



Where's the value in value investing?

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It has been a miserable decade for the value style of investing, whose performance has languished behind its rival growth style. The recent low growth and low interest rate environment is largely to blame, as this has favoured growth stocks. However, the major headwinds are abating or even reversing and a significant valuation gap has now opened between value and growth stocks. Investors need to wake up to this underlying change in market conditions and start to re-evaluate value.

Sean Markowicz
Strategist, Research
and Analytics



Numerous studies show that value stocks have outperformed growth stocks over the long-term¹. The difference in returns between value and growth is often referred to in financial literature as the "value premium". However, since the Global Financial Crisis (GFC), value stocks, regardless of company size or geographic focus, have endured a period of significant underperformance. So does this "lost decade" mean there has been a permanent shift away from value?

We do not think so. For a start, value's underperformance looks like an anomaly. On one measure developed by two leading academics, Eugene Fama and Kenneth French (see Figure 1), there have been only three significant bear markets

for value in the last 90 years: the Great Depression of the 1930s, the Technology Bubble of the 1990s and the post-GFC period of the last 10 years. But the length and depth of the most recent episode is the most extreme on record.

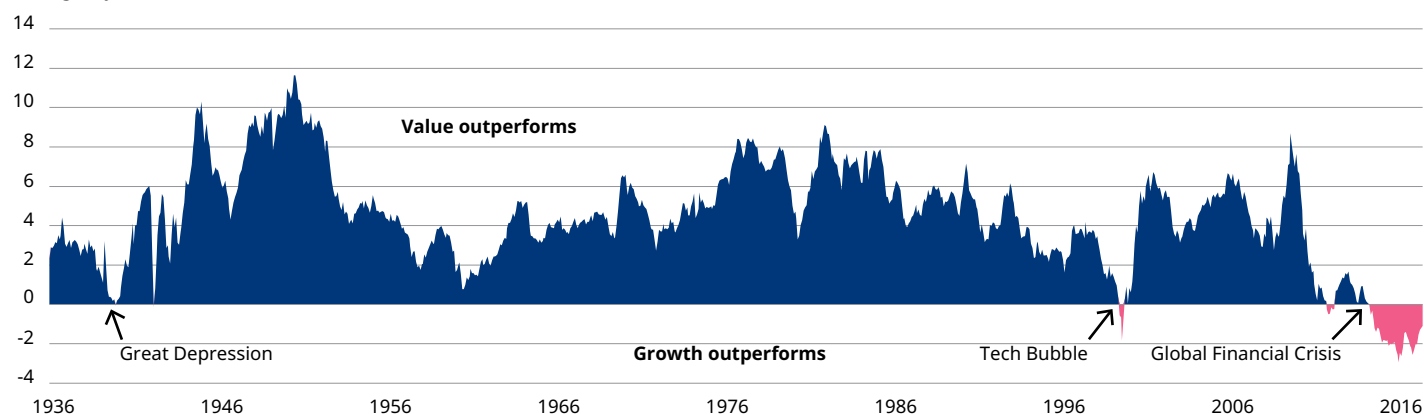
The macroeconomic environment over this period has been marked by several unique features that have turned value on its head. But these conditions are abating or even reversing and a significant valuation gap has now opened between value and growth stocks. Against this backdrop, betting against value over the long term may no longer look like a winning trade. Our analysis focuses on the US equity market, given the greater availability of data. The themes we discuss are, however, broadly applicable to other regions².

¹ See "The Cross Section of Expected Stock Returns". Fama, E.F. and French, K.R. The Journal of Finance. 47, 427-465, 1992, and "Value and Momentum Everywhere". Asness, C.S., Moskowitz, T.J., Pedersen, L.H. The Journal of Finance 68, 929-985, 2013.

² Throughout this paper, we rely on the MSCI USA Value Index as a proxy for US large-cap value equities because it is a common benchmark used by investors and helps us to draw general conclusions about value performance. For long-term performance, we rely on the US Fama-French Value Factor.

Figure 1: Value has nearly always outperformed growth - until recently

Rolling 10-year annualised return of Fama-French Value Factor, %



Past performance is not a guide to future performance and may not be repeated.

Based on monthly returns of the US Fama/French HML (High Minus Low) Factor. HML is the return on the "high" portfolio minus the return on the "low" portfolio, where book to market is used as the value metric. Source: Kenneth French's Data Library and Schroders. Data from 31 July 1926 to 29 December 2017.

Why does the value premium exist?

Value stocks are companies with low prices relative to fundamentals, such as earnings, book value or cash flow. Growth stocks are companies with high current or forecast earnings and so tend to have higher prices relative to fundamentals. There are two traditional explanations as to why value stocks have tended to outperform growth stocks.

The first is behavioural: investors tend to overreact to good or bad news and naively extrapolate past growth rates into the future. This leads them to overpay for growth and underpay for value. The resulting valuation gap then becomes a function of human emotion, not economic reality. Eventually, this is corrected, as most company profits tend to revert to their long-term average. That is to say, severe profit falls often reverse while strong profit growth tends to slow.

The second explanation is that value stocks are riskier companies because they are more sensitive to the economic cycle or more leveraged. Investors want to be compensated for taking on that risk with the prospect of a higher expected return. Conversely, growth stocks are generally companies that have experienced strong earnings growth and are expected to continue growing in the future. Investors are less concerned about future losses because of growth stocks' past earnings achievements and high growth prospects and so will apply a lower risk premium, which lowers expected future returns.

The macro influences

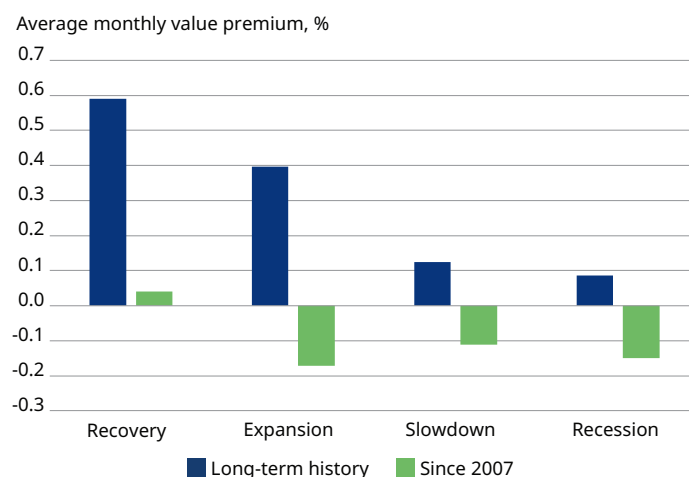
The prolonged period of slow economic growth shoulders most of the blame for value's recent underperformance. In a slow growth and uncertain economic environment, earnings growth is hard to come by³ and so investors place a premium on faster-growing companies, such as the so-called FAANG stocks – Facebook, Apple, Amazon, Netflix, Google (Alphabet) – because these are perceived to offer more earnings certainty.

This scarcity of earnings growth has motivated investors to pursue investments in companies capable of generating their own growth at the expense of those, such as value stocks, that are more exposed to cyclical downturns. Indeed, since the trough of the recent US recession, the 12 month forward price-to-earnings ratio of growth stocks has risen by 55% compared to only 11% for value stocks⁴.

3 Since 2007, US stocks have generated real earnings growth of 0.8% per annum, far below the pre-crisis average of 2.4%. Source: Datastream, MSCI and Schroders. Data from 31 January 1969 to 31 December 2017. Based on MSCI USA Index and US core CPI as proxies for US stocks and inflation respectively. Pre-crisis average is from 1969 to 2007.

4 MSCI USA Growth Index and MSCI USA Value Index used as a proxy for value and growth equities respectively. Trough in US recession is based on data set by the National Bureau of Economic Research. Source: Datastream, MSCI and Schroders. Data from 31 May 2009 to 29 December 2017.

Figure 2: The typical “sweet spot” for value has not been so sweet



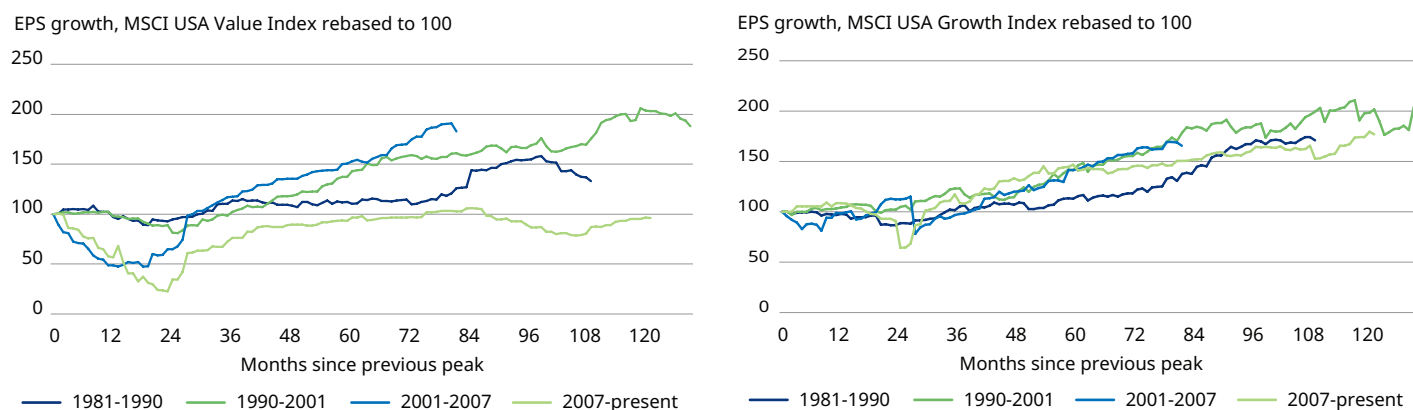
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Value premium calculated using monthly returns of the US Fama/French HML (High Minus Low) Factor. HML is the return on the “high” portfolio minus the return on the “low” portfolio where book to market is used as the value metric. Schroders Business Cycle Indicator (BCI) is used to determine monthly economic phases, based on a combination of macro, consumer and credit measures where data is standardised and percentile ranked. Despite the clear differentiation in returns across phases, we find they are not statistically significant. Source: Kenneth French Data Library and Schroders Cross-Asset Cyclical Group. Long-term history covers data from 31 March 1953 to 29 December 2017.

The underlying mechanics of the value premium have also been disrupted in this environment. Value investors exploit investors' overreaction to short-term events in the hope that a company's stock price will revert to intrinsic value once economic conditions improve. This is why the recovery phase of the business cycle is often cited as the “sweet spot” for value, as profits tend to rebound strongly after an economic downturn. Yet, this normal bounce-back for value has been insipid to say the least this time round (Figure 2).

Based on the nature of this weak recovery, there is a reasonable basis to claim that “this time is different”. Value stocks have experienced the worst recovery in earnings compared to at least the last three business cycles (see Figure 3 on the next page). In the wake of the GFC, the trough reached in earnings-per-share (EPS) was far worse than in any other recent recession and EPS is still below its previous peak. On the other hand, growth stocks have followed a fairly normal EPS path. Taken together, it is hardly surprising that value returns have languished relative to growth.

Figure 3: Value has not recovered its previous peak in EPS, while growth stocks have followed a fairly normal EPS path

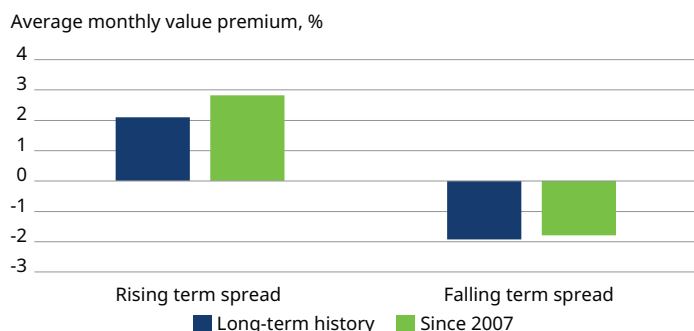


Each line begins at 100 with the peak of the previous business cycle, as determined by the National Bureau of Economic Research. Source: Datastream, MSCI, NBER and Schroders. Data from 31 July 1981 to 29 December 2017.

Low interest rates have not helped either. From 2008 to 2017, the Federal Reserve purchased billions of dollars of government bonds (among other assets) as part of its quantitative easing (QE) stimulus programme, which lowered long-term interest rates. When interest rates fall, future corporate cash flows are discounted at lower rates, which raises the present value of those cashflows and therefore the value of a business. But growth stocks, unlike value, have a greater proportion of their cash flows occurring in the distant future, as they are assumed to continue growing at a higher rate over time. This makes them akin to long-duration assets, which are more sensitive to changes in long-term rates. As a result, growth stocks have benefited far more than value stocks from rates falling to record lows⁵.

As well as the level of yields, the shape of the yield curve also matters. Value has tended to perform better when the yield curve has steepened and worse when it has flattened (Figure 4).

Figure 4: The recent flattening of the yield curve has hurt value stocks



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Value premium calculated using monthly returns of the US Fama/French HML (High Minus Low) Factor. HML is the return on the "high" portfolio minus the return on the "low" portfolio where book to market is used as the value metric. Term spread is calculated as the difference in yield between the US 10-year Treasury yield and 3-month Treasury bill. Source: Kenneth French's Data Library, Datastream and Schroders. Long-term history from 31 January 1962 to 29 December 2017.

⁵ The long-term correlation between changes in the 10-year Treasury yield and the value premium over a 10-year period has been 0.6. Source: Datastream, Kenneth French Data Library, Schroders. Data from 31 January 1962 to 29 December 2017. Value premium represented by the US Fama/French HML (High Minus Low) Factor.

One potential reason for this is that the banking sector tends to be most susceptible to the emotional short-term forces that are characteristic of value stocks given its leverage and economic sensitivity. Banking stocks typically benefit from a steeper yield curve because it increases the difference between what they charge borrowers and what they pay for funding.

However, the recent experience has favoured growth stocks, as the yield curve has flattened extensively. From 2009 to 2012, long-term yields, which are more sensitive to the outlook for inflation and economic growth, fell as markets priced in a sluggish economic recovery. When economic growth improved in 2013, short-term yields started climbing as investors priced in expectations of interest-rate hikes. Yet long-term yields continued to fall because inflation expectations, as measured by the break-even inflation rate⁶, plummeted. Against this backdrop, value has struggled to outperform growth.

The buyback bonanza

Low borrowing costs coupled with the underwhelming economic recovery have also fuelled an astounding volume of share buybacks. Over the past 10 years, US companies have spent US\$4.2 trillion on repurchase programmes, making them the single largest buyer of US stocks⁷. Ever since the US legalised buybacks in 1982, companies have increasingly preferred them to dividends as a way to return cash to shareholders. This is because buybacks offer firms the flexibility to vary cash returns to shareholders as profits oscillate⁸, whereas dividends require a long-term commitment to payouts and companies are reluctant to cut their dividends out of fear of sending a distress signal to the market.

⁶ The break-even inflation rate is a market-based measure of expected inflation. It is the difference between the yield of a nominal bond and an inflation-linked bond of the same maturity.

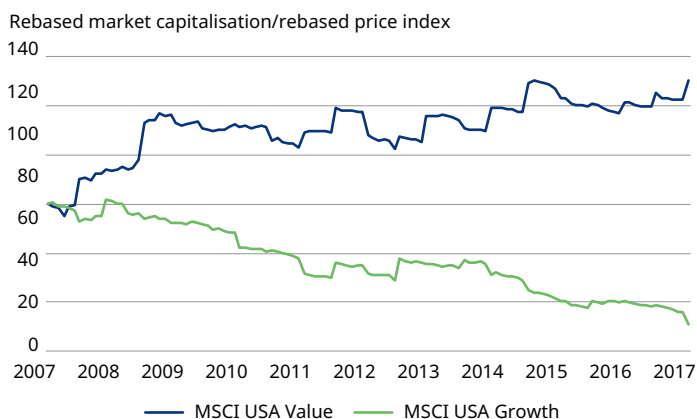
⁷ Source: S&P Dow Jones Indices, Datastream, Schroders. Based on data from Q1 2009 to Q4 2017 on the S&P 500.

⁸ Arithmetically – and all other things being equal – buybacks increase EPS by reducing the denominator with which profits are divided to arrive at the earnings per share figure. Assuming the price-earnings ratio remains constant, the stock price should increase.

Historically, dividend payout ratios and dividend yields have tended to be higher for value than for growth⁹. But the recent popularity of buybacks have rendered this apparent yield advantage somewhat ambiguous. Since value stocks tend to reflect more cyclical businesses, they tend to have less capacity to return excess cash to shareholders during bad economic times than growth stocks. In the current economic climate, this has placed value stocks at a significant disadvantage at a time when investors have valued share buybacks.

To support this claim, we can use a simple measure proposed by Bernstein and Arnott (2003)¹⁰ that captures net share issuance: the ratio of the proportionate change in market capitalisation to the proportionate change in price for a given index. For example, if the market capitalisation increases by a factor of 1.5, but the price of the index increases by a factor of 2, the ratio of proportionate change is 0.75 (1.5 divided by 2), which means a 25% net share redemption has taken place in the interim. Using this method, we can see that since 2007, share buybacks of growth stocks have vastly outnumbered share issuances, but the reverse has happened for value stocks (Figure 5). This imbalance between the demand for and supply of equity has favoured growth stocks.

Figure 5: The imbalance in demand for and supply of equity has favoured growth stocks



Market capitalisation is also impacted by IPOs, delistings and stock inclusion/exclusions from the index, but we have not adjusted for such factors. Source: Bloomberg, Datastream, MSCI and Schroders. Data from December 31 2007 to 29 December 2017.

9 This may be because value stocks generally reflect mature businesses that choose to return most profits to shareholders, while growth stocks reflect businesses in the early-stages of development that choose to reinvest most profits.

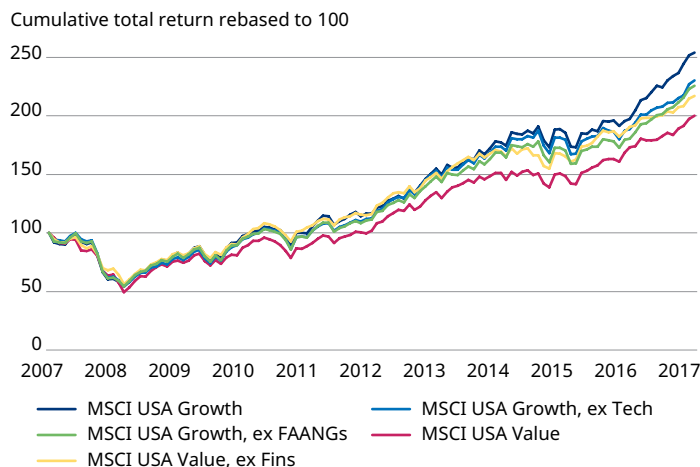
10 "Earnings Growth: the Two Percent Dilution", WJ Bernstein, and RD Arnott, Financial Analysts Journal, September/October 2003.

This divergence in equity supply partly reflects the corporate weakness and strength of certain industry sectors over the past decade. Many banks rushed to raise equity to shore up their balance sheets in the aftermath of the GFC. On the other hand, technology firms have dominated the growth narrative since the GFC due to the global success of the internet and the product innovations that have multiplied that success. Such companies have accumulated record piles of cash and have spent a significant portion of it on buybacks¹¹.

At a more general level, the financial industry was at the epicentre of the GFC and this is likely to have contributed to value's underperformance as well. As at 29 December 2017, the MSCI USA Value Index had 23% of its sector exposure in financials while the MSCI USA Growth Index had only 7%¹². The sector was hit the hardest during the crisis and also faced regulatory requirements to hold more capital. These two influences have made it difficult for financials to recover as profit margins have been both cyclically and structurally depressed.

However, if we adjust for the concentration of sector exposures, growth outperforms value by much less (Figure 6). Since 2007, the cumulative return of the MSCI USA Growth Index, excluding the IT tech sector or the FAANGs, is only marginally higher than the cumulative return of the MSCI USA Value Index, excluding the financial sector. This shows that most of value's underperformance can be attributed to sector differences (at least at an index level). This matters because it underscores the riskiness of a passive investment approach to value and growth investing.

Figure 6: The largest sectors explain nearly all of the difference in returns



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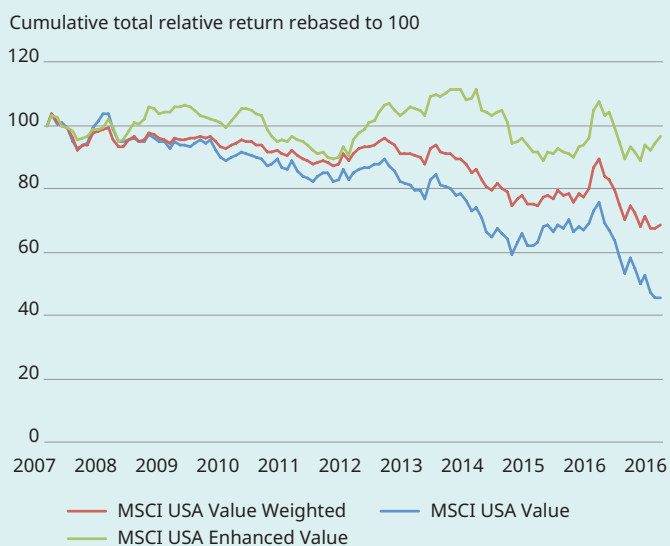
Source: Bloomberg, MSCI and Schroders. Data to 29 December 2017.

11 Tech stocks have spent \$943 billion on buybacks cumulatively since the market low of 2009, while financial stocks have spent only \$585 billion, 38% less. Source: S&P Dow Jones Indices and Schroders. Based on gross buyback data from Q1 2009 to Q4 2017 on the S&P 500 IT and financial services sectors.

12 Industry sector weightings must be interpreted with caution however, as the typical characteristics of value and growth indices may change over time.

Same style of investment, wildly different results

There are multiple ways of constructing a value index. The chart below plots the relative return of three differently-calculated value indices against a growth index, all created by the index provider MSCI. While their relative returns against growth have a correlation of 0.84, their actual performance varies greatly depending on which measure of value you use. For example, since 2007, the MSCI USA Value Index underperformed the MSCI USA Growth Index and MSCI USA Index (the US market) by 54% and 27% respectively. On the other hand, the MSCI USA Enhanced Value Index underperformed growth by only 4%, while it outperformed the market by 25%. This shows that even small differences in index construction can lead to substantial differences in returns. In like manner, the returns of actual value portfolios can differ from indices because of differences in value measures and/or how stocks are weighted in the portfolio.



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Total cumulative relative returns compared to MSCI USA Growth Index. Source: Datastream, MSCI and Schroders. Data to 29 December 2017. Rebased to 100 from 31 December 2007.

Why value investing may be primed to bounce back

Despite this unfavourable backdrop, there are several reasons why investors should now be optimistic. Given what we know about why value has lagged, we can identify a number of factors that are likely to support it going forward. For a start, the aforementioned conditions have pushed the valuation gap between value and growth to its widest level in many years. Ultimately such divergence cannot last forever, as in the past, differences of this magnitude have correlated with significant value outperformance over the subsequent years (see correlations in Figure 7).

While some growth stocks continue to justify their valuations given their earnings growth and their prospects for further growth, it is highly unlikely that all growth stocks will realise the market expectations that are implied by current valuations. This is after all the law of large numbers: companies cannot sustain their growth pace forever. This is coupled with the risk of underperformance when such crowded trades unwind. A straw in the wind was the sell off in some of the tech stocks during the first quarter of 2018. Clearly, it is not a one way bet that such companies will dominate forever. For instance, policymakers could tighten the screws on these industry leaders with new regulations or they may fail to maintain their technological dominance.

Figure 7 highlights six different valuation ratios as at 29 December 2017 and where value and growth indices lie along the percentile distribution of historical data. Green denotes cheap, amber is neutral and red is expensive. For example, using the price-to-book ratio, value currently trades at 0.4 times its growth peers. This falls in the 37th percentile of the data distribution, which means value, on a relative basis, is cheaper than 63% of its history. That is a stark reversal from the peak of the previous economic cycle reached in 2007, when value's relative price-to-book ratio was more expensive than 90% of its history.

While price-to-book is the measure of value with the longest standing, it also has its drawbacks. For example, many companies, especially those in the tech sector, require fewer physical assets today to operate compared to other companies in the past and this makes the book value of a business less meaningful. Nonetheless, investors should not ignore it completely, as historically the relative

Figure 7: Value has tended to outperform when it is cheap relative to growth

Percentile of historical experience shown in brackets. A lower number is preferred for all relative valuations.

	Trailing P/E	Forward P/E	Dividend yield	Price-to-book	PEG	CAPE
Relative valuation*	0.74 (76%)	0.74 (22%)	0.37 (18%)	0.40 (37%)	1.07 (26%)	0.65 (61%)
Correlation with subsequent 10-year relative return**	-0.35	-0.27	0.02	-0.52	-0.13	-0.57

* Relative valuation calculated as value/growth, except dividend yield which is calculated as growth/value.

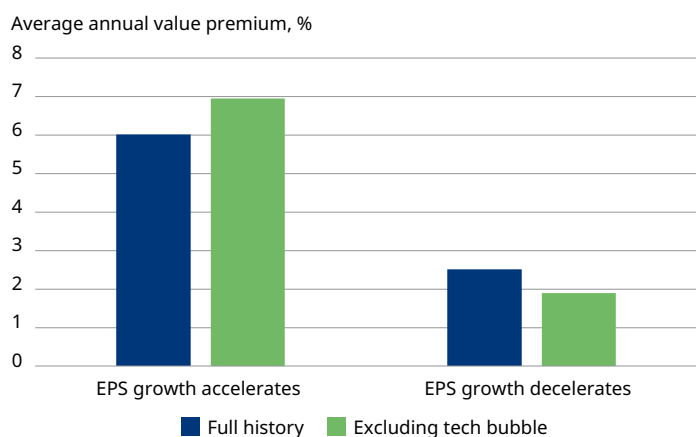
** Correlation with subsequent 5-year returns used for PEG ratio due to limited available data.

Price-earnings / Long-term earnings growth forecast. CAPE is the cyclically adjusted price-earnings ratio, calculated as the price divided by the average of 10 years of earnings, adjusted for inflation. Data from 31 December 1974 to 29 December 2017, except CAPE from 31 December 1984 and PEG from 31 March 2003. Value = MSCI USA Value Index. Growth = MSCI USA Growth Index. Relative valuation as at 29 December 2017. Percentiles are shown in brackets. A lower number is preferred for all relative valuations. Source: MSCI, Bloomberg, Datastream and Schroders.

price-to-book ratio has been strongly negatively correlated with the value premium over the subsequent 10 years. Moreover, value is still cheap on a relative basis using other measures, such as forward-looking earnings multiples. In summary, the valuation picture seems fairly supportive of value's relative return prospects.

One way that the currently wide valuation gap might narrow is through an acceleration in earnings growth. This would discourage investors from paying a premium for growth stocks because they may find less expensive growth in value stocks. There is strong historical evidence for this relationship, as the annual value premium has been on average three times higher when the earnings growth of US equities accelerated than when it decelerated (Figure 8). Analysts are growing more confident about the likelihood of an earnings acceleration in stocks with value-like attributes, as the forecast for their long-term earnings growth has more than doubled since reaching a 10-year low in 2016. It is currently the highest it has ever been in nearly 15 years.¹³

Figure 8: Value premium is highest when earnings growth accelerates



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Value premium calculated using monthly returns of the US Fama/French HML (High Minus Low) Factor. HML is the return on the "high" portfolio minus the return on the "low" portfolio where book to market is used as the value metric. Profit growth is calculated as S&P 500 YoY reported EPS growth. Value premium is lagged by one quarter to account for the lag in which quarterly profits are reported. Source: Kenneth French's Data Library, Robert Schiller and Schroders. Data from 31 October 1928 to 30 June 2016.

¹³ Based on broker forecasts for long-term EPS growth of the MSCI USA Value Index. Source: Datastream. Data from 31 March 2003 to 29 December 2017.

Furthermore, many of the cyclical headwinds that suppressed the value premium have abated or even reversed. The US is no longer suffering from the hangover of the GFC and, although we expect interest rates to remain relatively well anchored at current levels, they are higher than they were a few years ago.

This fact, coupled with the possibility of further capital expenditure and spending on research and development, could translate into less spending on buybacks, which would help to narrow the gap in EPS growth between value and growth stocks. There is some evidence that this may already be underway, given that tech stocks have spent 21% less on buybacks in 2017 compared to 2015, while over the same period financial stocks have spent 30% more¹⁴.

Figure 9 summarises how the five key drivers of the value premium may play out over the next 10 years. Overall, it seems the odds are stacked in value's favour. To support this view, we have attempted to model the relationship between the value premium and its various drivers (see appendix for further details of our methodology). Based on current valuations alone, our model suggests value is poised to outperform growth over the next 10 years. In fact, we found that the 10-year Treasury yield would have to fall to zero over the next decade for growth returns to merely equal value returns, all else being equal. What could justify such a move? The US economy would have to experience either a Japan-style lost decade, another round of QE or possibly another financial crisis. But all of these seem unlikely in our view.

¹⁴ Based on gross share buybacks in the S&P 500 IT and financials sector. Source: S&P Dow Jones indices and Schroders. Data from Q1 2015 to Q4 2017.

Figure 9: The stage is set for a recovery in value

	EPS growth differential*	US 10-year Treasury yield	US term spread	Buybacks	Valuation differential**
10-year expected trend	narrow	low	low	weaken	narrow
Beneficiary	value	growth	growth	value	value

Forecasts included should not be relied upon, and are not guaranteed.

*The difference in EPS growth between value and growth stocks. ** The difference in valuations between value and growth stocks. Source: Schroders.

Conclusion

The macroeconomic backdrop over the past decade has been especially unfriendly to value. However, we believe that the worst of the crisis is now in the past, as many of the cyclical headwinds for value are turning into cyclical tailwinds. Most importantly, a significant valuation gap has now opened up between value and growth stocks. In the past, differences of this magnitude have heralded significant value outperformance over subsequent years. This suggests that betting against value over the long-term may no longer look like a tenable investment option. Nevertheless, investors should tread carefully, as certain structural disruptions mean that some companies may be “value traps”: companies that are cheap for good reason. Identifying true value stocks requires in-depth security analysis, which entails knowledge, experience and resources that cannot be easily replicated.

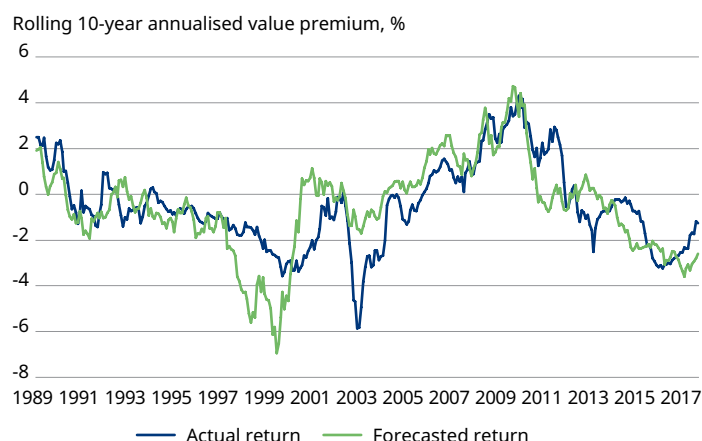
Appendix: methodology used to forecast value premium

Our analysis is based on a multivariate regression using monthly data from 1974 to 2017. We proxy the market returns of value and growth using the MSCI USA Value Index and MSCI USA Growth Index respectively. We regressed the 10-year value minus growth return against their relative price-to-book ratios at the beginning of the forecast period, the realised change in the 10-year Treasury yield and realised change in the term spread. Our research suggests that a simple model based on price-to-book explains future returns better than a model that combines price-earnings and earnings growth.

The regression output is statistically and economically significant to 1% using Newey-West standard errors. Historically, the model has explained the major moves in the value premium, as shown in Figure 10. The regression has an adjusted R-square of 0.51, which means half the variation in the value premium over time can be explained. However, we found that the sensitivity of the value premium to changes in the explanatory variables is not stable over time and therefore any forecast would require selecting a time period in history that best approximates to expected future trends.

In our paper, we assume that the relationship spanning several decades (1974 to 2017) is a reasonable guide to future returns. Although this is far from a perfect solution, we are primarily interested in whether the value premium is likely to be positive or negative, not the absolute magnitude. Our final results indicate that the current valuation differential between value and growth is sufficiently wide to justify a positive value premium over the next 10 years. We calculated that the 10-year Treasury yield at the end of 2017 would need to fall to at least zero to perfectly offset this positive premium, all other things being equal.

Figure 10: Our model has explained most of the major moves in the value premium



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Value premium represented as the 10-year annualised return of the MSCI USA Value Index minus the return of the MSCI USA Growth Index. The plotted forecasted return is based on a rolling five-year regression. Source: Datastream, MSCI and Schroders. Data from 29 December 1974 to 31 December 2017.

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