Value versus Glamour Stocks:
The Return of Irrational Exuberance?

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KEY FINDINGS

- The spread between valuations of value stocks relative to their expensive peers reached levels last seen in the 2000 tech bubble in every region and sector investigated. This expansion of value spreads explains the recent underperformance of value stocks.
- The expansion of value spreads reflected an increasing difference between earnings growth forecasts for expensive and value stocks. Value spreads and earnings growth forecast differences peaked in 2020, suggesting that a regime of value spread compression has begun.
- Value spread compression periods are characterized by strong outperformance of value stocks relative to expensive peers and by outperformance of smaller-cap stocks relative to larger-cap stocks. Other sector-neutral styles and their multifactor combinations also do well.

ABSTRACT

Value stocks have endured a period of severe underperformance until recently. This article shows that the value spreads between valuations of value stocks and their most expensive peers expanded in all regions and sectors during this period of underperformance, reaching the same extreme high levels last seen at the peak of the tech bubble in 2000. Investors have rerated expensive stocks relative to their value peers, thus reflecting an expanding difference in their respective earnings growth forecasts. There are signs this trend may now have changed. Value spreads may have started a new period of compression at the end of 2020, led by shrinking differences in earnings growth forecasts. A compression in value spreads would be favorable for value stocks, small-capitalization stocks, and multifactor strategies.

TOPICS

Security analysis and valuation, analysis of individual factors/risk premia, financial crises and financial market history, performance measurement*

Value stocks trade at prices below their fundamental values. If prices of stocks converge toward their fundamental values, then it is natural to expect value stocks to outperform their more expensive peers—often called glamour stocks—at over the medium to long term, at least on average. This outperformance is known as the value premium. Indeed, studies have shown that prices of stocks that trade at larger discounts relative to future earnings, cash flows, or book value do tend to outperform significantly their peers that trade at larger premiums. A systematic

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value strategy relying on perfect foresight of future earnings, cash flows, or book value would have paid handsomely, as shown by Easton et al. (1992) and Arnott et al. (2009), for example. Thus, the key question for a successful systematic value strategy is, What should one use to forecast the future fundamental value of a stock?"

Most quant managers keep it simple and rely on the fact that fundamental values tend to change more slowly than stock prices. Their systematic value strategies usually rely on a diversified set of simple valuation metrics such as price-to-book, price-to-earnings, or price-to-cash flow based on current prices and earnings, cash flows, and book values. Historically, this approach has served practitioners well. Moreover, replacing current earnings, cash flows, and book values by the analysts' forecasts of those metrics when available proved to make relatively little difference. The importance of using more than just one value metric was defended, for example, by Asness et al. (2015) and more recently by Blitz and Hanauer (2021).

Although the financial press and academics still tend to focus on sector-biased value approaches like the MSCI Value Index or the HML (high-minus-low) value factor (Fama and French 1992), quant managers tend to prefer sector-neutral value strategies. There are two reasons for this preference. First, the fair values of the ratios of prices relative to fundamental values for stocks in different sectors are not necessarily comparable, as highlighted, for example, by Asness Porter, and Stevens (2000), Asness et al. (2000), and Doeswijk and van Vliet (2011), and more recently, Leote de Carvalho et al. (2017), Bender, Mohamed, and Sun (2019), and Kessler et al. (2020). In fast-growing sectors like information technology, it makes sense to expect higher ratios of prices relative to fundamental values simply because stocks in those sectors tend to grow faster than stocks in slow-growth sectors.

A second related reason is the fact that sector neutrality also reduces exposure to macroeconomic cycle influences by ensuring that stocks with cyclical earnings and cash flows are compared only with each other. The performance of sector-biased and sector-neutral value strategies can differ significantly. The difference arises from the impact of sector performance on returns. The fact that the financial press focuses mainly on sector-biased approaches explains why so many articles have been talking about value stocks underperforming since the global financial crisis in 2008.

However, as we shall see, confirming results from others such as Blitz and Hanauer (2021) or Israel et al. (2021), sector-neutral value strategies have performed significantly better than sector-biased strategies and have managed to generate a positive and significant premium since 2008. Sector-neutral value strategies tend to generate a higher and more persistent positive premium over the long term, on average. This significant difference in the performance of sector-neutral versus sector-biased value strategies does tend to generate confusion.

Nevertheless, even sector-neutral value strategies can fail over shorter time frames, as was the case between mid-2018 and late 2020. There are two possible explanations for what goes on in such periods. First, if earnings, cash flows, and book values grow at very different rates for different companies, then their current values will not be useful proxies of future values; it is thus natural to expect such simple systematic value strategies to fail.

However, as discussed by Richardson et al. (2012), this has not been the main reason for an episodic failure of simple systematic value strategies. Second, if stock prices diverge further from their fundamental values, then it seems obvious that value stocks should underperform their more expensive peers. This can happen when investors are overoptimistic about the expected growth rates of the fundamental values of glamour stocks and, conversely, too bearish about growth rates for value stocks. When this happens, the gap between the valuations of value stocks relative to their expensive peers—that is, the value spread—expands. Value stocks just keep getting cheaper while their expensive peers just keep getting dearer. Herd behavior can

extend the expansion of value spreads quite significantly and for a period of several years. Periods of value spread expansion can be painful for value investors, but so far, they have been followed by periods of value spread compression characterized by the strong outperformance of value stocks.

Many articles have analyzed the impact of value spreads on the value premium. Arnott et al. (2016) show that value spreads for value stocks relative to their expensive peers tend to be correlated with the future value premium. For historically large value spreads, a larger value premium is more likely in the five years that follow. However, Asness et al. (2017) find that although their results are compatible with those of Arnott et al. (2016), the use of value spreads as a tool to time the value premium is limited because it is difficult to determine when exactly value spreads are likely to mean revert. Forecasting the returns of value stocks in excess of the returns of glamour stocks at shorter-term horizons using value spreads, even when spreads are already large, can go horribly wrong if value spreads continue to expand in the shorter term.

In this article, we contribute to the recent literature on value investing in different ways. First, we show that despite good long-term performances, the recent drawdown in the performance of sector-neutral value strategies that started in 2018 was significantly deeper than previous large drawdowns (i.e., those in the late 1990s and in 2008). To understand the drivers of such poor recent performance, we consider a decomposition of the value premium into a sum of three different terms: i) the compression of value spreads, ii) the difference in growth of fundamental measures between value and expensive stocks, and iii) the difference in dividend yields between value and expensive stocks.

The first term is positive when value spreads compress, resulting from prices converging toward fundamentals. The second term tends to detract from performance, because value stocks tend to have lower growth rates than their expensive peers, even after neutralizing sectors. The third term tends to be positive, because value stocks tend to pay higher dividends than expensive stocks. This decomposition, somewhat related to those proposed by Arnott et al. (2021) and Israel et al. (2021), is useful to understand the value premium and what may cause it to turn negative.

Second, we show that, as in the late 1990s, the recent underperformance of value stocks was accompanied by a significant expansion of value spreads, confirming what has already been shown by Arnott et al. (2021), Israel et al. (2021), and Blitz and Hanauer (2021). However, we also show that the recent expansion in value spreads happened not only in all regions but also in all sectors, which to our knowledge has not yet been documented. By the end of 2020, value spreads in all macrosectors hit levels last seen at the peak of the tech bubble in 2000. In the appendix, we show that even at the Global Industry Classification Standard (GICS) 1 sector level, value spreads in all sectors except for the energy sector reached all-time highs by the end of 2020. Value stocks became as cheap as they have ever been for a long time, while the opposite was the case for their expensive peers.

Third, we show that, at least since 2003, changes in value spreads have been highly correlated with changes in differences between analysts' earnings growth forecasts for value stocks and for their expensive peers. The higher the expected earnings growth for expensive stocks relative to value stocks, the more value spreads expand, which can be understood by investors rerating glamour stocks relative to value stocks. The relationship has been strong but contemporaneous for most of the time. Nevertheless, we show that value spreads, which peaked in November 2020, have recently been lagging the differences in earnings growth forecasts, which peaked in June 2020 and have compressed since then. By the end of April 2021, both value spreads and differences in earnings growth forecasts still had a long way to go if they were to fall back to historical averages. This is good news for value investors,

because if compression of earnings growth differentials brings down value spreads, then the next few years will likely be favorable for value stocks.

Last, we investigate the performance of the different common factor styles used by equity quant managers in their multifactor funds, conditional to changes in the value spreads of value stocks relative to glamour stocks. These factor styles include not only value but also quality, momentum, low risk, and size. We first consider robust factor style approaches that are both sector and beta (market) neutral, volatility targeted, and well diversified in terms of number of factors used. We also consider their respective more-academic equivalents that are neither sector nor beta neutral and less diversified, relying on just one factor each. The importance of beta neutralization and volatility targeting was demonstrated by Leote de Carvalho et al. (2017) and Arnott et al. (2019).

Our analysis differs from that of Arnott et al. (2016) and Asness et al. (2017). We investigate the returns of other factor styles conditional to changes in the value spreads of value stocks relative to glamour stocks. We are just interested in the performance of other factor styles when value spreads compress or expand. However, Asness et al. (2017) and Arnott et al. (2016) considered a more challenging question by investigating the value spreads for the stocks of other factor styles as timing tools for the future returns of those same styles. They found that the value spreads of other styles tend to vary less than value spreads for value relative to glamour stocks and found weaker correlations of each style's value spread with the future returns of the respective styles.

For the robust factor styles, we show that the performance of value stocks is significantly better in periods of value spread compression and weaker in periods of value spread expansion. The same is the case for small-capitalization stocks, but it is even more pronounced. The performance of the other robust factor styles—in particular, quality and low volatility—is not sensitive to changes in value spreads.

For their less robust, non-sector-neutral, more-academic equivalents, the difference in performance in different regimes of value spread changes is more pronounced. Value stocks and small-cap stocks outperform only in periods of value spread compression; in periods of value spread expansion, they underperform their larger peers. Non-sector-neutral quality, momentum, and low-volatility stocks outperform when value spreads expand and tend to do less well when value spreads compress.

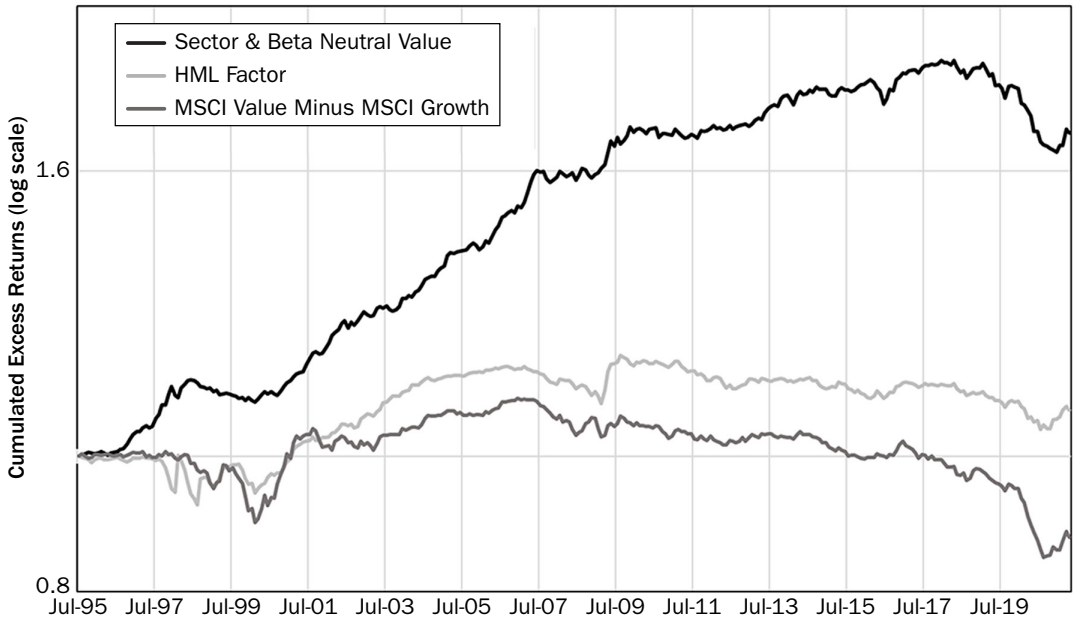
When it comes to multifactor combinations of these styles, the level of sophistication matters less; both robust and less robust strategies tend to perform well in periods of value spread compression. This finding makes us quite optimistic about the performance of multifactor strategies going forward, assuming we see a compression of value spreads.

WHAT HAS BEEN HAPPENING TO VALUE STOCKS?

The MSCI World Value Index is probably the proxy for the performance of value stocks most often cited. The index relies on three value factors (book equity-to-price, forward earnings-to-price, and dividend yield) and five growth factors to allocate to stocks. The stocks in the index are value stocks with the least number of possible growth traits. Conversely, the MSCI Growth Index is a proxy for the performance of growth stocks. It relies on a similar methodology to find growth stocks with the least possible number of value traits. The two indexes complement each other, as explained in the description of the methodology in MSCI (2017), and neither one is sector neutral. The MSCI Value Index tends to underweight sectors such as information technology, where most stocks usually trade at a premium to fundamental values, in absolute terms, and to overweight sectors such as financials, where most stocks tend to trade at a discount.

EXHIBIT 1

Cumulated Excess Returns of Value Strategies (MSCI World universe, long–short, 2.5% volatility)



NOTES: Based on USD net returns. No transaction costs. MSCI World Index universe. Prior to 2000, the MSCI World universe used for the HML factor and the sector- and beta-neutral value strategy was based on a proxy constructed from the largest-cap stocks worldwide (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

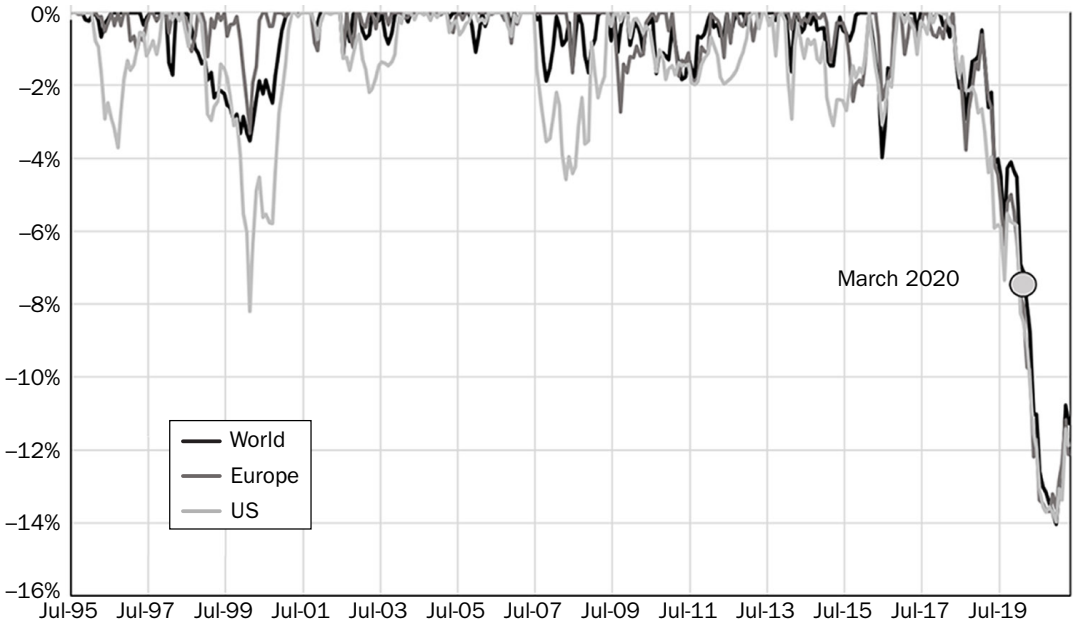
In Exhibit 1, we show the cumulated monthly performances of three different unconstrained value strategies based on long–short portfolios. The three strategies are rebalanced monthly and target 2.5% ex ante volatility at each rebalancing. The first such strategy is based on the performance of the MSCI World Value Index subtracted from the performance of the MSCI World Growth Index. The returns of these two indexes in excess of the MSCI World Index returns are strongly negative correlated. As shown in Exhibit 1, the MSCI World Value Index has been underperforming the MSCI Growth Index since 2007.

The second is a proxy for the HML factor strategy, which is a well-known non-sector-neutral strategy of value stocks against expensive stocks. It relies on one factor only, book equity-to-price, and was proposed by Fama and French (1992) as one of the key factors explaining the cross-sectional dispersion of stock returns. It is also closely related to the investment philosophy of Benjamin Graham, often called the father of value investing, who proposed that the fundamental value of a stock should be identified with its net liquidation value—that is, cash plus net assets. Here this factor strategy is slightly different from the original HML formulation in that i) the leverage in the long–short portfolio is adjusted every month so that the volatility is 2.5% ex ante; ii) the weight of each stock in the long–short portfolio is proportional to the cross-sectional *Z*-score of the book equity-to-price; and iii) unlike the original HML, no size neutralization is performed.

Our choices for the HML factor strategy make it easier to compare its returns with those from the other two value strategies. This proxy for the performance of value stocks against expensive stocks has also been performing poorly since 2007. It is not surprising that investors relying on strategies related to these two non-sector-neutral proxies for value investing felt disappointed. Indeed, after such a long period of underperformance, it is legitimate to start questioning their relevance.

EXHIBIT 2

Drawdown in Cumulated Excess Returns (sector- and beta-neutral value strategies, long–short, 2.5% volatility)



NOTES: Based on USD net returns for World and US stocks and EUR for Europe. No transaction costs. MSCI World, MSCI USA, and MSCI Europe index universes. Prior to 2000, the MSCI index universes were based on a proxy constructed from the largest-cap stocks worldwide (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

The third choice of value strategy is based on multiple dimensions of fundamental value from diverse accounting perspectives. It also even considers all the financing resources of the company—that is, not only equity but also debt, by also taking into account the enterprise value instead of just the equity market capitalization. As proposed by Bellone et al. (2020), long-term cash flows and capacity to generate profits should be the ultimate measures of fundamental value. This means relying on a diversified set of value measures, namely, operating cash flow (net income for financials)-to-enterprise value, forward earnings-to-price, and free cash flow yield instead of book equity-to-price. Finally, as explained by Leote de Carvalho et al. (2017), not only avoiding sector biases but also removing the exposure to market risk (beta) as well as controlling for the overall level of risk are important features that significantly enhance factor strategies. For this reason, this last value strategy relies on a monthly rebalanced, macro-sector-neutral long–short portfolio in which the weight of each stock is proportional to the equal-weighted combination of cross-sectional *Z*-scores from each value factor. The beta is neutralized ex ante with the required dollar-neutral position in the market-cap index against cash. As with the other two value strategies, leverage is sized so that the ex ante volatility is 2.5% at each monthly rebalancing.

This last proxy for the performance of value stocks against expensive stocks did well until 2018, with far better long-term risk-adjusted performances than the non-sector-neutral approaches. Its success can be attributed in particular to the neutralization of macrosector exposures and beta. Nevertheless, even this robust value strategy has underperformed since 2018.

In Exhibit 2, we show the drawdowns in cumulated monthly returns of this macro-sector-neutral and beta-neutral long–short value factor strategy when constructed from stocks in the MSCI World, MSCI World USA, and MSCI Europe indexes,

respectively, rebalanced monthly and targeting 2.5% ex ante volatility. There is no question that the recent drawdown has been the deepest in this 25-year period. Interestingly, between 2018 and the end of 2019, the drawdown in the performance of the strategies was similar in terms of depth to that for US value stocks in 2000. The underperformance of this value strategy accelerated with the impact of the Covid-19 pandemic crisis on markets, however, and continued to plunge even after the stock market trough in March 2020. The first signs of a rebound since the end of 2020 have only just become apparent.

THE RELATIONSHIP BETWEEN VALUE PREMIUM AND VALUE SPREADS

To understand why even the performance of sector-neutral value strategies can be poor at times, it is useful to shed some light on the ingredients that explain the value premium. Arnott et al. (2021) proposed a framework to decompose the value premium into three terms: i) a reevaluation term linked to a change in aggregate valuation; ii) an income yield term; and iii) a migration component. Israel et al. (2021) proposed a different decomposition, starting with a classic discounted dividend model and showing that stock prices can be decomposed into a term based on the book value, a term based on the value of short-term accounting differences, and a term based on the value of long-term earnings growth.

In our framework, we propose an exact decomposition of the value premium into the sum of i) changes in the value spread, ii) growth differences in company fundamental values between expensive and value stocks, and iii) dividend yield differences between value and expensive stocks. This framework brings out the relationship between the value premium and changes in value spreads as well as between the value premium and differences in growth of fundamental values.

Let r_t be the return of a stock from time $t-1$ to t; D_t the dividend at time t; F_t and F_{t-1} some fundamental measure (earnings, cash flow, book, etc.) at t and $t-1$, respectively; and P_t and P_{t-1}, the price of the stock at t and $t-1$, respectively. Using this notation, the log-return of a stock can be written as the sum of three terms: i) the change in its fundamental valuation, ii) the growth in the underlying fundamental measure, and iii) its income yield:

$$\begin{aligned}\log(1+r_t) &= \log\left(\frac{P_t}{P_{t-1}}\right)+\log\left(1+\frac{D_t}{P_t}\right)\\ &= -\left(\log\left(\frac{F_t}{P_t}\right)-\log\left(\frac{F_{t-1}}{P_{t-1}}\right)\right)+\log\left(\frac{F_t}{F_{t-1}}\right)+\log\left(1+\frac{D_t}{P_t}\right)\end{aligned} \tag{1}$$

Let us now introduce the notion of value spread, VS_t, as the difference between the average of log valuations of value stocks, V, and the average of log valuations of expensive stocks, E:

$$VS_t = \frac{1}{N_V}\sum_V \log\left(\frac{F_t^V}{P_t^V}\right)-\frac{1}{N_E}\sum_E \log\left(\frac{F_t^E}{P_t^E}\right) \tag{2}$$

with N_V and N_E the number of value stocks and expensive stocks, respectively. We can then write the value premium as i) the change in the value spreads from time $t-1$ to t, ii) the difference between the growth of fundamental measures of value

stocks from time $t-1$ to t and the same for expensive stocks, and iii) the difference in dividend yields of value and expensive stocks:

$$\begin{aligned}\frac{1}{N_V}\sum_V \log(1+r_{t_t}^V) - \frac{1}{N_E}\sum_E \log(1+r_{t_t}^E) &= -(VS_t - VS_{t-1}) \\ &+ \frac{1}{N_V}\sum_V \log\left(\frac{F_t^V}{F_{t-1}^V}\right) - \frac{1}{N_E}\sum_E \log\left(\frac{F_t^E}{F_{t-1}^E}\right) \\ &+ \frac{1}{N_V}\sum_V \log\left(1+\frac{D_t^V}{P_t^V}\right) - \frac{1}{N_E}\sum_E \log\left(1+\frac{D_t^E}{P_t^E}\right) \end{aligned} \tag{3}$$

The value premium arises from what is usually a positive term, the compression in value spreads resulting from prices converging to fundamental measures, plus a term that is usually negative, the difference between the growth of fundamentals of value stocks and expensive stocks, and a term that is usually positive, the difference in dividend yields between value and expensive stocks.

If there is no change in fundamentals of both value and expensive stocks between rebalancing the portfolio, then the value premium arises just from the first and third contributions: the compression of value spreads and the difference in dividend yields. Investors buying (selling) stocks with the cheapest (most expensive) valuations and selling (buying) them later once the value spread compressed, and repeating this at each rebalancing, should earn a positive value premium for as long value spreads compress during the holding period. However, negative value premiums can be expected if value spreads expand. This can happen in particular if there is a change in growth forecasts leading to higher expected growth for glamour stocks and lower expected growth for value stocks: prices adjust to the new forecast of an expanding difference in growth.

From this equation, it is also natural to see that anything that can help to reduce the difference in growth of fundamental values, like sector neutrality, could also help to increase the value premium in the long term.

WHAT HAS BEEN HAPPENING TO VALUE SPREADS?

Let us now investigate how prices of stocks behaved relative to their fundamental values. To do so, we created a composite measure of value spreads calculated from a diversified selection of common value factors: book equity-to-price, tangible book equity-to-price, free cash flow yield (excluding financials), EBITDA-to-enterprise value (excluding financials), and forward earnings-to-price.

To calculate the value spread of each factor at the end of each month, we first rank all stocks by the factor and separate them into quintiles. We then calculate the factor median of each stock quintile in the cross section of the stock universe after winsorizing at 1%. We define value spread as the log difference between the cross-sectional medians of the first and last quintiles of stocks ranked by the valuation factor. It is useful to separate the contribution of the value stocks to the value spread from the contribution of the expensive stocks. Thus, we focus on the geometric deviation of q_{med}^5 (q_{med}^1), which is the median valuation of the highest (lowest) quintile of stocks against q_{med}^3, which is the median valuation of the third quintile of stocks. We then standardize the time series of value spreads calculated in this way by applying a *Z*-score transformation over the entire period for each value factor:

EXHIBIT 3

Value Spreads (MSCI World universe)

NOTES: MSCI World Index universe. Prior to 2000, the MSCI World Index universe was based on a proxy constructed from the largest-cap stocks worldwide (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

$$VS^z = zscore\left(\log\left(\frac{q^5_{med}}{q^3_{med}}\right) - \log\left(\frac{q^1_{med}}{q^3_{med}}\right)\right) \tag{4}$$

The composite value spread is the equally weighted average of all the standardized value spreads calculated as just mentioned. In Exhibit 3, we show the composite value spread for the stocks in the MSCI World Index. We define the periods of expansion and compression of value spreads. There were three major periods of value spread expansions (1998–2000, 2007–2009, and 2018–2020), and two periods of more modest increases (2011–2012 and 2015). Since 2018, value spreads have recorded a three-standard deviation expansion shock comparable only to what we witnessed during the tech bubble of the late 1990s. The value spreads may have peaked at the end of 2020 but have not yet compressed much. We found a similar picture in the United States and Europe, as shown in Exhibit 4.

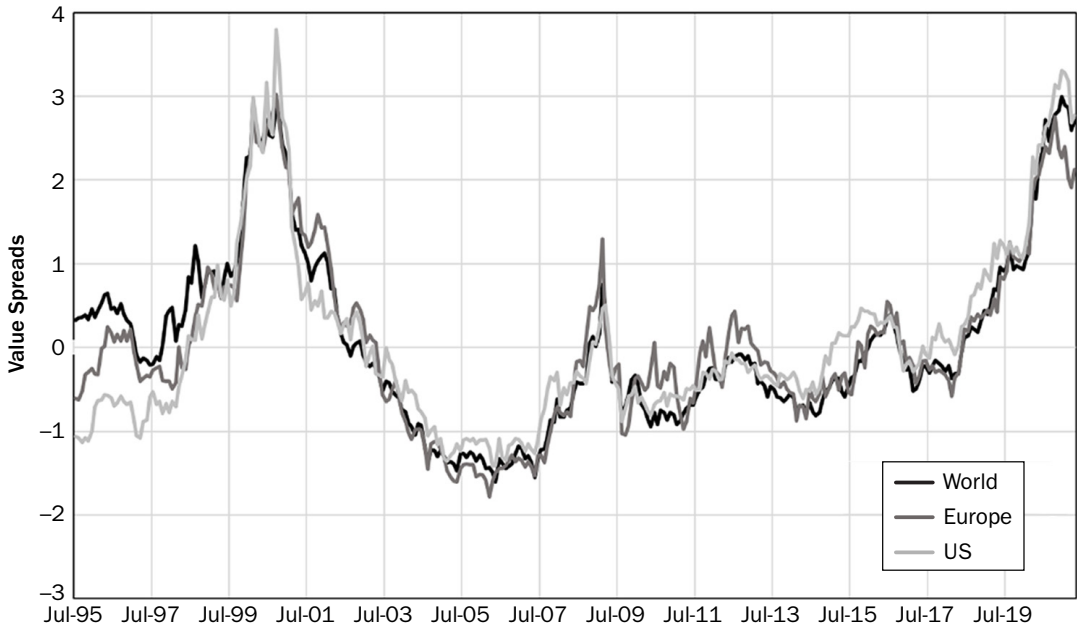
In Exhibit 5, we show the value spreads for stocks in the MSCI World Index in the two macrosectors that in our view could be qualified as Covid-19 crisis winners: IT and communication services and defensive (consumer staples, healthcare, and utilities).

Finally, in Exhibit 6, we show the value spreads for stocks in the MSCI World Index for the three macrosectors that were likely to have suffered from the cyclical downturn of 2018–2020—cyclicals (materials and consumer discretionary), financials, and energy and industrials. The value spreads for these three macrosectors also reached extreme levels by the end of 2020, more than two and a half standard deviations above their historical mean, and were showing the first signs of compression.

In conclusion, value spread changes have detracted from the value premium since 2018 and are the likely key explanation of the underperformance of value stocks in every region and macrosector. Prices moved away from fundamental values, and value

EXHIBIT 4

Value Spreads (MSCI World, USA, and Europe universes)

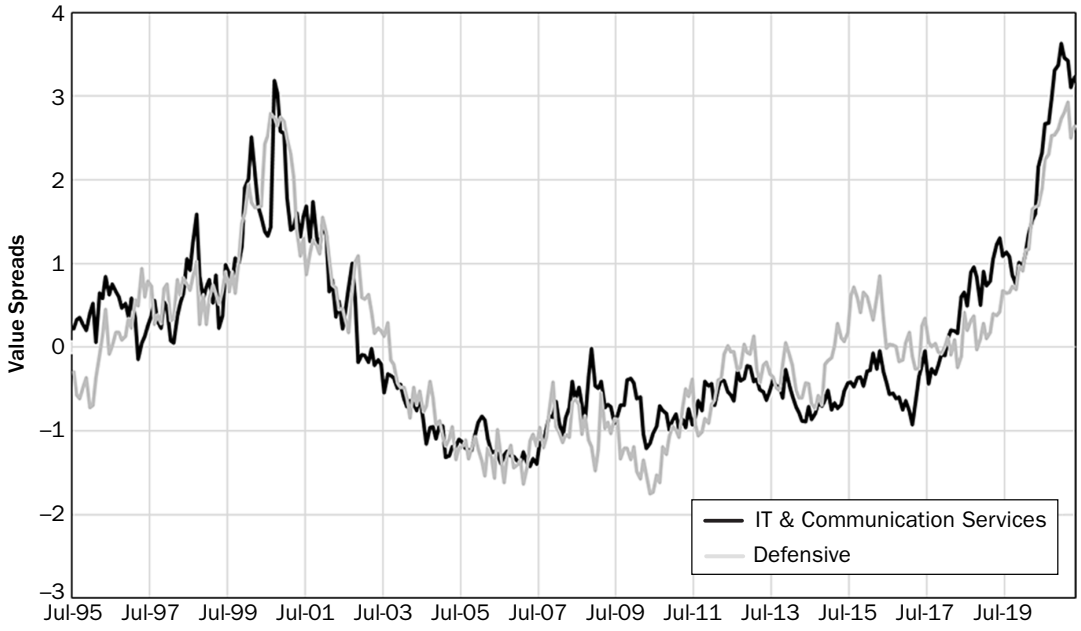


NOTES: MSCI World, MSCI USA, and MSCI Europe index universes. Prior to 2000, the MSCI index universes were based on a proxy constructed from the largest-cap stocks worldwide (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

EXHIBIT 5

Value Spreads, Covid Crisis Winners (MSCI World universe)



NOTES: MSCI World Index universe. Prior to 2000, the MSCI World Index universe was based on a proxy constructed from the largest-cap stocks worldwide (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

EXHIBIT 6

Value Spreads, Covid Crisis Losers (MSCI World universe)

NOTES: MSCI World Index universe. Prior to 2000, the MSCI World Index universe was based on a proxy constructed from the largest-cap stocks worldwide (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

spreads reached extreme levels everywhere by the end of 2020. As shown in the appendix, a similar picture was found for all sectors at the GICS 1 level except for the energy sector. Some signs that this trend may be reversing exist, but value spreads still have a long way to go before returning to the mean.

WHICH STOCKS HAVE BEEN DRIVING VALUE SPREADS?

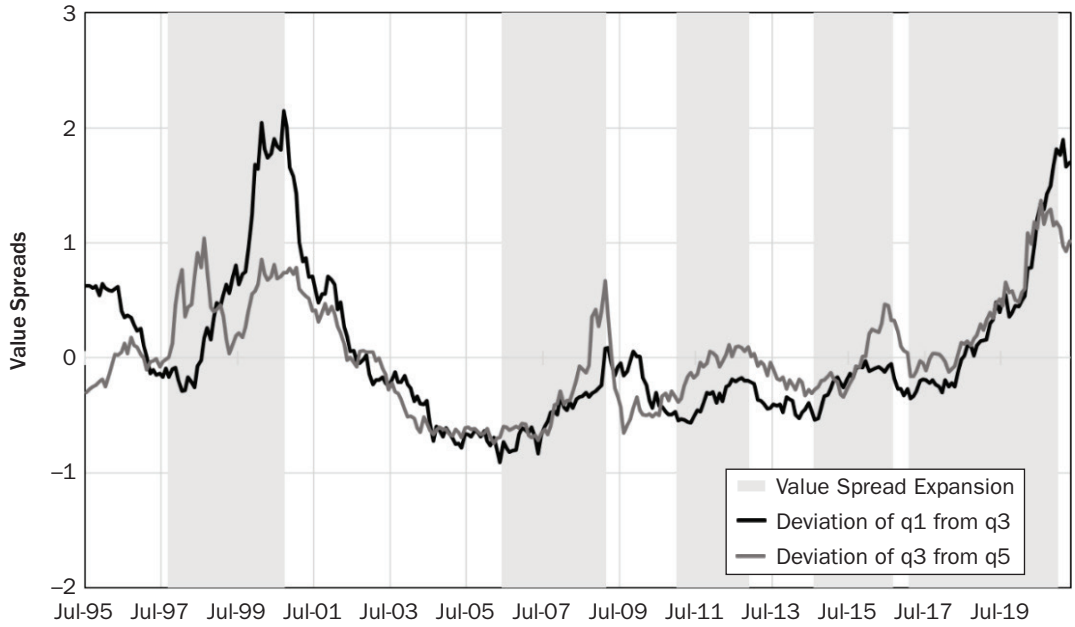
It can be shown both empirically and analytically that our definition of the value spread in Equation 4 is close to that of Blitz and Hanauer (2021). However, with our definition, it is easier to decompose the value spreads into two terms, one arising from the value spread of value stocks relative to the stocks that are fairly priced (i.e., those in the third quintile) and the other from the stocks that are fairly priced relative to the most expensive stocks.

In Exhibit 7, we show these separate contributions to the value spread for the stocks in the MSCI World Index. The value spread can expand because either value stocks are getting cheaper or glamour stocks are getting dearer. The dark-gray line captures the value spread contribution from value stocks. When it goes up, investors overweighting value stocks are likely to suffer. The black line shows the contribution of value spreads from glamour stocks. When it goes up, investors underweighting glamour stocks are likely to suffer.

If we first look at value stocks, we can see that their contribution to the value spread expansion in 2018–2020 was the largest when compared to past periods of value spread expansion, (i.e., 1998–2000, 2007–2008, 2010–2013, and 2015). Although value stocks contributed to value spread with about a one-standard-deviation rise in past expansion periods, they contributed with close to two standard deviations in this most recent peak.

EXHIBIT 7

Contributions to the Value Spreads (MSCI World universe)



NOTES: MSCI World Index universe. Prior to 2000, the MSCI World Index universe was based on a proxy constructed from the largest-cap stocks worldwide. (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

Most periods of increased value spread tend to coincide with periods marked by some level of economic slowdown. The sudden and unprecedented halt in economic activity arising from lockdowns around the world that started in the first quarter of 2020 likely triggered a flight to safety toward the most resilient stocks within each region and macrosector. The severity of this crisis and its reptilian overreaction may explain why value stocks were hit twice as hard during this episode than in previous slumps.

However, when we look at the contribution from glamour stocks to the recent expansion in value spreads, it looks more reminiscent of the tech bubble years. Indeed, the contributions from the most expensive stocks (black line) during the 1998–2000 and 2018–2020 periods are comparable, both recording a shock of more than two standard deviations upward.

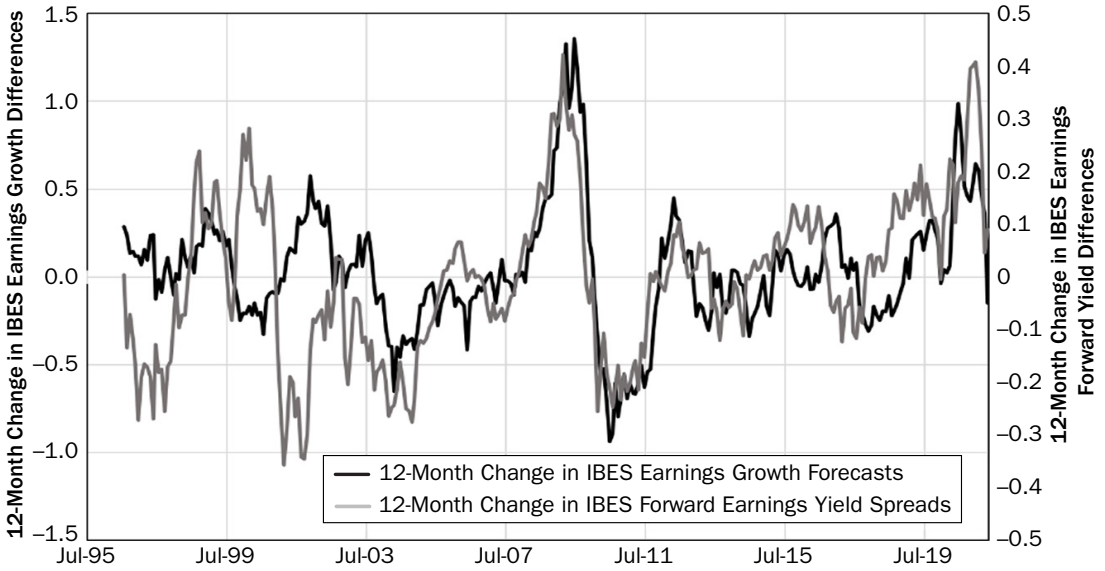
From this decomposition of contributions to value spreads, the very last leg of the recent drawdown in performance of the sector and beta-neutral value strategy in Exhibit 1 can be attributed mainly to glamour stocks getting dearer. The Covid-19 crisis amplified the ongoing flight to expensive stocks that had been accelerating since 2018. The fact that investors were happy to buy already expensive stocks at increasingly pricier valuations since March 2020 added even more to the suffering of value investors.

THE IMPACT OF GROWTH DISPERSION IN VALUE SPREADS

A number of investors argued that the recent dismal performance of value stocks relative to their most expensive peers might be justified by a structural change in the growth of earnings. Indeed, it makes sense to expect an expansion in value

EXHIBIT 8

Earnings Forward Yield Spread and Earnings Growth Forecast Differences (MSCI World universe)



NOTES: MSCI World index universe. Prior to 2000, the MSCI World Index universe was based on a proxy constructed from the largest-cap stocks worldwide. (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

spreads if the difference in expected growth of earnings between value and expensive stocks increases, because the latter can command a higher valuation.

In Exhibit 8, we show the 12-month changes in the spread of Institutional Brokers' Estimate System (IBES) forward earnings yield spreads and the 12-month changes in the differences in IBES earnings growth forecasts. Indeed, as expected, there is a positive correlation between the two—that is, the earnings yield spreads tend to expand when the difference in expected earnings growth for the expensive stocks against value stocks increases. The relationship was not strong prior to 2003, perhaps because there were fewer earnings growth forecasts available in the earlier sample, but the correlation between the two series has been 74% since then. Thus, although most of the time the relationship tends to be contemporaneous and does not help to forecast future changes in value spreads, it is at least instructive in showing that value spread changes seem to reflect changes in growth expectations.

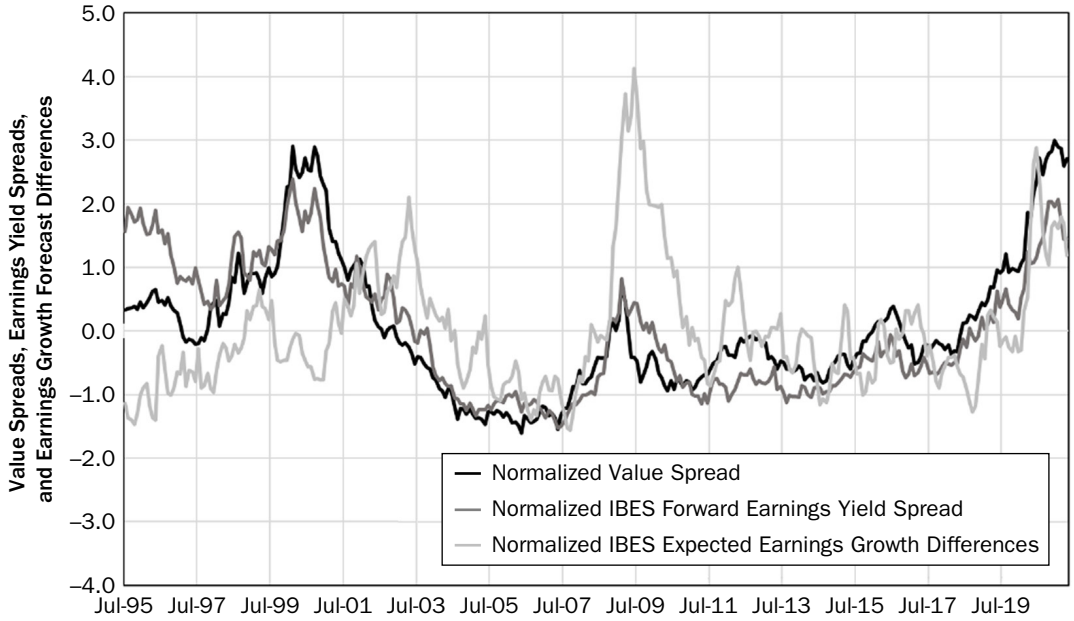
There have been three episodes with a major widening of the expected earnings growth differences, which seem to relate to the economic recessions of 2001–2002, 2007–2008, and 2020, as well as minor peaks in 1998 and 2011, which also correspond to periods of slowing economic growth. Changes in growth differences peaked in June 2020 and have been slowing since. This time around, earnings yield spread changes have been lagging and peaked only in November 2020.

In Exhibit 9, we compare the standardized value spread with the standardized forward earnings yield spread and the standardized earnings growth forecast differences. Although the earnings growth forecast differences did not reach a level as high as those in the 2008 global financial crisis, the current level is higher than the one during the tech bubble. Interestingly, each episode of expansion of growth forecast differences was followed by periods of compression.

With all this taken into account, a scenario of compression in value spreads seems rather plausible, which is good news for value investors.

EXHIBIT 9

Value Spreads, Forward Earnings Yield Spread, and Expected Earnings Growth Difference (MSCI World universe)



NOTES: MSCI World index universe. Prior to 2000, the MSCI index universe was based on a proxy constructed from the largest-cap stocks worldwide. (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

IMPACT OF VALUE SPREAD CHANGES ON OTHER FACTOR STYLES

In Exhibit 10, we show the performance of value, quality, momentum, and low-risk styles for MSCI World stocks. For value, we used the same sector- and beta-neutral value strategy behind the results in Exhibit 1. The others are based on similarly robust macro-sector-neutral and beta-neutral long–short portfolio strategies. Each of the other factor style strategies also relies on a simple combination of some of the most commonly used factors chosen for their diversification effect. For quality, we used return on capital employed, free cash flow-to-assets, and a measure of accruals, preferring low accruals. For momentum, we used a measure of historical stock returns over the medium term and analysts' earnings revisions. For low risk, we used the three-year historical volatility of each stock.

In Exhibit 10, we also include a multifactor composite based on the aggregation of the four factor styles relying on an equal risk-contribution weighting scheme. For illustration, we also include a low size factor, also based on a macro-sector-neutral and beta-neutral strategy.

Based on the same value spread expansion and compression periods in Exhibits 3 and 7, we found a good balance of the number of observations in both regimes: 171 months for expansion and 139 months for compression. We calculated the risk-adjusted returns conditional to the value spread regime of each factor style strategy and the multifactor composite.

In Exhibit 11, we conduct the same exercise but rely on more-traditional factor style approaches. We use the proxy for the HML value factor strategy that relies on the book equity-to-price only and is behind the results in Exhibit 1. We also include a proxy of the quality factor, RMW (robust minus weak), relying only on return on capital employed. We include the momentum factor, UMD (up minus down), based on

EXHIBIT 10

Information Ratios: Sector- and Beta-Neutral Diversified Factor Styles

Factors	Full Period	Value Spread Expansion	Value Spread Compression
Value	0.8	0.1	2.0
t-Stat	(4.2)	(0.3)	(6.8)
Quality	1.4	1.4	1.3
t-Stat	(6.9)	(5.4)	(4.3)
Low Vol	0.6	0.6	0.5
t-Stat	(2.9)	(2.4)	(1.6)
Momentum	0.6	0.8	0.3
t-Stat	(3.1)	(3.1)	(0.9)
Multifactor Composite	1.3	1.1	1.6
t-Stat	(6.5)	(4.1)	(5.3)
Low Size	0.0	–0.5	0.7
t-Stat	(–0.1)	(–1.7)	(2.3)
MSCI World	0.4	0.2	0.7
t-Stat	(1.9)	(0.6)	(2.4)
Sample Size (months)	310	171	139

NOTES: MSCI World universe. Based on monthly net returns in USD. Student *t*-statistics are provided in parentheses. No transaction costs (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

EXHIBIT 11

Information Ratios: Raw Factor Styles

Factors	Full Period	Value Spread Expansion	Value Spread Compression
HML Value Raw	0.1	–0.4	1.3
t-Stat	(0.7)	(–1.5)	(4.5)
RMW Quality Raw	0.5	0.7	0.3
t-Stat	(2.8)	(2.7)	(1.1)
Low Vol Raw	0.1	0.3	0.0
t-Stat	(0.7)	(1)	(0)
UMD Momentum Raw	0.3	0.5	–0.1
t-Stat	(1.3)	(2)	(–0.2)
Multifactor Composite Raw	0.7	0.3	1.1
t-Stat	(3.8)	(1.1)	(3.9)
Low Size Raw	0.1	–0.5	0.9
t-Stat	(0.5)	(–1.7)	(3)
MSCI World	0.4	0.2	0.7
t-Stat	(1.9)	(0.6)	(2.4)
Sample Size (months)	310	171	139

NOTES: MSCI World Index universe. Based on monthly net returns in USD. Student *t*-statistics are provided in parentheses. No transaction costs (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

12-month returns minus one-month returns. The raw low-volatility factor is based on three-year historical volatility. To capture the factor style performances that are more representative of what many equity investors tend to have in mind, these factor strategies, qualified as raw, are neither sector neutral nor beta neutral. All of them rely on the same simple long–short portfolio construction described previously for the proxy of the HML factor strategy.

From Exhibit 10, based on the macro-sector-neutral and beta-neutral factor styles, we find that

- the value factor underperformed (outperformed) its historical mean risk-adjusted returns and the other style factors during periods of value spread expansion (compression);
- the quality and low-volatility factors performed equally well in both regimes of value spread changes;
- the momentum factor underperformed (outperformed) its historical mean risk-adjusted returns during periods of value spread compression (expansion);
- the multifactor composite had strong risk-adjusted returns in both regimes of value spread changes, even if it did better in value spread compression periods;
- even gross of transaction costs, it would have been remarkably difficult to outperform the risk-contribution-weighted multifactor composite with a factor timing strategy based on the value spread. Investors would need almost perfect foresight to pick the best factor: value during value spread compression and quality during value spread expansion. In both regimes, the multifactor composite risk-adjusted returns ranked second in the list;
- market risk-adjusted returns were higher in value spread compression regimes; and
- the macro-sector-neutral and beta-neutral low-size factor delivered negative returns during the value spread expansions. Small-cap stocks tended to outperform only in periods of value compression, at least in this mid- to large-cap universe.

From Exhibit 11, focusing on raw factors, most of these conclusions hold true, with the exception of some nuances. The HML value factor also underperformed (outperformed) against its historical mean and across style factors during times of value spread expansion (compression), but i) the HML factor

performance since 1995 has been close to zero and ii) the risk-adjusted returns were slightly negative in periods of value spread expansion.

The UMD momentum factor and the raw low-volatility factor delivered a positive but barely significant performance during phases of value spread expansion only. In periods of value spread compression, they failed to deliver any performance.

The RMW quality factor as well as the raw multifactor composite delivered positive performances in both regimes of value spread changes, with the RMW performing slightly better in periods of value spread expansion and the raw multifactor composite performing slightly better in periods of value spread compression.

Eventually, picking up the best single raw factor with a perfect foresight timing strategy based on the value spread would have barely outperformed a diversified multifactor composite raw aggregation of factor styles relying on an equal risk-contribution weighting scheme, gross of transaction costs.

CONCLUSIONS

The catalyst for this analysis is the recent poor performance of not only traditional value and multifactor strategies, but also the more robust sector-neutral and beta-neutral risk-controlled value and multifactor strategies. Although the performances of the latter have been significantly better for longer, even these failed in the most recent period.

We show that the recent underperformance of value stocks can be explained by a significant expansion in value spreads, with stock prices moving away from fundamental values in all regions, macrosectors, and even in almost all sectors. It is interesting that even when comparing stocks for which intangibles may play an important role with their peers, we still find that value spreads in those sectors are at all-time highs. The Covid-19 crisis of 2020 seems to have amplified a flight to glamour stocks that began in 2018. During this phase, investors seemed eager to buy glamour stocks at ever-rising valuations, adding to the pain inflicted on value investors. This trend was backed by an expansion in the differences between the earnings growth forecasts of glamour and value stocks.

At the end of 2020, however, value spreads reached levels last seen at the peak of the tech bubble in 2000. Differences in earnings growth forecasts also reached historical highs and usually tend to compress after periods of expansion. We do not think that spreads in valuations and growth of earnings forecasts are justified or sustainable at their current levels. There are signs that a compression in value spreads may have started in November 2020. A compression in growth expectations started earlier, in June 2020. Today, value stocks still remain almost as cheap, relatively speaking, as they have ever been, while the opposite is the case for glamour stocks. A compression of value spreads would be positive for value stocks.

We also investigated the performance of different factor style strategies conditional to value spread regimes. Risk-adjusted returns of the simpler raw style factors, which are neither sector neutral nor beta neutral, can be sensitive to the regime of changes in value spreads (i.e., expansion or compression). Raw value and size factors tend to outperform in periods of value spread compression and to underperform in periods of value spread expansion. In turn, raw quality, momentum, and low-volatility styles tend to perform well in periods of value spread expansion and less well in periods of value spread compression. When those factor style strategies are replaced by more robust strategies (i.e., better diversified, sector neutral, beta neutral, and

risk-controlled), however, the differences in risk-adjusted returns conditional to the regime of value spread changes tend to be significantly reduced.

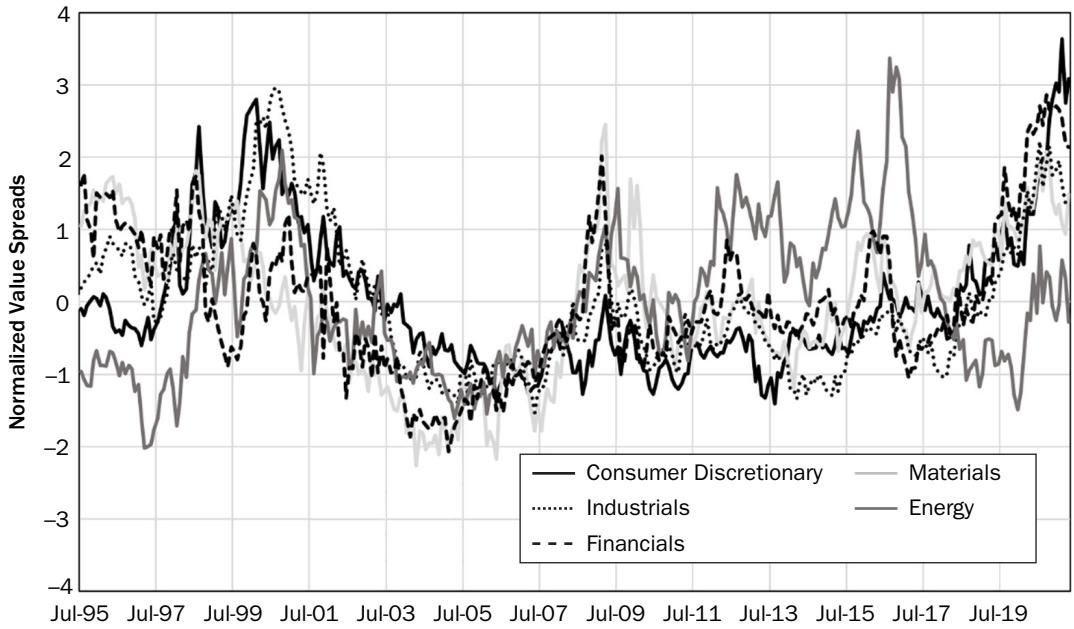
Well-diversified sector-neutral and beta-neutral multifactor strategies tend to perform well in both regimes of changes in value spreads and almost as well as the leading factor style in each regime. Outperforming this multifactor composite weighted risk contribution with a factor timing strategy based on value spreads is not easy without perfect foresight of the value spread regimes. A factor timing strategy based on value spread regimes is thus unlikely to outperform this multifactor composite strategy.

With value spreads everywhere still at extremely high levels and with differences in earnings growth forecasts of glamour and value stocks already compressing, we see a compression of value spreads in the coming years as the most likely scenario; it may have started already in November 2020. Capitulating on value stocks right now might be very costly. Multifactor strategies also tend to perform well in periods of value spread compression, irrespective of their level of sophistication. Looking ahead, we thus feel optimistic about the performance of not only value stocks but also multifactor strategies.

APPENDIX

EXHIBIT A1

Value Spreads, GICS 1 Sectors (MSCI World universe)

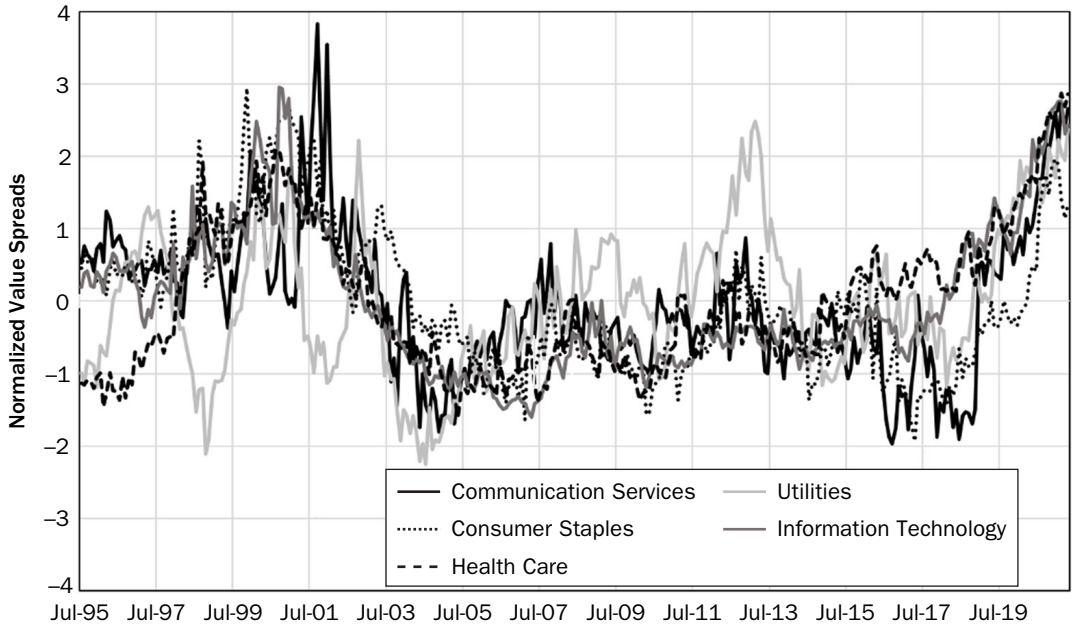


NOTES: MSCI World Index universe. Prior to 2000, the MSCI World Index universe was based on a proxy constructed from the largest-cap stocks worldwide (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

EXHIBIT A2

Value Spreads, GICS 1 Sectors (MSCI World universe)



NOTES: MSCI World Index universe. Prior to 2000, the MSCI World Index universe was based on a proxy constructed from the largest-cap stocks worldwide. (July 31, 1995–April 30, 2021).

SOURCES: Bloomberg, FactSet, Worldscope, IBES, Exshare-ICE, MSCI.

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