvement in returns forecasting. In the table below, we highlight the correlations of both normalised and unadjusted (non-normalised) 12-month forward P/E ratios with forward looking returns over different periods. These results show that over 3-, 5-, and 10-year forecast horizons, using normalised P/Es, where we control for changes in industry composition, does result in a small improvement in the correlation between valuations and future returns. It's also worth noting that, due to the relatively small sample size of 10-year returns available since June 2008 (73 periods), these correlations and the improvement in forecasting from using the normalised valuations could increase further if our sample size were to increase. The periods used for the 10-year returns forecasting also omit the use of recent periods (post-2014), where the variation between normalised valuations and actual valuations has been greatest (per Figure 5). This means that the period where we would expect to see the most drastic improvements in forecasting has not been included and that future studies which include post-2014 returns may see even larger improvements in forecasting.

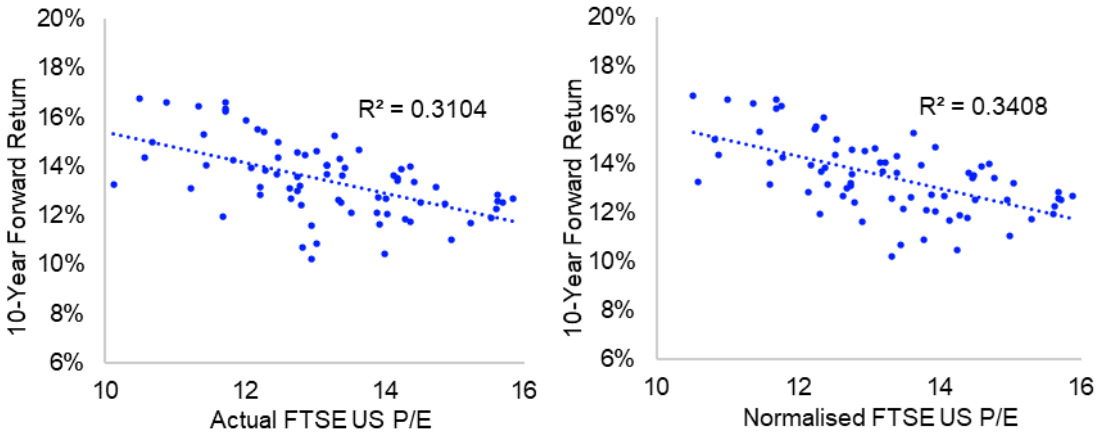
Although using overlapping periods to maximise the number of sample points does result in serial autocorrelation, we believe our results are nevertheless robust. Using non-overlapping periods in this analysis would also require a longer history of data than is currently available.

Figure 7: Correlations between FTSE USA Index's 12M forward P/E (actual/unadjusted and normalized) and forward-looking returns

	1-year	3-year	5-year	10-year
Unadjusted 12M Forward P/E	**0.16**	0.39	0.29	0.56
Normalised 12M Forward P/E Controlling for Changes in Industry Composition	0.15	**0.40**	**0.30**	**0.58**

Source: FTSE Russell, as at June 30, 2024.

Figure 8: Relationship between FTSE USA Index's 12M forward P/E (actual and normalized) and 10-year forward returns

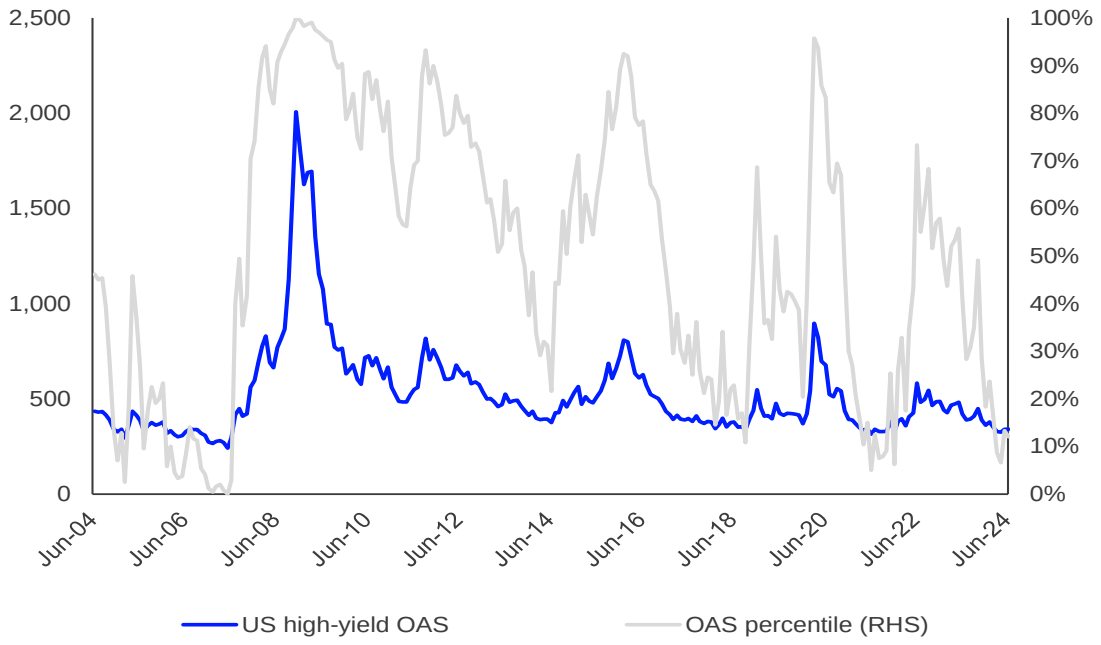


Source: FTSE Russell, as at June 30, 2024.

High Yield

Similar to equities, credit markets have also seen a significant increase in valuations in recent years, as measured by option adjusted spreads. Within US High Yield, option adjusted spreads have tightened markedly since the GFC and have recently been steady at relatively low levels. Although spreads have not quite reached all-time lows, the current situation is unique in that high valuations exist within a backdrop of slower growth and higher interest rates. Given this backdrop, we believe it is worth assessing to what degree, if any, recent spread tightening within high yield may be driven by trends in index composition rather than more expensive pricing of credit as a whole. The most prominent of these trends include improved credit quality due to increased weights in higher-rated credit, and decreasing maturity, as seen through an increased exposure to bonds with a lower weighted average life. In this section we investigate what effect these trends in credit quality and maturity may have had on credit spreads and whether controlling for these changes through our sample period would improve the accuracy of using option adjusted spreads in forecasting returns.

Figure 9: FTSE US High-Yield spreads vs. percentile rank over the last 20 years

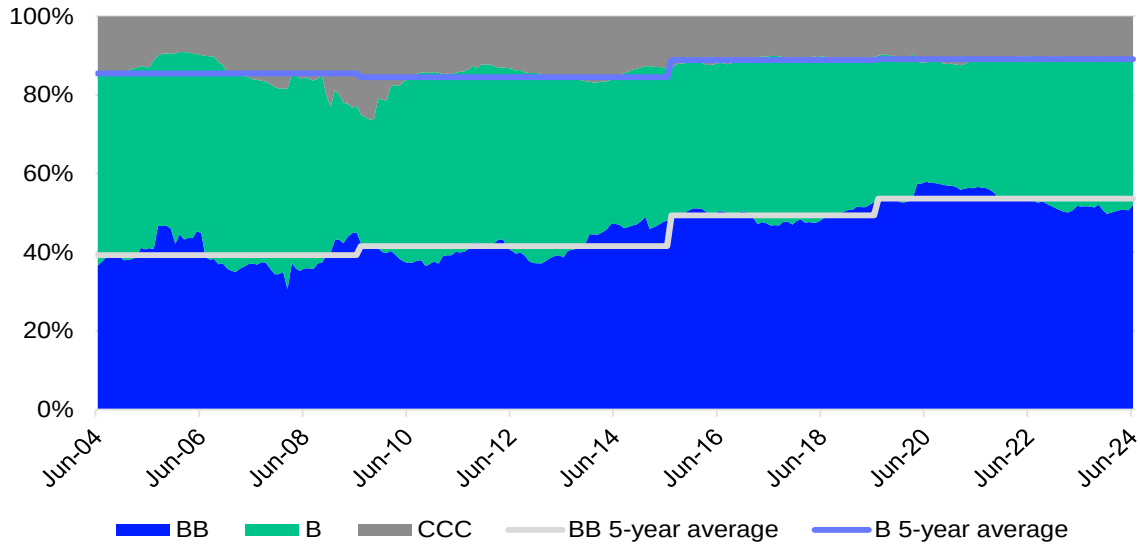


Source: FTSE Russell/LSEG. Data as of June 30, 2024. Monthly data from June 2004 to June 2024.

Trends in Credit Quality

The creditworthiness of US high yield has broadly increased over the past twenty years, as indicated by larger index weights to bonds with higher credit ratings, shown in Figure 10. During this period, the FTSE US High-Yield index has seen its weighting of BB-rated bond issues increase from a low of 36.6% in June 2004 to 52.1% in June 2024, at the expense of B (49% in 2004 down to 37% in 2024) and (lowest credit rating) CCC-rated bonds (14.4% in 2004 down to 10.9% in 2024).

Figure 10: Breakdown of FTSE US High-Yield Index by Credit Rating



Source: FTSE Russell/LSEG. Data as of June 30, 2024. Monthly data from June 2004 to June 2024.

Figure 11: FTSE US High-Yield market value weights by credit rating sectors (%)

	BB	B	CCC
June 2004	36.6	49.0	14.4
June 2014	47.2	37.0	15.8
June 2024	52.1	37.0	10.9

Source: FTSE Russell/LSEG. Data as of June 30, 2024.

Several factors may help explain why the overall quality of US HY credit has improved over the past 20 years. Firstly, periods of sustained growth have helped to support improved corporate profitability, enabling companies to better serve their debt obligations. Companies have also endeavoured to strengthen their balance sheets over this period by reducing leverage and better managing liquidity and cash flows. Meanwhile, high yield bond investors have become more sophisticated in their credit risk analysis and management as the high yield bond market has matured, encouraging better discipline from high yield bond issuers in response. Finally, stricter regulations and increased oversight of financial institutions post-GFC have also played an important role in improving creditworthiness. While we recognise that the period of lower rates following the GFC and until 2022 may be viewed as a possible factor for improvements in credit quality due to the relative ease of servicing lower yielding debt, we also note that lower interest rates often encourage additional leverage for these companies. As such, we believe the impact of lower interest rates on credit quality could be mixed, and therefore will not be a focus of this paper.

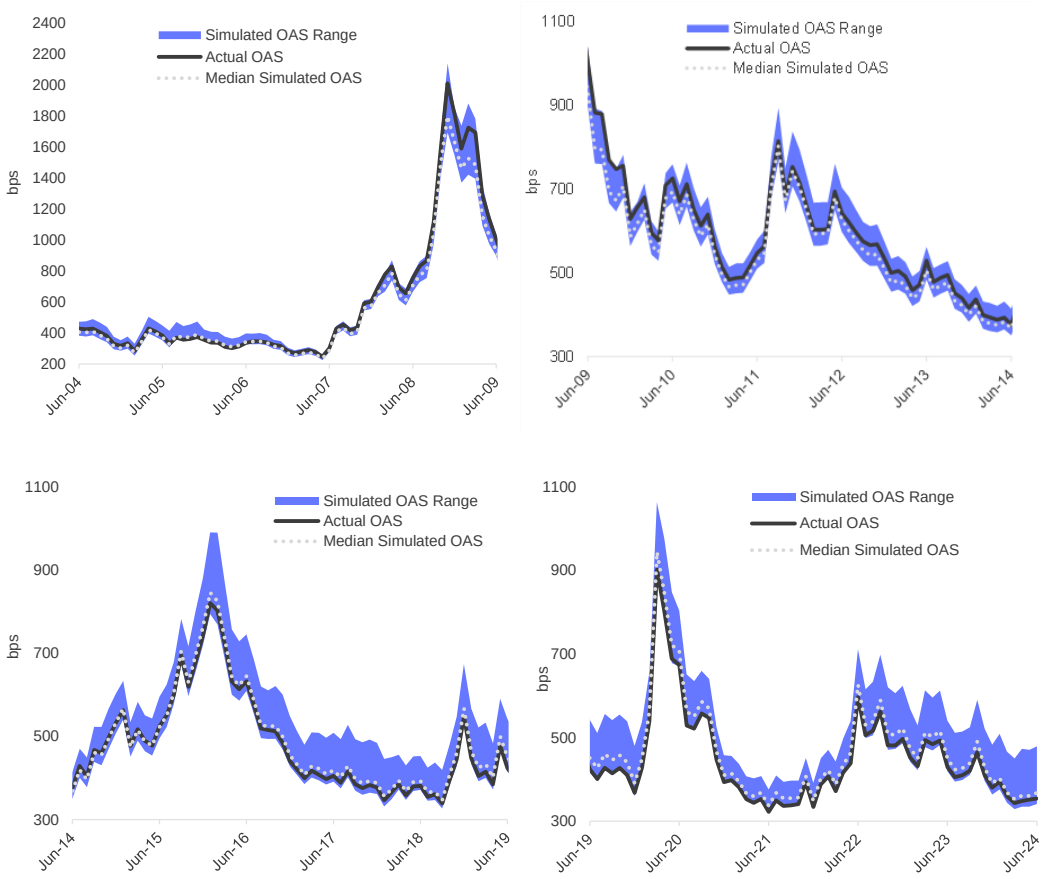
To control for credit quality changes and to assess their effect on valuations within US High Yield, we used the methodology described at the beginning of this report and ran a series of simulations to create a median simulated OAS path (or 'normalised' OAS). The results of this process can be seen in Figure 12 – which shows the deviation of the normalised OAS from the actual OAS (the period of 20 years is split into 4 charts for easier observation), and Figure 13 – which shows how actual OAS, normalised OAS and the range of simulated OAS has evolved over time.

Looking at these results, we observe that normalised OAS, which controls for changes in credit composition over time, is almost consistently higher than actual OAS over the most recent 10 years. This means that, since 2014, the improving credit composition of the FTSE US High-Yield Index has likely been a driver for tighter spreads (at the index level). This conclusion is supported by the fact that during this period (2014 to 2024), the weight of BB-rated credit (highest credit quality in HY index) in the index increased markedly at the expense of CCC-rated bonds (lowest credit quality in HY index). The improvement in index credit quality is particularly strong in recent years. In Figure 13, the range of simulated OAS values for June 2024 appears relatively wide versus actual levels and the actual OAS sits near the lower boundary of the range (85th percentile for the 20-year history). The results also show that the 1-year average variation between the median simulated OAS and actual OAS (3.6% as of June 2024) is higher than the 10-year average (3.4%).

Figure 12: Variation between FTSE US High-Yield's normalised OAS (credit-adjusted) and actual OAS

Source: FTSE Russell/LSEG. Data as of June 30, 2024. Monthly data from June 2004 to June 2024.

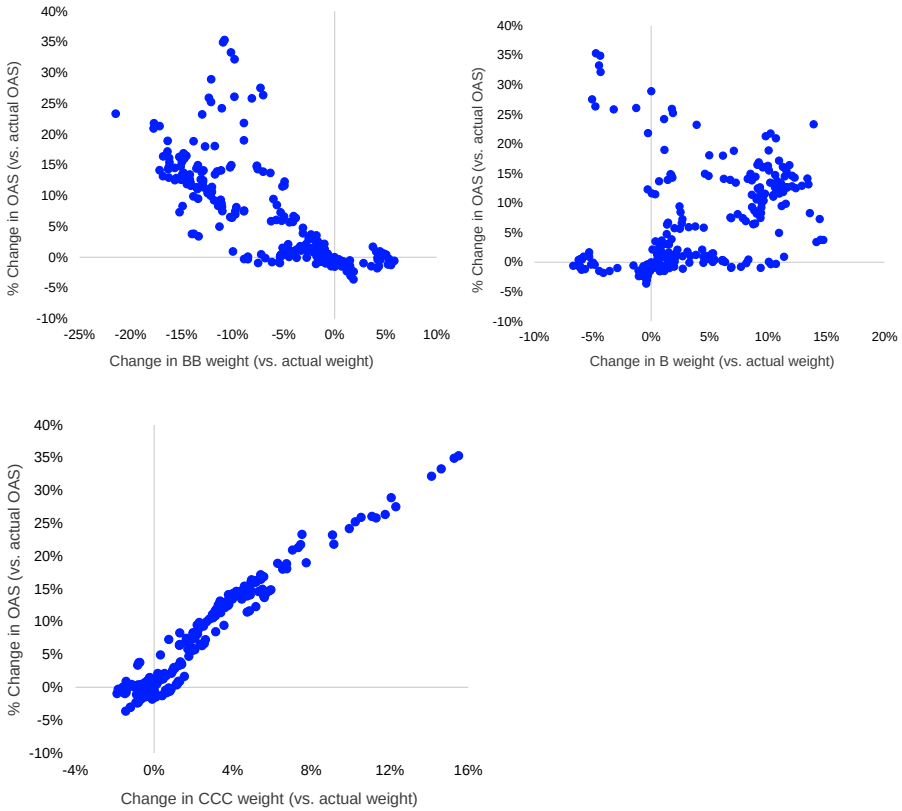
Figure 13: FTSE US High-Yield simulated OAS when controlling for changes in credit composition



Source: FTSE Russell/LSEG. Data as of June 30, 2024. Monthly data from June 2004 to June 2024. Note: Figure 13 is shown in four sub-periods since the x-axis range varies drastically between these periods.

Next, we look at the scatter plots showing the relationship between simulated credit composition and credit spreads for June 2024 as an example. Figure 14 shows a clear negative relationship between simulated weights in BB and the resulting option-adjusted spread for that month. Additionally, a strong positive linear relationship exists for CCC. However, there is no evidence for an obvious relationship in B-rated sector. This suggests weight combinations with a higher proportion of BB bonds and lower proportion of CCC bonds would result in notably lower option-adjusted spreads. This is in line with the economic intuition that investors of bonds with better credit quality would require less risk premium (lower spreads) than those of lower-rated bonds, thus higher bond valuations. This implies that the improved credit mix in the HY index accounts for a significant part of the spread tightening that we have seen in recent years.

Figure 14: Relationship between FTSE US High-Yield's simulated credit rating weights and OAS for June 2024



Source: FTSE Russell/LSEG. Data as of June 30, 2024.

Yet, despite the trend in US High Yield towards higher rated credit appearing to distort valuations, we note that controlling for these distortions and using normalised OAS as opposed to un-adjusted or actual OAS doesn't yield any significant improvement when forecasting future returns. In Figure 15, the row labelled "Unadjusted OAS" shows the correlation between actual OAS and future returns over various forecasting horizons, while the bottom row shows similar statistics for median simulated, or 'normalised' OAS. Per the data, the correlation between median simulated OAS and future returns for different horizons is generally in line with that of actual OAS but still underperforms over all horizons except 1-year. This implies that the improved credit quality of the HY index is at least a partial explanation for the tight credit spreads in recent years but that using normalized OAS that accounts for changing credit mix instead of actual OAS does not improve the predictive ability of OAS for future credit returns.

Figure 15: Correlations between FTSE US High-Yield's OAS and future returns

Correlation of	1-year	2-year	3-year	4-year	5-year	10-year
Unadjusted OAS	0.72	**0.94**	**0.85**	**0.84**	**0.83**	**0.63**
Normalised OAS Controlling for Changes in Credit Composition	**0.73**	0.87	0.82	0.81	0.81	0.62

Source: FTSE Russell/LSEG. Data as of June 30, 2024. Monthly data from June 2004 to June 2024.

Trends in Maturity

Over the past 20 years, we have also seen the share of shorter-maturity bonds increase within high yield. Trends in the maturity composition of the US High Yield Index indicate that the share of bonds in the index with a weighted average life (WAL) of less than 7 years has increased over the past twenty years versus a reduction in the share of bonds with a WAL of 7 years or more. As a result, the index-level WAL for the US High-Yield index has shortened from 8.1 years in June 2004 to 4.8 years in June 2024, fuelled by the recent sharp fall upon Fed's monetary tightening since March 2022.

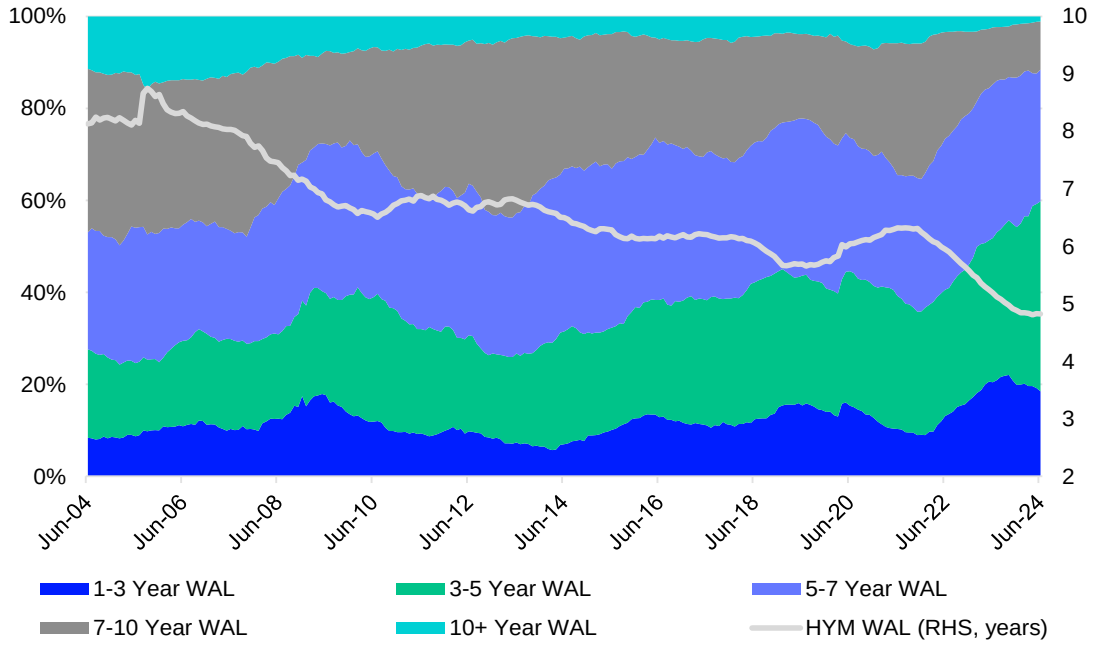
Several factors may have led to this lower index-level WAL for high yield. In the post-Covid era, economic and monetary policy uncertainty has caused both investors and issuers to prefer shorter-term securities. For issuers, higher interest rates, in response to high and stubborn inflation, have made issuing long-term debt less attractive due to the long-term commitment to servicing higher interest costs. In an uncertain environment, issuers are often more likely to issue shorter-maturity bonds to manage the cost of borrowing, particularly for high yield bonds, whose issuers are more sensitive to economic cycles than issuers of investment-grade bonds. Additionally, shorter maturity debt allows companies to roll over and refinance their bonds more frequently, hopefully at a more favourable rate. For investors, higher interest rate volatility and concerns around defaults have increased the appeal of shorter-term investment to reduce risk. Not only are shorter-maturity bonds less exposed to interest rate risk, but they are also generally more liquid and easier to trade.

Figure 16: FTSE US High-Yield's exposure by maturity bucket (%)

	1-3 years	3-5 years	5-7 years	7-10 years	10+ years
June 2004	8.4	19.2	25.4	35.6	11.4
February 2022	9.7	27.6	30.4	28.0	4.3
June 2024	18.5	41.3	28.7	10.5	1.1

Source: FTSE Russell/LSEG. Data as of June 30, 2024.

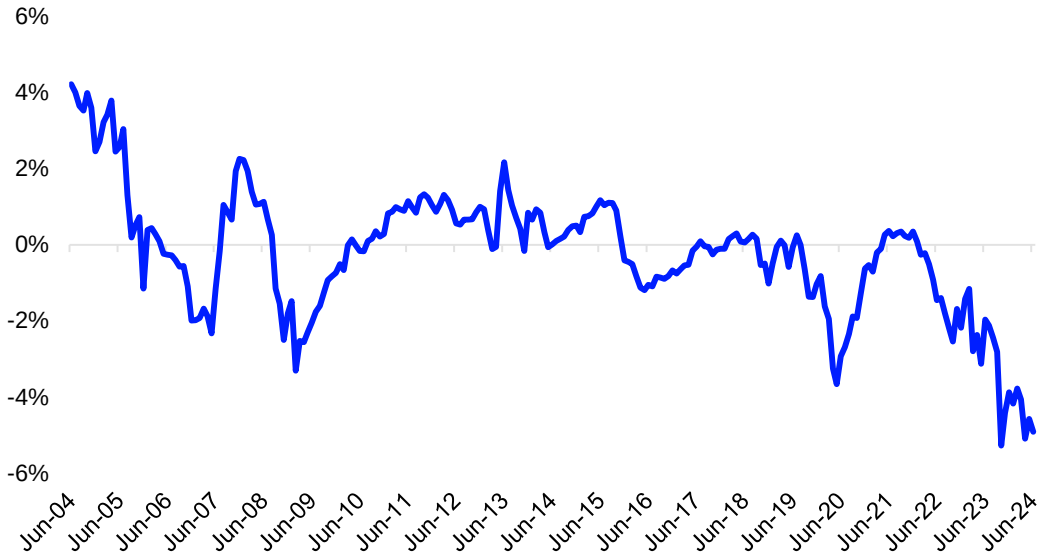
Figure 17: Breakdown of FTSE US High-Yield Index by Weighted Average Life (WAL)



Source: FTSE Russell/LSEG. Data as of June 30, 2024. Monthly data from June 2004 to June 2024.

To control for WAL changes, we again employ the historical simulation approach, and the results are shown in Figures 18 and 19. The first conclusion we can draw from these results is that the deviation of simulated OAS from actual OAS (ranging from -6% to 4.2%) is less significant than when adjusting for changes in credit composition (ranging from -12.3% to 7.7%). This implies that the effect on valuations from trends in maturity is weaker than the effect from trends in credit quality. Secondly, over the past 10 years, the median simulated or 'normalised' OAS is generally lower than actual OAS, as exhibited through negative deviations. This stands as a contrast to the positive deviations seen when controlling for changes in credit composition and means that the actual OAS may have been widened by maturity composition changes. Looking specifically at the most recent periods in Figure 19, we note that since February 2022, the median simulated OAS is consistently lower than actual OAS. This may be explained by the dramatic change in maturity composition after the Fed began raising interest rates in March 2022, i.e., the larger weight in 1-5 years vs smaller weight in longer-term bonds (Figure 16), as issuing shorter bonds helps mitigate the risk of bond price decline due to rising interest rate.

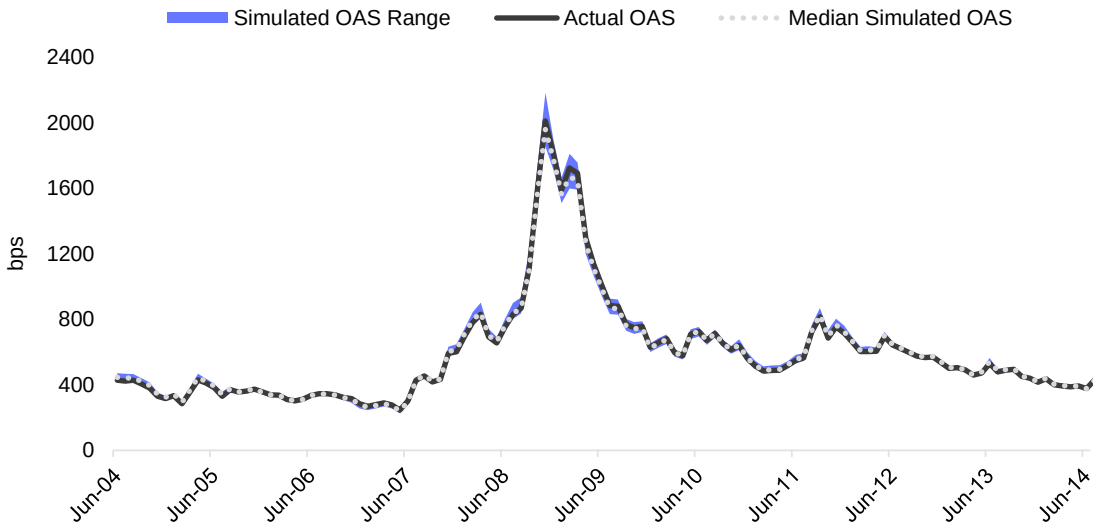
Figure 18: Variation between FTSE US High-Yield's normalised OAS (maturity-adjusted) from actual OAS

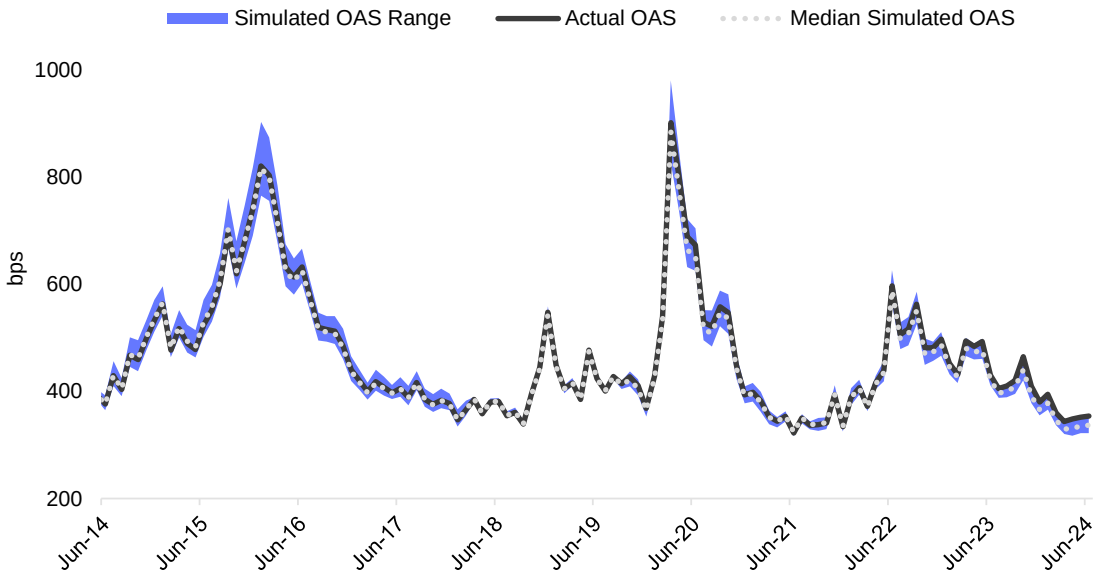


Source: FTSE Russell/LSEG. Data as of June 30, 2024. Monthly data from June 2004 to June 2024.

In Figure 19, we also observe that the range of simulated OAS is rather narrow across the 20-year history. Even for the most outstanding period between 2015 and 2016, the range in simulated OAS is much narrower than we observe for simulated OAS when controlling for changes in credit composition. As such, we can conclude that using historical weights for maturity buckets at current OAS levels would be unlikely to result in significantly different levels of spread. This essentially means that changes in the WAL or duration of the HY index is not an explanatory factor for the tighter credit spreads in recent years.

Figure 19: FTSE US High-Yield simulated OAS when controlling for changes in maturity composition

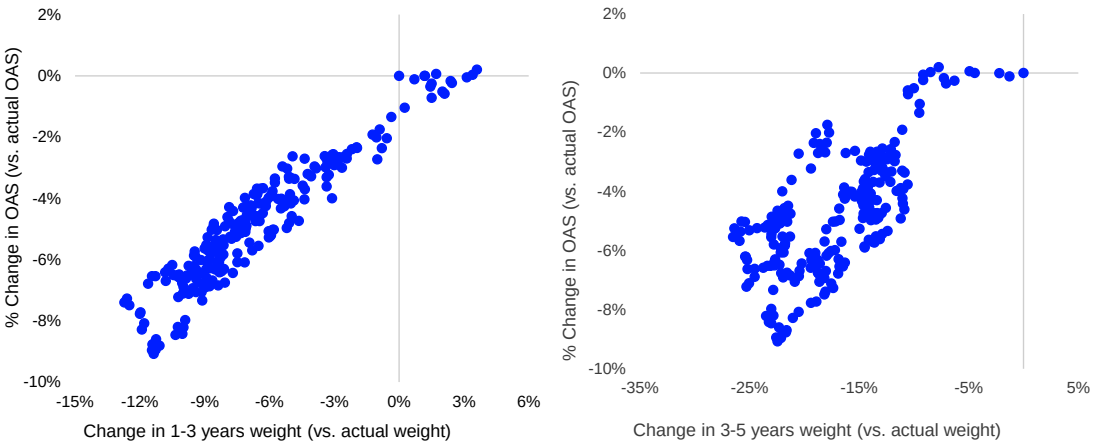


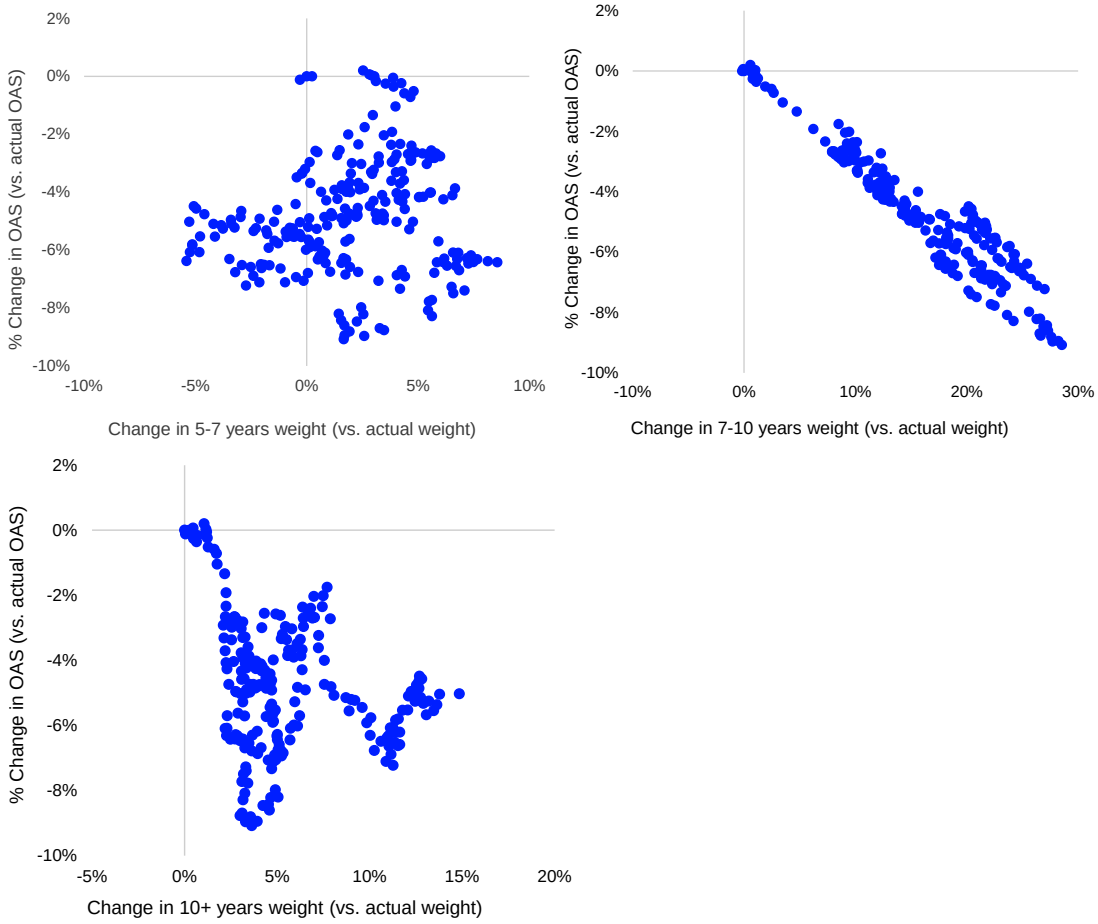


Source: FTSE Russell/LSEG. Data as of June 30, 2024. Monthly data from June 2004 to June 2024.

The scatter plots in Figure 20, largely confirm that weightings in lower-WAL buckets are positively correlated with OAS and that weightings in higher-WAL buckets are negatively correlated with OAS. This implication is opposite to the economic intuition that shorter maturities would lead to deflated or narrower spreads, as a normal shape of upward-sloping credit curve and theories around term-premium would suggest. One possible explanation for this is that the maturity composition effect is much less significant and may be offset by other effects, such as credit composition. While it is beyond the scope of this paper as to why weightings in lower-WAL buckets are positively correlated with OAS and that weightings in higher-WAL buckets are negatively correlated with OAS, it is important to point out that it is in-line with the negative term premium estimated in US Treasuries in recent years, as per the ACM (Adrian, Crump, and Moench) and the Kim-Wright model of Term Premium calculated by the Federal Reserve Bank. The negative term premium in recent years is both contrary to its long-term historical values and economic theory.

Figure 20: Relationship between FTSE US High-Yield's simulated WAL weights and OAS for June 2024





Source: FTSE Russell/LSEG. Data as of June 30, 2024.

Finally, to assess whether controlling for trends in maturity would improve the forecasting power of OAS in predicting future returns, we present the correlations between both unadjusted and normalised OAS and future returns over different horizons in Figure 21. These results show that the change in correlation, meaning the predictive power of current OAS for future credit returns, when using normalised OAS over actual OAS is rather small, with no significant improvement when using normalised OAS and only a slight difference in correlation over 1-, 3-, and 4-year forecasting horizons. As with unadjusted OAS, normalised spreads continue to have the strongest forecasting power over a 2-to-4-year horizon.

Figure 21: Correlations between FTSE US High-Yield's OAS and future returns

Correlation of	1-year	2-year	3-year	4-year	5-year	10-year
Unadjusted OAS	**0.72**	0.88	0.85	**0.84**	0.83	0.63
Normalised OAS Controlling for Changes in Maturity Compositions	0.71	0.88	**0.86**	0.83	0.83	0.63

Source: FTSE Russell/LSEG. Data as of June 30, 2024. Monthly data from June 2004 to June 2024.

Conclusions

As of June 30, 2024, valuations within both US equity and high yield credit markets sit near all-time highs. However, compositional changes in both markets make it difficult to objectively assess these valuations in a historical context. In recent years, changes in the industry composition of the FTSE USA Index have seen index weights in typically high-multiple industries increase at the expense of low-multiple industries. Technology is perhaps the best example of this trend, with the industry's weight within the FTSE USA Index climbing from a low of 12% in December 2008 to a high of 38% in June 2024. When controlling for these changes in industry composition, we find that recent valuation levels appear less extreme on a true comparative basis. Using our historical simulation approach, we arrive at a normalized 12-month forward P/E for June 30, 2024, of 18.8x (73rd percentile), compared to a non-normalized P/E of 21.5x (85th percentile). We also find that using normalized 12-month forward P/Es over unadjusted multiples results in an improvement in long-term returns forecasting - the takeaway being that adjusting equity multiples for changes in industry composition is necessary, both when assessing valuations in a historical context as well as when forming capital market expectations.

However, the benefits of controlling for compositional changes within high yield credit markets are less clear. For the FTSE US High-Yield Index, changes in credit quality and changes in maturity stand as the most notable compositional trends of the last 20 years. Changes in credit composition of the high yield index, by way of an improved credit profile with increase in weights in highest rated BB and decreases in weights in lowest rated CCC, are an important reason for the significantly tighter credit spreads over the past 16 years. Tighter credit spreads since the GFC are likely, at least partially, due to the improved credit quality of the high yield universe. Over the past two decades, the weighted average life (WAL) of the high-yield index has steadily declined, yet this trend fails to fully explain the significant tightening of credit spreads observed during the same period. While our analysis shows that shorter durations tend to be associated with higher spreads – consistent with the Federal Reserve's findings on the negative term premium paradox over the past decade[5] – this relationship does not account for the broader trend in spread compression. Instead, it is the shift in credit composition, marked by a greater weighting towards higher-rated bonds, that has had a far more pronounced effect on driving spreads lower than changes in the maturity profile. The improvement in overall credit quality has proven to be a more influential factor than adjustments in maturity composition.

[5] Treasury Term Premia - FEDERAL RESERVE BANK of NEW YORK

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