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Asset Classes and Factors

What's the Difference?

Asset owners' increasing desperation to improve risk-adjusted returns will be a major catalyst for considering factor investing, despite skepticism based on their recent struggles. We'll examine some of the key questions emerging, including the distinctions between asset classes and factors, how much to allocate to factors, which are likely to thrive, and even the ultimate implications for organizational structure.

November 2021

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Executive Summary

- Asset owners' increasing desperation to improve risk-adjusted returns will be a major catalyst for considering factors in the post-pandemic world, which we believe are complementary to asset classes.
- We don't see a hard delineation between factors and investment strategies, just as there's no hard line between active and passive—it will always be a spectrum that is dynamic.
- The question of how much to allocate to factors is ultimately driven by their ability to increase the richness of the return-variance-covariance of available return streams; factor capacity; and factor persistence across the business cycle and in the face of further capital inflows.
- Factor returns have been subpar in recent years, but factors' relative efficacy has been highly cyclical—not a slow, persistent decline that could signal something more structural.
- We expect inflation to settle above its recent historical average, which should provide structural support for value factor returns, with further support from extreme valuation spreads across the market.
- We think there's a positive medium-term case for the growth factor, too, with more persistent profitability for high-growth companies and real interest rates potentially anchored at a low level.
- There is a spectrum of factors with progressively more purity, with a trade-off between how pure a factor is and how complex it is to achieve.
- Generally, expectations of returns will decline for major assets, while we think factor returns can exceed the past decade's levels. We acknowledge, given the lengthy struggles of some factors, asset owners may be skeptical of allocating to factors at the expense of asset classes.
- However, the combination of the current state of valuations and the expected post-pandemic policy outlook, we think, makes a strong claim that asset allocators need to consider making the shift to factors.
- This conclusion has organizational implications for asset owners, asset managers and sell-side research teams. Over time, teams could be arranged not by asset class but by the nature of the return stream they generate or buy.

Introduction

In our view, investors often become too hung up on categories for delineating investment decisions. For large asset owners, investing is ultimately about crafting a combination of return streams. Ideally, these streams offer a variety of return distributions: a range of volatilities, covariances, skews, time horizons and linkages to the macro environment. But if this is the bedrock for institutional investment decisions, then investment praxis looks very different, since it tends to focus strongly on asset-class divisions.

Asset owners need to include factors alongside asset classes in strategic asset allocation. In fact, we don't believe that they have a choice—from both real-return and diversification perspectives. We think both angles are equally important, and that investors should think of asset allocation in terms of betas and idiosyncratic alpha.

At that foundational level, we would be happy to treat asset class betas and factor betas as the same kind of things. Ultimately, asset allocation is about assembling return streams to achieve an outcome: in that context, there isn't necessarily a difference if some asset-class positions are replaced by factors.

Factors: Profound Investing Questions

The use of factors in asset allocation raises profound questions about the nature of investing. How should one set parameters for allocating risk and capital? Should traditional asset classes be the primary dividing line for portfolios? What, when all is said and done, are asset classes?

Issuers, whether governments or corporations, seek to raise capital by issuing securities. One can group them in multiple ways, either by the instrument's legal nature (asset class) or by statistical or quantitative characteristics (factors). It's not clear that

one should have precedence over the other: What's the most efficient way to partition assets? Should it be constant or conditional on the investment environment?

This debate raises more questions. Are factors alphas or betas (or does seeing the world this way blur the distinction)? Should factors be considered instruments of tactical allocation over the business cycle or are they a potential strategic bedrock of return streams? Do factors really exist or are they merely artifacts from 40 years of collective investment industry data mining? If factors help, how much should be allocated to them?

If factors are used, how should they be constructed? Among many approaches, one school of thought is that the active-passive distinction could be defined in terms of the sensitivity of the output to portfolio-construction choices. Factors can be defined by a variety of financial metrics (for example, "value" can be defined by price/earnings, price/book, dividend yield or some other metric). Should factors be cross-sectional (a security ranked relative to its peers) or based on time series (an asset ranked relative to its history)? Should factors be "purified" in some way (sector, industry or even asset-class neutral)? How should they be rebalanced? How should they be weighted? Should they be risk controlled?

There is, then, the question of how much risk to allocate to factors. Taking the logic of passivization over the past decade to its absurd extreme, there would be only one fund holding all public and private equity and debt instruments in proportion to their size. However, such an allocation would be unlikely to yield a return stream that's a good match for investors' liabilities, which are usually set in the real economy. Moreover, it would be a crude way to allocate risk and therefore unlikely to be considered in practice. Such an observation is one route to a conclusion that asset allocation is always an active act. If so,

how should one allocate to factors? There's no natural way to weight by "size," and thus the factor/asset-class choice highlights deeper portfolio construction questions.

Factors, especially considered across asset classes, have diverse volatility levels, suggesting equal risk contributions from return streams as one possible default starting point for an allocation, accounting for both average volatility and covariances among returns. This points to an explicit attempt to make the basis of asset allocation and portfolio construction as efficient as possible. But it only applies if all else is equal—rarely the case in practice. Leverage is one limit, as are expected macro changes that would make the future substantially different from the past.

A discussion about factors in the context of the current low-yield outlook provokes other questions: What kinds of risks can investors choose exposure to? If factors are risk premia, what are the other options? Three popular routes are taking on more illiquidity risk, quality/credit risk or leverage. The rush into private assets has some merits in the current environment, but it also has limits, and one can question the ultimate risks offered. If the ultimate exit for private equity is an IPO, then the only way private equity can escape equity beta over multiple cycles is through exposure to leverage and illiquidity. It's possible that long/short factors can claim to be truly different from private assets here, because they may offer exposure to returns that are ultimately different from equity beta, in contrast to private equity.

We've laid out a long list of fundamental questions about factors—and even basic principles of investing. In this note, we'll attempt to answer some of these questions, while also creating a starting point for our research program, with future notes dedicated to specific aspects.

Why Factors Now?

One might ask: Why make the factors argument now? This argument could have been made at any time, and we've made this point before ([Portfolio Strategy: Strategic Outlook for Factors, and Why They Are Needed in Portfolios](#)). Indeed, your author found himself discussing this topic with a variety of Scandinavian pension plans (to give one concrete example) nearly a decade ago.

As we see it, the increasing desperation of asset owners to achieve a given return level at a given risk level will be a major catalyst in the post-pandemic world. The past 40 years have seen valuations rise for most financial assets while inflation has fallen. In effect, the significant outperformance of the financial economy relative to the real economy (*Display 1*) has made achieving high real returns through passive exposure to asset classes appear easier than it usually is.

We don't mean to be dismissive: investing is hard, and it's easy to make such sweeping statements with the benefit of hindsight. But the return spread between financial assets and real assets over the last four decades is unusual in the longer-term sweep of history—and unlikely to be repeated. It's the result of a very favorable set of demographic, geopolitical and policy forces: an increased labor force, globalization, a policy preference for capital over labor and declining rates.

Delving into all these secular forces is beyond the scope of this note, and we've addressed them elsewhere ([Are We Human or Are We Dancer?](#)), but the prospect of lower nominal returns, higher inflation and less diversification changes the outlook.

A different outlook creates the incentive to try something new, but why should it imply an interest in investing in factors alongside asset

DISPLAY 1: FINANCIAL ASSETS HAVE OUTPERFORMED REAL ASSETS

Financial vs. Real Asset Performance



Historical analysis and current forecasts do not guarantee future results.

Financial assets include US equities and US 10-year government bonds. Real assets include US real estate and Bloomberg commodities indices.

January 31, 1953, through May 31, 2021 | Source: Bloomberg, Datastream, Global Financial Data and Robert Shiller's database

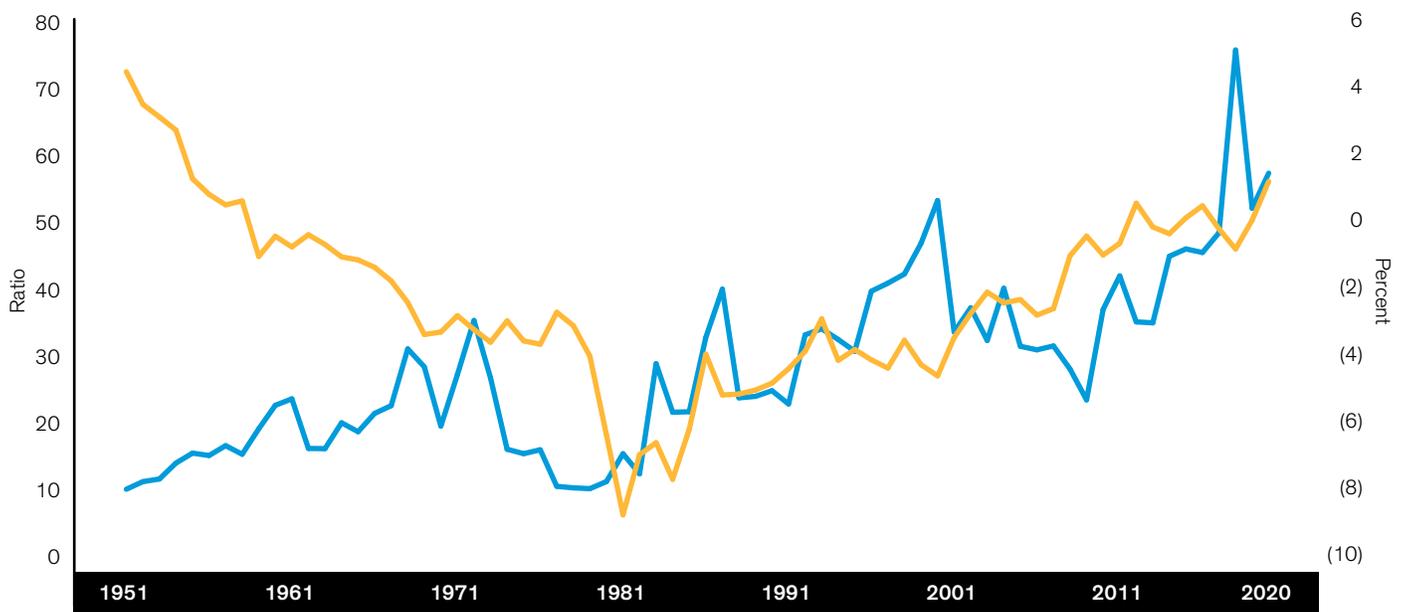
classes? We believe that the two are complementary, but to motivate the argument, let's consider valuation spreads. The general decline in yields and run-up in valuations over the past 40 years has made valuation spreads between asset classes unexceptional, and it is hard to make the case for relative value on that basis. However, within asset classes (the basis for many factor strategies), valuation spreads are unprecedented (*Display 2*).

Of course, one might claim that intra-asset-class valuation spreads are merely a sign of a one-way transition in the economy. The usefulness of valuations as a kind of “potential energy” for investment decisions is coterminous with their ability to signal mean reversion.

Wider valuation spreads could be partly driven by technology's destruction of moats around some industries; it might also reflect the fact that more corporate investment is now directed at intangible assets than tangible assets. Intangible assets have greater network and scale advantages that encourage a winner-take-all economy (though this can be partly balanced by policy choices on questions of quasi-monopolies). This also raises questions as to the proper metric for valuation. However, at least some part of the lack of mean reversion in recent years has also been from macro forces, such as declining inflation, that seem more cyclical.

DISPLAY 2: VALUATION SPREADS WITHIN ASSET CLASSES HIGHLIGHT SUPPORT FOR FACTORS

Valuation Spreads: Between and Within Asset Classes



● 12-Month Trailing P/E Range (Expensive to Cheap, Left Scale) ● US Equity Dividend Yield—US 10-Year Bond Yield

Historical analysis and current forecasts do not guarantee future results.

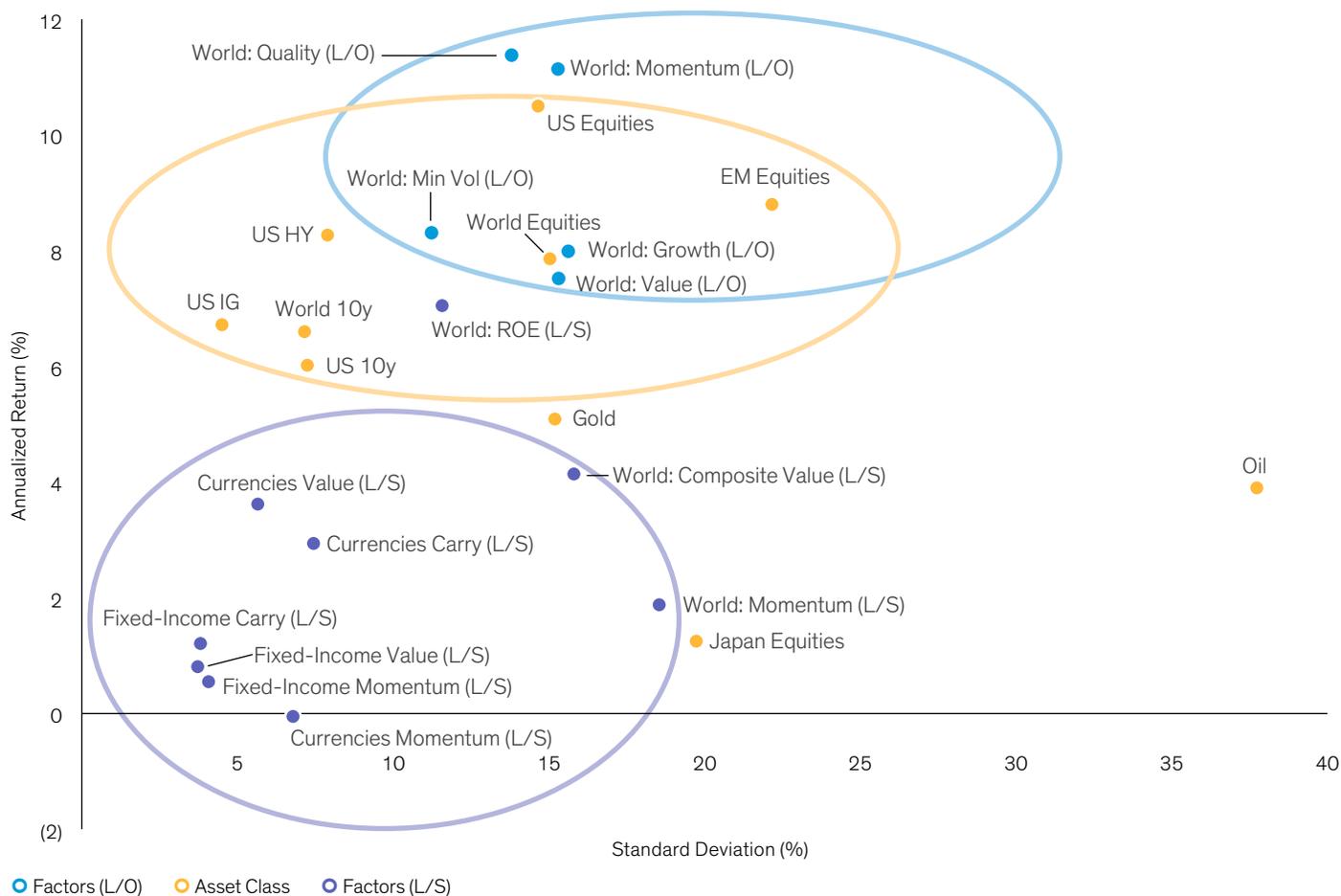
The 12-month trailing P/E range shows the difference between the average P/E ratio of the most expensive and the cheapest quintile of US stocks. Through December 31, 2021 | **Source:** Datastream, Global Financial Data and Ken French Data Library

What Is the Factor Opportunity?

If we're suggesting that asset classes and factors are in some sense fungible, what does that mean for investors? We'll assess this question from several angles: the returns, variance and covariance of assets versus factors; the theoretical case for why their return distributions might persist; liquidity; and how all of this fits into an achievable range of returns for asset owners.

In *Display 3*, we show the historic return-risk trade-off for a range of equity factors and asset classes. There are myriad ways to define such factors, so this is necessarily an incomplete picture. But long-only and long-short factors (here with a very simple screening and construction approach) broadly map into a distinct region in risk-return space. Later in this note, we discuss how the returns may vary, given macro linkages.

DISPLAY 3: RETURN-RISK TRADE-OFF FOR ASSET CLASSES AND FACTORS (HISTORICAL)



Historical analysis and current forecasts do not guarantee future results.

The chart shows the annualized historic nominal return and volatility for a broad range of factors and assets from December 1989 to May 2021. As of May 31, 2021 | **Source:** AQR, Datastream, FactSet and Federal Reserve Economic Data (FRED)

Diversification is as much a motivation for allocating to factors as it is to return. Illustrating the diversification advantage of risk premia over asset classes, the correlation across risk premia has been very close to zero over the last 30 years (*Display 4*) and stable throughout multiple economic cycles. And while the historic average correlation across asset classes has also been quite low, at positive 0.2, it has been much less stable, with periodic spikes to levels nearly double the historical average, including 1998, 2005 and 2021 year to date.

This source of diversification is part of the core of the factor investment proposition. It's embedded in the nature of factors, with value, carry, momentum and quality being available in many cases across a selection of asset

classes, including equities, credit, bonds and foreign exchange (FX). In time, these may be applicable to private assets too.

Capacity and Liquidity Considerations for Factors

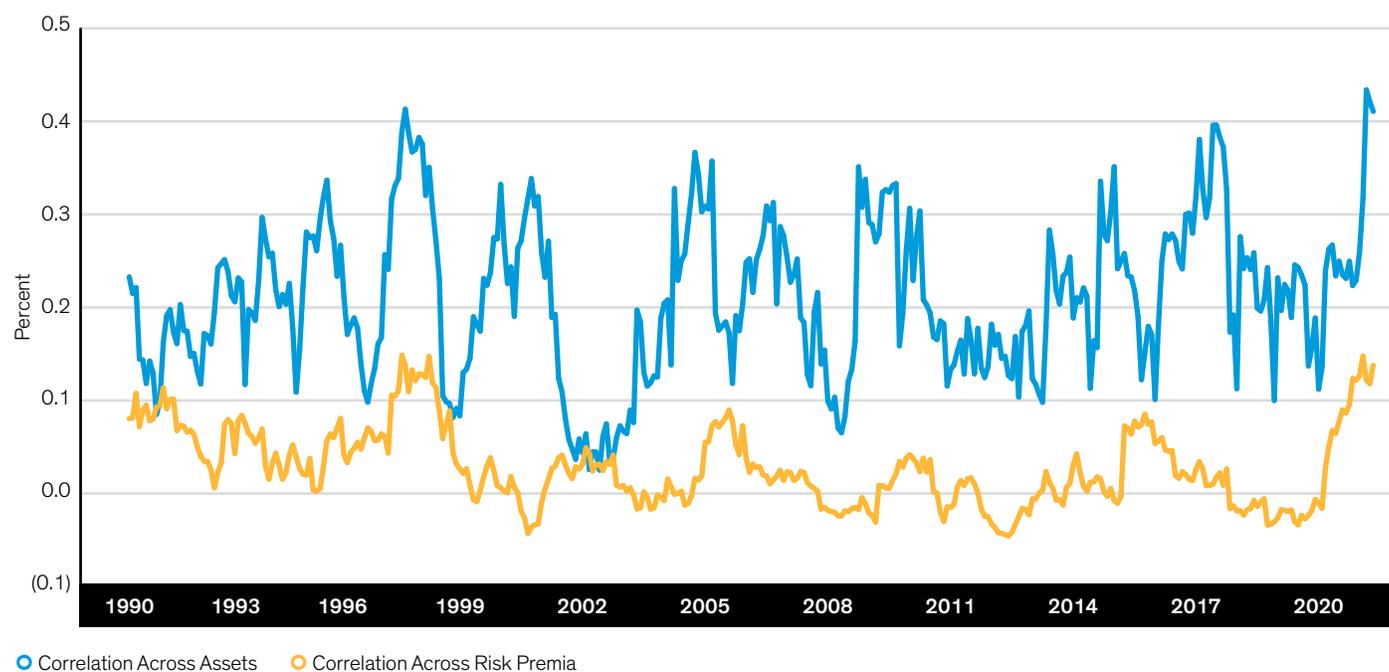
The previous section detailed the return characteristics of asset classes and factors, but even if there's an attractive case for factors on that basis, can investors buy them in the same way? This question is intertwined with the more fundamental question: What is a factor? More specifically, there's a question of where the dividing line might lie between an active investment strategy and a factor. Active strategies very clearly have tangible capacity constraints, so they may be adequate for a given investor, but no one

would ever claim that they were accessible for the entire industry.

We don't see a hard dividing line between factors and investment strategies, just as there's no hard line between active and passive—it will always be a spectrum. Moreover, the distinction is dynamic. As automated analytical capacity increases and fees decline, there's a natural temporal arrow in the movement of strategies once considered active to become "passive." By passive in this case, we mean following a simple, transparent, stable rules-based approach. After all, that's what index providers have always done for indices such as the S&P or FTSE—and the "smart beta" value factor is no different.

DISPLAY 4: THE DIVERSIFICATION ADVANTAGE OF FACTORS

Twelve-Month Rolling Correlation



Historical analysis and current forecasts do not guarantee future results.

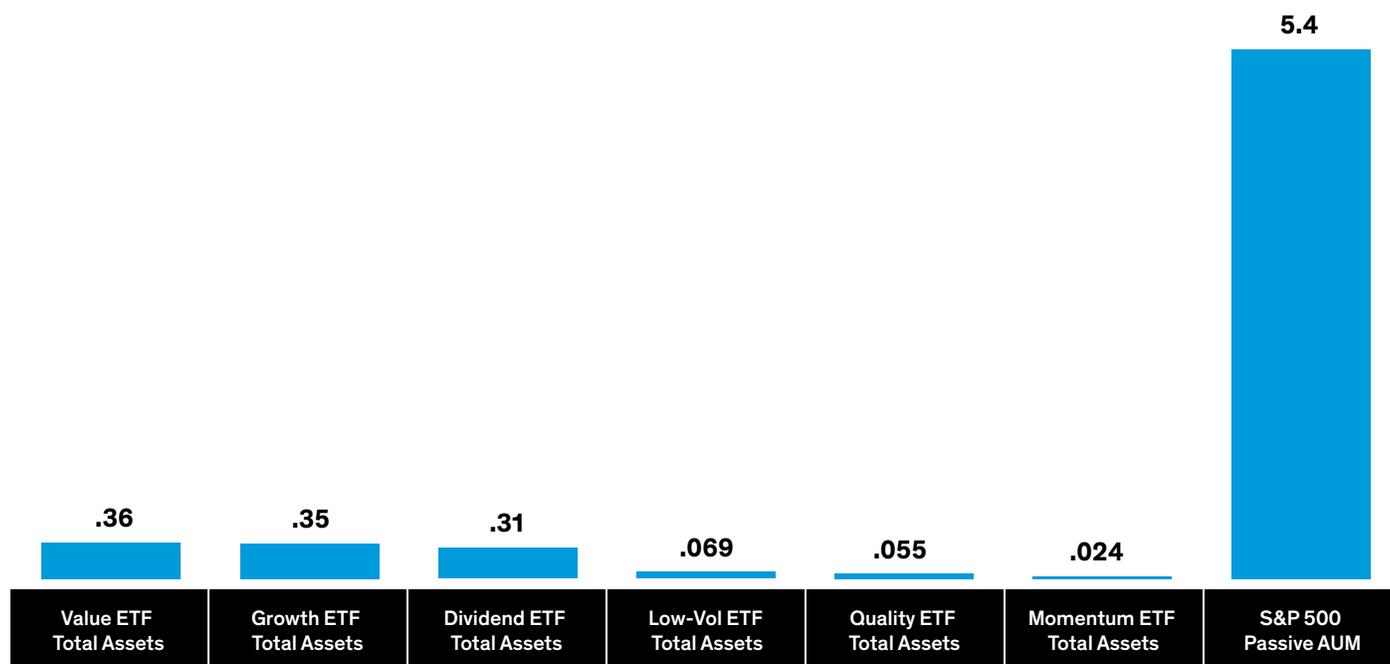
Twelve-month rolling average pairwise correlation for risk premia and asset classes. The risk premia series includes global and US equity composite value, ROE, long-term growth, momentum and low-volatility long-short factors as well as fixed income and FX momentum, carry and value. Asset class series includes global, US, EM and Japan equities; US, Japan and global 10-year government bonds; US investment-grade and high-yield credit series, oil and gold.

December 31, 1990, through May 31, 2021 | Source: Bloomberg, MSCI and AB

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DISPLAY 5: FACTORS REMAIN MUCH SMALLER THAN ASSET CLASSES

In USD Trillions



Historical analysis and current forecasts do not guarantee future results.

As of July 31, 2021 | Source: Bloomberg and S&P Global

So, for this discussion, we define a factor as a simple, generally accepted and transparent strategy, such as a value or quality screen within equities or a carry strategy in fixed income. How does the capacity of these strategies compare to the capacity of asset classes?

Two types of factors must be considered: long-only and long-short. Long-short factors clearly have less capacity in general, because they require the ability to short sell at scale. For an individual investor, a natural way to consider this would be through transactions cost analysis. For the system overall, however, there are other considerations.

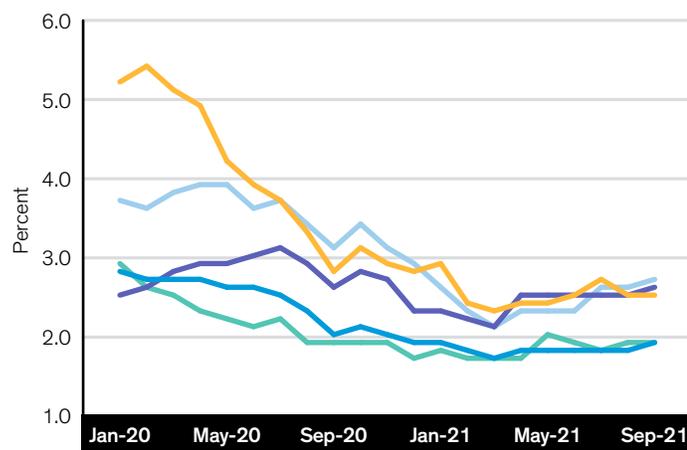
In *Display 5*, we show the relative size of invested assets, in the ETF format, of popular long-only equity factors versus the market overall

(note: we're aggregating across a selection of ETFs within each category). Factors appear much smaller than the overall market, which might imply *prima facie* evidence for significant upside in the assets for factors. But we think that would be misleading. As we discuss in the next section, this leads to the question of what the basis is for factor returns.

Long-short factors have a clearer capacity limit. For an individual asset owner, the decision to invest in such a factor involves considerations such as expected return net of fees and transactions costs for a given investment size. However, for the overall "system," it would be hard to have a very large allocation to long-short factors because of the reduced availability of securities to borrow.

DISPLAY 6: SHORT-INTEREST RATIOS: MEAN

Equal-Weight Mean



● US Market
 ● US Composite Value (Short)
 ● US Long-Term Growth (Short)
 ● US Momentum (Short)
 ● US ROE (Short)

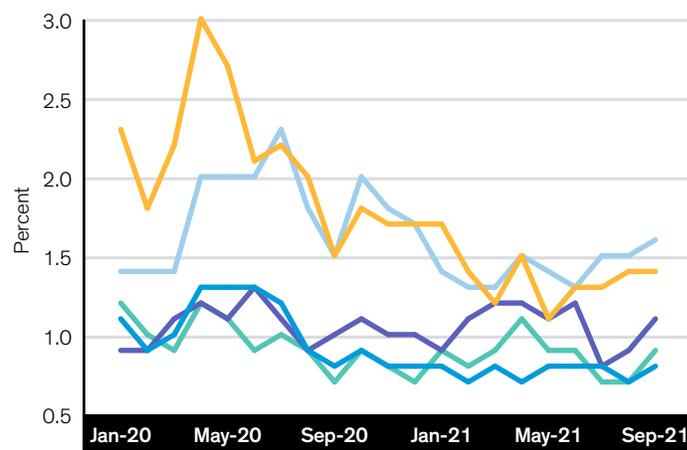
Historical analysis and current forecasts do not guarantee future results.
January 31, 2020, through September 30, 2021 | Source: FactSet and MSCI

We see the capacity issue in *Display 6* and *Display 7*, which show the equal-weighted mean and median short-interest ratios for the broad US market and “short” quintile of key equity factors since the start of 2020. With the exception of US momentum, both the mean and median short-interest ratios are higher for factors than for the broad market, supporting the argument that investing in long-short factors is somewhat more capacity-constrained than the broader market.

However, mean and median will always be very capacity-constrained ways to invest, because they give equal weight to stocks of all sizes.

DISPLAY 7: SHORT-INTEREST RATIOS: MEDIAN

Equal-Weight Median



● US Market
 ● US Composite Value (Short)
 ● US Long-Term Growth (Short)
 ● US Momentum (Short)
 ● US ROE (Short)

Display 8 compares the latest mean and median data points to the market-capitalization-weighted short-interest-rate average.

That number is considerably lower than the equal-weighted average, implying that limits on smaller stocks are responsible for at least some of the high short-interest ratio. However, the market-cap-weighted short-interest ratio for the broader market of 1.0% is still lower than that of most factors, suggesting that factors' higher short-interest ratio isn't driven simply by their exposure to small-caps, which tend to be more heavily shorted.

DISPLAY 8: COMPARING SHORT-INTEREST RATIOS

September 21, 2021

	Mean (%)	Median (%)	Cap-Weighted (%)
US Composite Value (Short)	2.5	1.4	1.3
US Long-Term Growth (Short)	2.6	1.1	1.2
US ROE (Short)	2.7	1.6	1.6
US Momentum (Short)	1.9	0.9	0.9
US Market	1.9	0.8	1.0

Historical analysis and current forecasts do not guarantee future results.
As of September 30, 2021 | Source: FactSet and MSCI

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The question of how much to allocate to factors is ultimately driven by their ability to increase the richness of the return-variance-covariance of available return streams, factor capacity, and factor persistence across the business cycle and in the face of further capital inflows. The allocation to long-short factors will necessarily have more constraints, but can be thought of as akin to a hedge-fund allocation. In our view, investors' current allocation to hedge funds can be split between simple factor exposures and idiosyncratic alpha, over and above factors.

A Question of Persistence: Asset Class vs. Factor

The capacity aspect is bound up with a more theoretical debate: the rationale for ongoing returns of asset classes versus factors. Is there a capacity level beyond which factors fail to operate anymore? If so, how can that limit be identified?

The theoretical debate rests in part on whether factors are artifacts of investors' behavioral biases or compensation for some type of risk. This debate has raged for decades but is particularly germane now. As investors entrust more capital to be run by "machines," behavioral effects will likely melt away, because quantitative strategies are designed in part to explicitly trade against them.

However, if factor returns are risk compensation, they may well be more resilient against the growth of trading strategies designed to take the other side of behavioral biases. In that case, the relevant questions would be what is the size of the risk premium offered, and what is the governance framework for dealing with the relevant risks? The governance question could, for example, address the issue of the appropriate time horizon for assessing a risk premium's effectiveness. If a risk premium relies on value and mean reversion, the window

should be appropriately long—measured in years, unlike the example of a merger-arbitrage strategy.

Essentially, the question is: How persistent are the returns of asset classes and factors? The empirical data has become, if anything, more favorable for asset-class returns than factor returns in recent years, but there's a strong theoretical rationale for both types of returns.

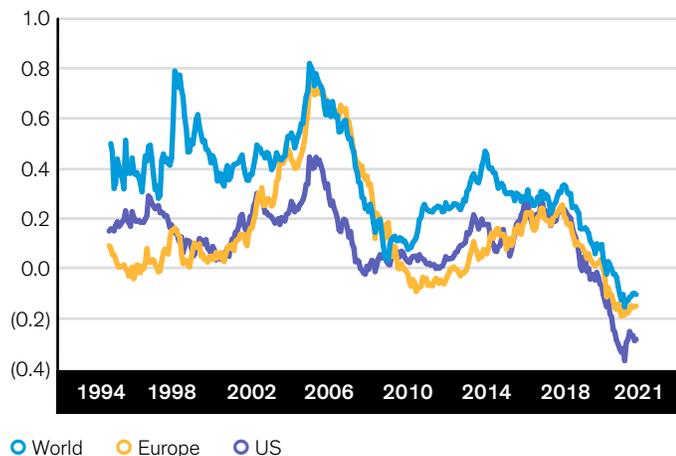
Based on empirical data, factor returns have been definitively subpar in recent years. This is not just about the failure of the value factor; it's more pervasive across a range of factors. Some have suggested that this outcome represents a structural failure: too much capital chasing factor returns. However, more than 90% of assets for factor ETFs are invested in US-benchmarked strategies, while lower-factor returns are globally pervasive, suggesting that the root of the explanation is more likely to be a cyclical artifact of the macro environment.

We see a definitive decline in factor effectiveness in recent years (*Display 9* and *Display 10*), based on five-year rolling return/risk ratios of common factors for the world's major regions. *Display 11* extends the analysis to cross-asset factors, which show a similar result, though not outside the bounds of historical experience. Lastly, *Display 12*, based on rolling relative return/risk ratios of equity factors versus the broader market, implies that factors' relative efficacy, as opposed to simply buying the equity market, has been worse in the past five years than at any point in the past quarter century.

However, we think the chart makes it equally clear that factors' relative effectiveness has been highly cyclical—not a slow, persistent decline that could signal something more structural.

DISPLAY 9: WORLD, EUROPE AND US FACTOR RETURNS

World, Europe and US Aggregate Factor Risk-Adjusted Returns by Region (Based on Five-Year Trailing Annualized Return/Risk)



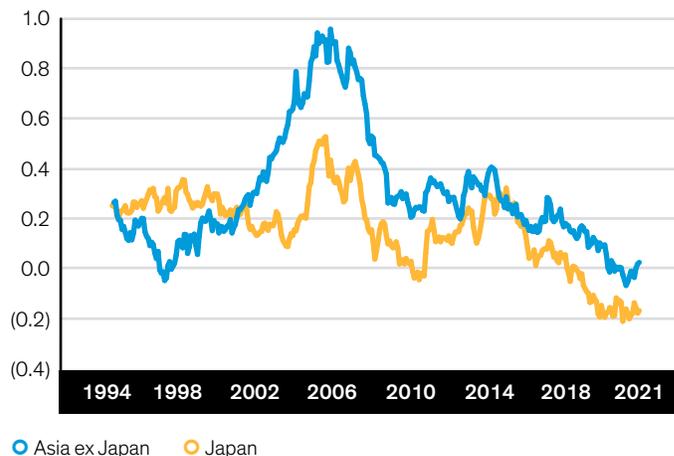
Historical analysis and current forecasts do not guarantee future results.

Exhibit shows the five-year annualized return/risk ratios averaged for seven factors—P/B, DY, ROE, long-term growth, price momentum, small cap and FCF yield—in each region. Baskets are rebalanced quarterly, and we use total long-short USD returns.

December 31, 1994, through September 30, 2021 | **Source:** FactSet, IBES and Bernstein Research

DISPLAY 10: ASIA AND JAPAN FACTOR RETURNS

Asia and Japan Aggregate Factor Risk-Adjusted Returns by Region (Based on Five-Year Trailing Annualized Return/Risk)



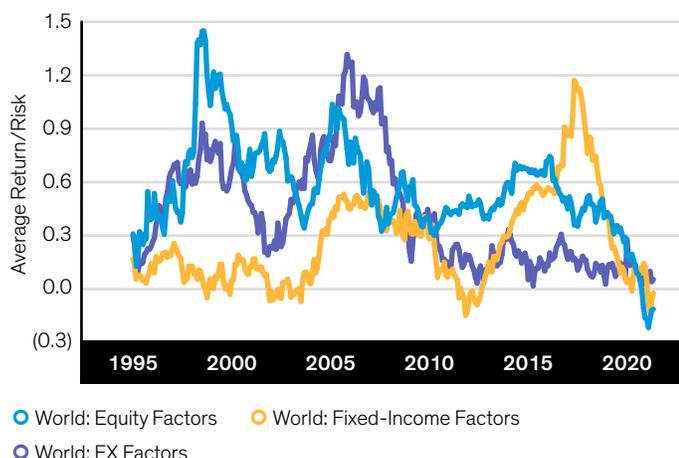
Historical analysis and current forecasts do not guarantee future results.

Exhibit shows the five-year annualized return/risk ratios averaged for seven factors—P/B, DY, ROE, long-term growth, price momentum, small cap and FCF yield—in each region. Baskets are rebalanced quarterly, and we use total long-short USD returns.

December 31, 1994, through September 30, 2021 | **Source:** FactSet, IBES and Bernstein Research

DISPLAY 11: CROSS-ASSET FACTOR RETURNS

Five-Year Rolling Return/Risk



Historical analysis and current forecasts do not guarantee future results.

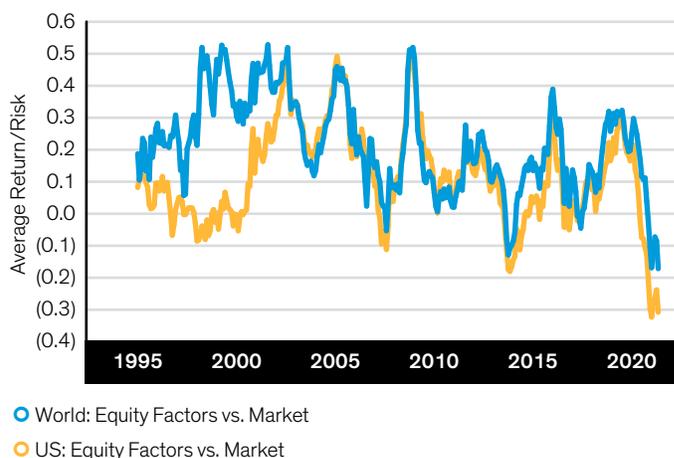
Note: Equity Factors (L/S) includes long-short factor returns and volatility for global and US composite value, ROE, long-term growth, momentum and low-volatility factors. Fixed-Income and FX factors include value, carry and momentum.

January 31, 1995, through May 31, 2021 | **Source:** AQR and FactSet

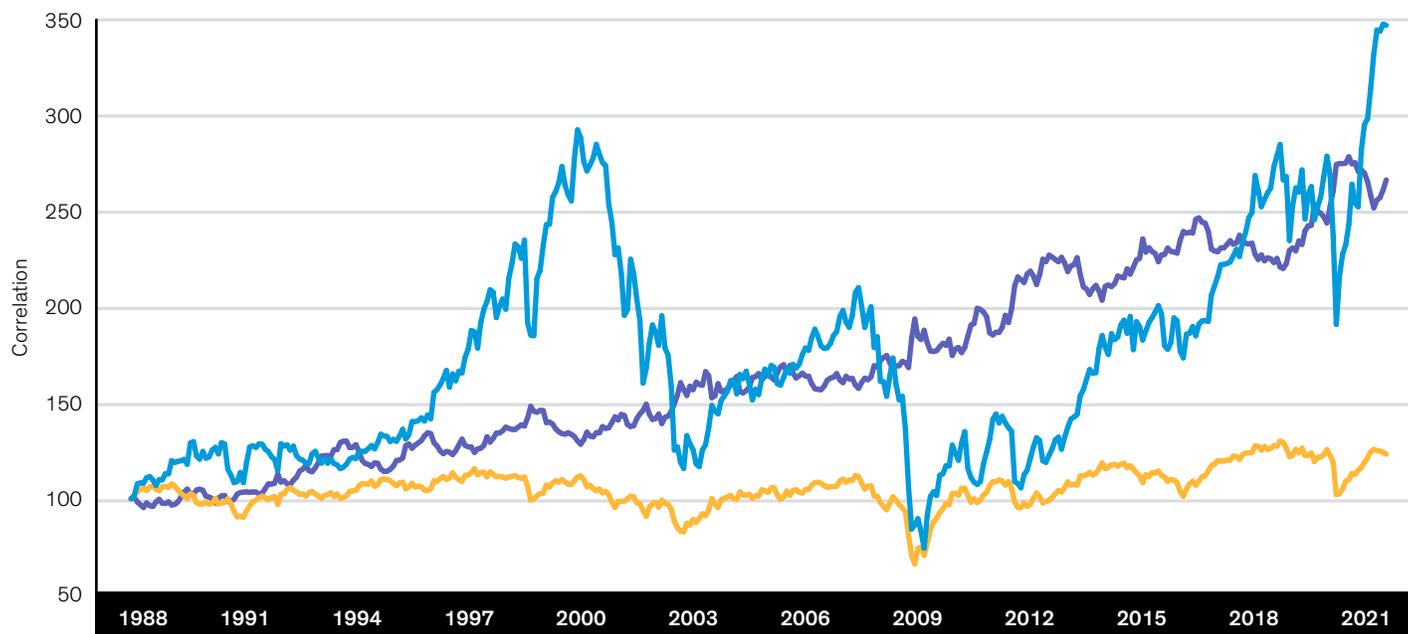
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DISPLAY 12: EQUITY FACTORS VS. THE MARKET

Five-Year Rolling Return/Risk



DISPLAY 13: DO VALUATIONS POSE A LIMIT TO STRONG ASSET-CLASS EXCESS RETURNS?



● US Equity vs. Bond Return Index
 ● US Credit Average vs. 10-Year Government Bond
 ● US 10-Year Government Bond vs. US 1-Year Bond

Historical analysis and current forecasts do not guarantee future results.

January 31, 1988, through July 31, 2021 | Source: Datastream and FRED

There's no doubt that returns from the major asset classes have been strong for many years (*Display 13*), but the prospect of lower returns ahead, given the run-up in asset multiples, leaves a question mark over future allocations.

Earlier, we showed that the general run-up in asset-class valuations has left valuation spreads between asset classes not really extreme but valuations *within* asset classes very wide. There's also a question of the policy environment: if the public debt buildup during the pandemic creates a desire to manufacture moderate inflation to keep debt under control, it would be a break from the downward trend of nominal yields in recent decades.

At the most basic level, whether the subject is public or private market, equity or debt, any investing ultimately involves the needs

of both investors and issuers. Investors want a return stream to meet liabilities (explicit or implicit); issuers need to raise capital for investment or operational spending. This has been the status quo for centuries...but is it still the case?

Changing motivations may be most evident for equities. In the past, corporations raised capital to invest, but capital-light businesses need less of it, suggesting that the impetus for seeking a public equity listing have changed in some cases. It might be more about finding a liquid vehicle to compensate employees and cash out founders and early investors. As a result, the public equity market is deprived of some faster-growing early-stage firms that used to influence the upward skew in cross-sectional stock returns—replaced by some of the largest established companies.

This might sound like a *prima facie* case for investing in private markets, but not necessarily. Fundamentally, if the relative needs of those who raise capital and those who provide it have shifted, capital raisers may be able to drive a harder bargain and investors should expect a lower return, whether the route is public or private. We examine this topic more closely in the chapter "What Is the Point of the Stock Market (in a Capital-Light World)?" in [Are We Human or Are We Dancer?](#)

A similar argument applies for credit. A significant proportion of credit issued over the past decade has been financial engineering on an epic scale, funding buyback programs and taking advantage of a desperate reach for yield, especially among fixed-income investors. We won't argue a turning point for credit spreads here, but as with equity markets, credit investors' needs

appear more desperate, so they shouldn't necessarily expect historical returns to persist.

What about sovereign debt investors? Do the same changing needs of investors and issuers apply in that market? In a sense, the situation is the reverse of equities. The massive scale of issuance and dire state of G10 government finances should imply a drop in prices, given greater supply and a repricing of sovereign risk. But, of course, that hasn't happened, given heavy central bank buying and investors' desperation for "risk-free" (the term is nonsensical, we think) assets.

From our perspective, real interest rates will remain low, but it's hard to see a case that the decline in recent years will

continue—and inflation seems likely to rise somewhat. This suggests that the payback for a duration trade will strategically decline, while investments in cash-like assets may suffer from debasement risk. The bottom line: fundamental forces at work in equities, credit and rates, beyond valuations, imply that returns will be dampened over a strategic horizon.

Asset classes might see lower returns; is there a case that factors will see higher returns?

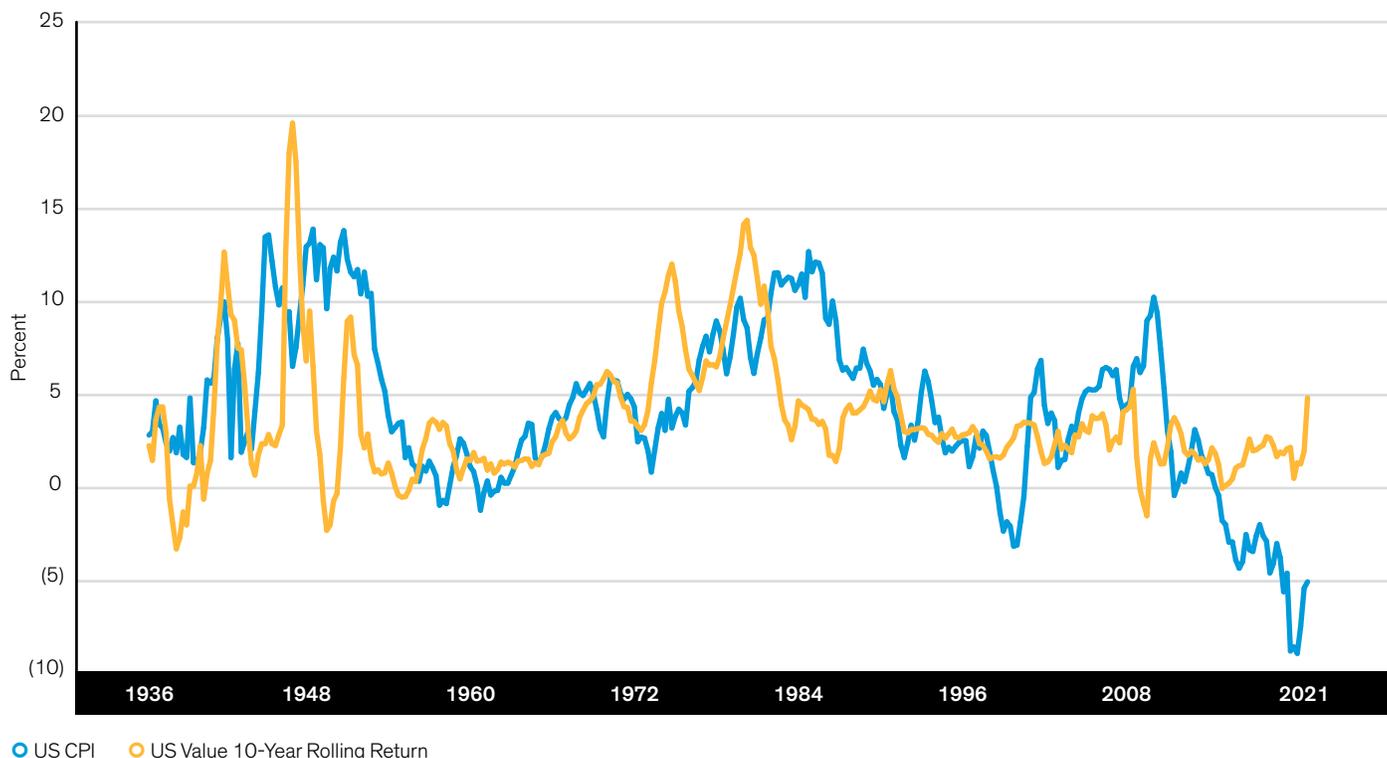
The Outlook for Key Factors

One question we raised at the beginning of this chapter is whether factors are tactical allocation instruments or can be used in a strategic context.

We've outlined a case that they're risk compensation, therefore a return stream that can persist over the business cycle. However, no risk premium can be immune from the vagaries of the investment environment, so there's also a tactical component, at least for considering entry points to longer-term positions. In this section, we share our outlook for select factors.

There's a long-established link between value performance and inflation (*Display 14*). As we have outlined recently ([Assessing the Inflation Trajectory—and Portfolio Responses](#)), we expect post-pandemic inflation to settle at a rate higher than its historical average, which in our view should provide a structural support level for value factor returns.

DISPLAY 14: STRONG RELATIONSHIP BETWEEN VALUE PERFORMANCE AND INFLATION



Historical analysis and current forecasts do not guarantee future results.

The chart shows annualized 10-year rolling return for Ken French's value portfolios, using the top quintile of cheapest stocks by price to book versus the most expensive quintile. Inflation is proxied by the change in the US CPI.

Data from June 1, 1926, to March 31, 2021 | Source: Datastream and Ken French Data Library

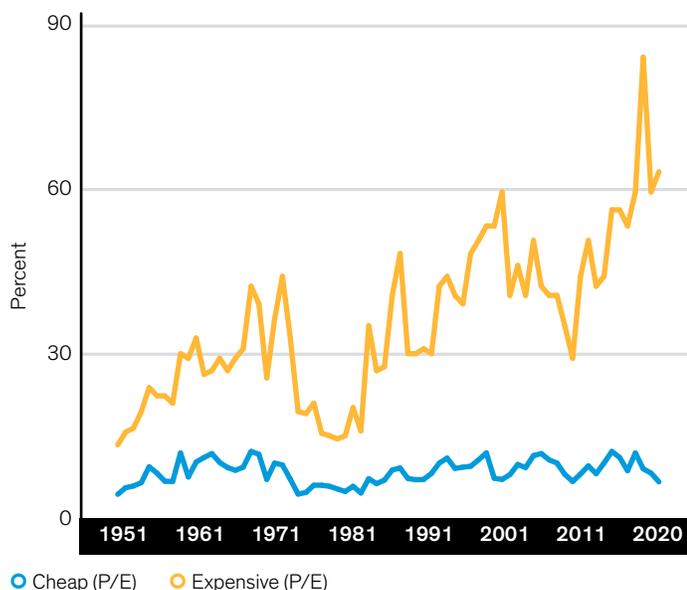
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Valuation could be another strategic support for the value factor. From an asset-owner perspective, and from a strictly cross-asset view, valuations are a major challenge—nearly all assets are expensive compared with history: equities, sovereign bonds, credit and private equity. At the same time, valuation spreads across the market are, by some measures, at extreme levels.

The market-cap-weighted trailing price/earnings ratio for expensive stocks is 63× (*Display 15*), close to all-time highs, while cheap stocks trade at the same absolute multiple as they did in the early 1960s, even though discount rates are a lot lower now. And on a price/book basis, the disconnect is even more extreme (*Display 16*).

DISPLAY 15: P/E RATIOS NEAR ALL-TIME HIGHS

US Long-Run Valuation Spreads (P/E)



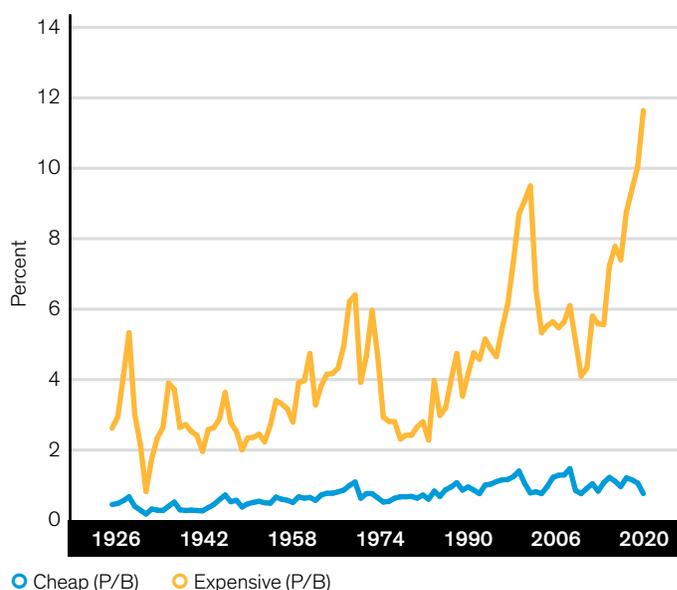
Historical analysis and current forecasts do not guarantee future results.

Note: The historical series is derived from the Ken French Data Library and is the market-cap-weighted inverted trailing earnings yield for the most expensive and cheapest quintile of stocks out of the largest 1,200 US stocks.

December 31, 1951, through December 31, 2020 | **Source:** Ken French Data Library and AB

DISPLAY 16: AN EXTREME VALUATION DISCONNECT

US Long-Run Valuation Spreads (P/B)



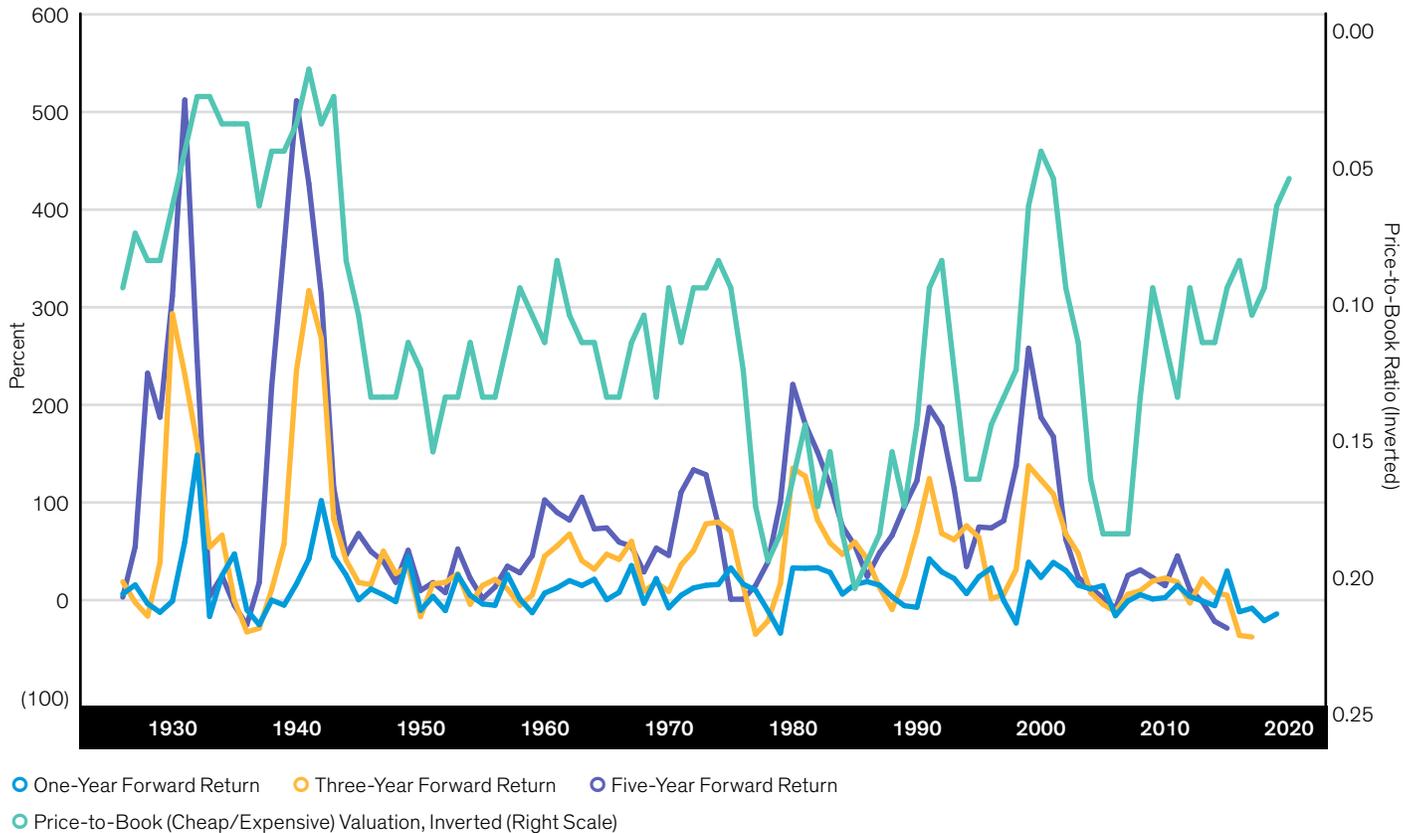
Historical analysis and current forecasts do not guarantee future results.

Note: The historical series is derived from the Ken French Data Library and is the market-cap-weighted price-to-book multiple for the most expensive and cheapest quintile of stocks out of the largest 1,200 US stocks.

December 31, 1926, through December 31, 2020 | **Source:** Ken French Data Library and AB

DISPLAY 17: VALUATION HAS BEEN A STRONG INDICATOR OF VALUE PERFORMANCE

US Price-to-Book Factor Valuation and Forward Returns



Historical analysis and current forecasts do not guarantee future results.

December 31, 1926, through December 31, 2020 | Source: Ken French Data Library and Bernstein Research

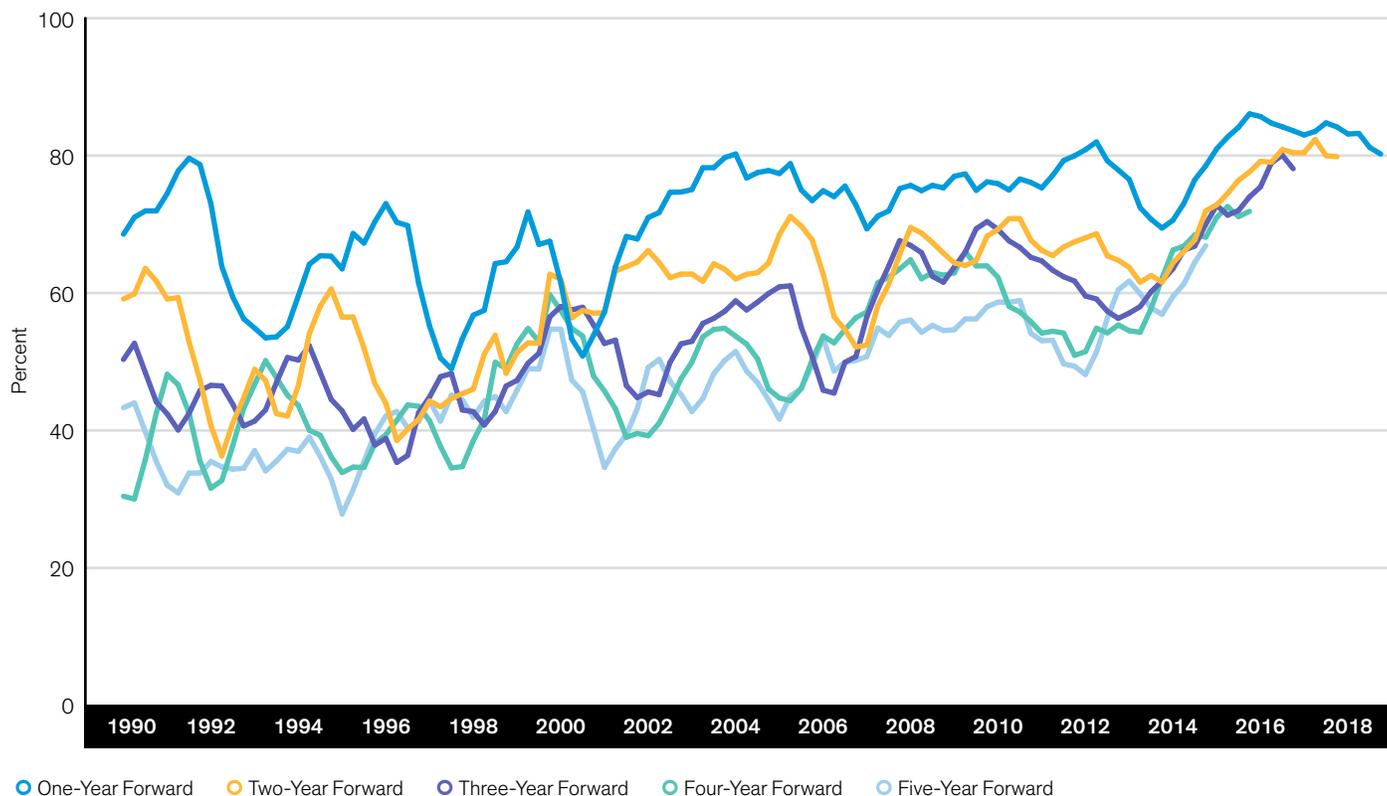
Valuation multiples haven't mean reverted over the past decade, so the link between valuation and future value performance has been very weak. However, using the very long-run history of the US deep-value (price/book) factor (*Display 17*), valuation has

historically been a strong indicator of value performance over strategic horizons of three to five years. Since 1926, the correlation between the US price/book factor valuation and five-year forward return has been (0.44).

We think there's a positive medium-term case to be made for the growth factor, too, resting on two key attributes: the greater longevity of profitability for high-growth companies and real interest rates anchored at a low level.

DISPLAY 18: HIGH-PROFITABILITY COMPANIES HAVE BEEN INCREASINGLY STAYING THAT WAY

Increasing Persistence of Profitability for High-Profitability US Companies



Historical analysis and current forecasts do not guarantee future results.

In each quarter since 1990, we split the stocks in the MSCI US into groups by ROE decile (within sectors) and calculated the percentage of stocks in the High ROE decile at the time that were in the highest two deciles over the next one- to five-year period. A four-quarter smoothing is applied to the quarterly percentages.

December 31, 1990, through September 30, 2019 | Source: FactSet and AB

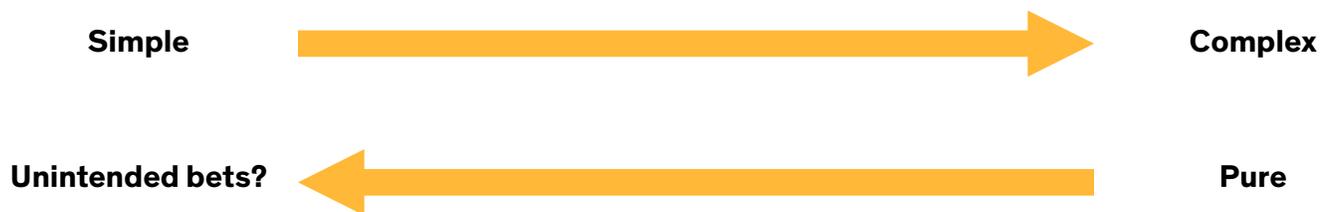
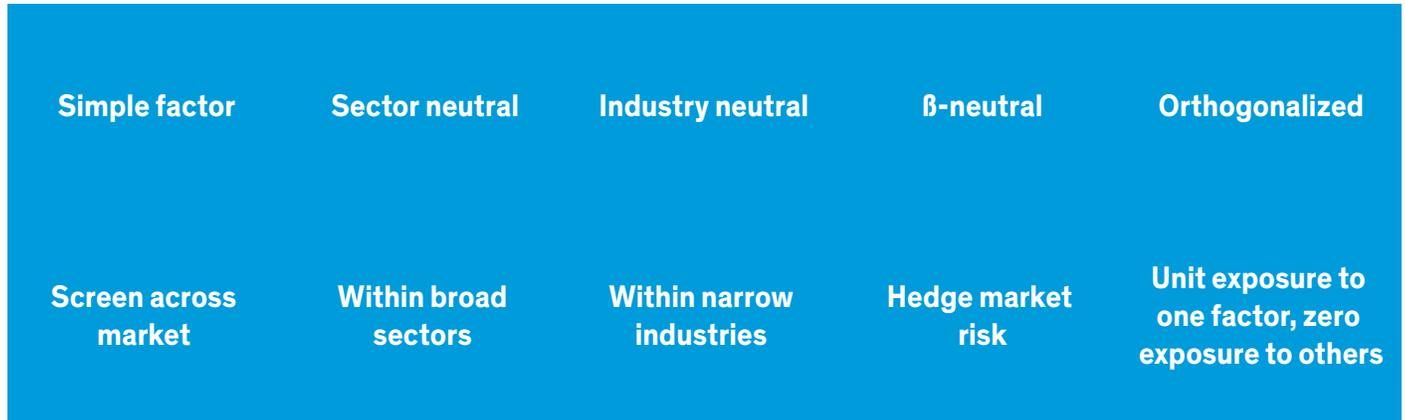
Incumbent high-growth/high-profitability companies have been increasingly able to remain that way in recent years (*Display 18*)—we suspect because of network and scale advantages of intangible assets. This creates a favorable case for these stocks, specifically from the perspective of contributing long-horizon cash flows to net present value.

The second support for the growth case, which we noted in previous research (please see: [A Cross-Asset View of Equities for more detail](#)), is our expectation of low real rates for a while. There's a strong argument that policymakers may wish to keep the cost of debt below the growth rate for an extended period, given the explosion in global debt/GDP ratios in response to the

pandemic. This situation implies that the yield curve may not steepen to the same extent as any increase in inflation expectations, so the greater persistence of profitability, together with low discount rates, can justify very high valuation multiples for growth stocks.¹

¹ For a model illustration of this, please see [Portfolio Strategy: Strategic Outlook for Factors, and Why They Are Needed in Portfolios](#).

DISPLAY 19: A SPECTRUM OF FACTOR PURITY



Source: AB

Factor Choices: How Pure vs. How Complex?

Earlier in this note, we alluded to the number of choices required in factor investing, making it qualitatively different from an asset-class-based approach. From the lens of purity of expression, long-short factors are free of classic asset-class risks like equity beta and duration. But is comparing asset classes with (potentially) long-short return streams fair? We think it is: they're all simply return streams, and the ultimate

goal of a portfolio is to deliver some form of aggregate return.

In practice, there is a host of questions about what factor construction should look like. For example, equity factors could be built from a simple screen across the market, but many investors want to purify that exposure in some way. In *Display 19*, we describe this as a spectrum of factors with progressively more purity: sector-neutral, industry-neutral, equity-beta-neutral and a fully orthogonalized factor constructed

to be neutral to other factors. In theory, this spectrum could extend to asset-class-neutral factors.

Which approach is best? It depends. There is a trade-off between how pure a factor is, in the sense of avoiding unintended bets, versus how complex it is to achieve. This creates the potential for a trade-off in terms of how quantitatively attractive a certain factor might be versus how easy it is to articulate its rationale.

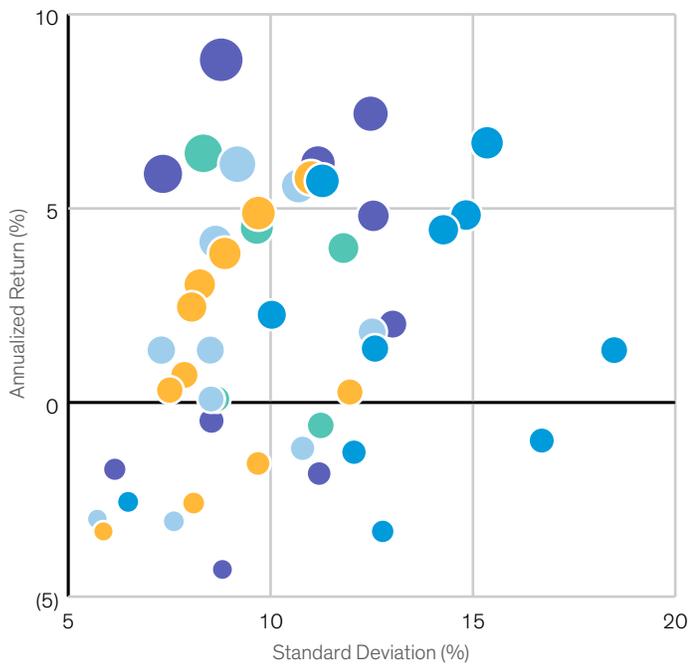
This choice of approach requires trade-offs in terms of return-risk outcomes (*Display 19*), which we show for a set of equity factors using a range of construction techniques and metrics. In *Display 20*, we ignore the accounting metric used to create the factor, instead coloring the points based on how

they were constructed. For example, many of the beta-neutral factors have delivered better return/risk regardless of the actual metric used. *Display 21* shows the same data but colored based on the accounting metric used for screening.

What Does This Mean for Portfolios?

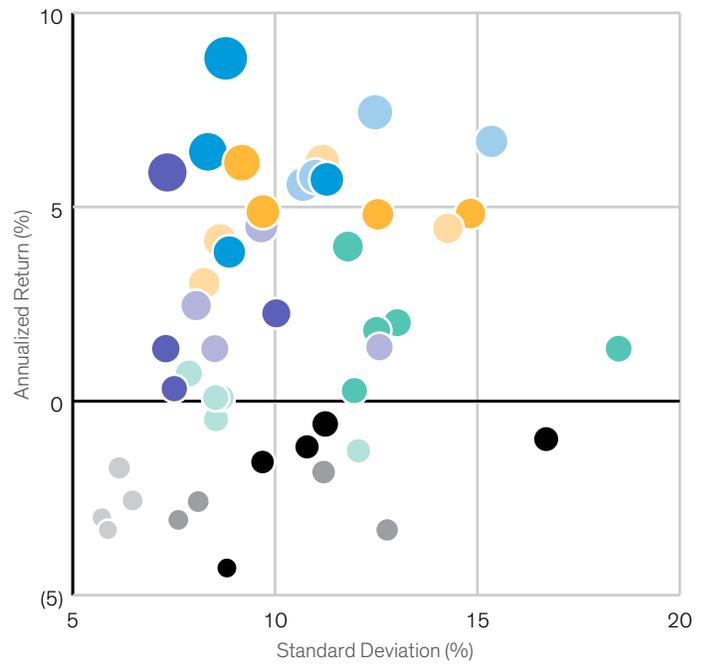
How do factors fit into the achievable range of return and risk for asset owners? We opened this note by outlining the historical return range for factors and asset classes and comparing valuation levels of major asset

DISPLAY 20: RETURN/RISK OF FACTORS BY CONSTRUCTION TECHNIQUE



- Non-sector-Neutral
- Sector-Neutral
- Industry-Neutral
- Beta-Neutral
- Pure

DISPLAY 21: RETURN/RISK OF FACTORS BY FACTOR METRIC



- Return on Equity (high/low)
- 12-Month Forward P/E (cheap/expensive)
- Comp Value (cheap/expensive)
- Dividend Yield (cheap/expensive)
- Comp Quality (high/low)
- Price to Book (cheap/expensive)
- Price Momentum (high/low)
- Long-Term Growth (high/low)
- 12-Month Price Standard Deviation (high/low)
- Comp Growth (high/low)
- Size (large/small)

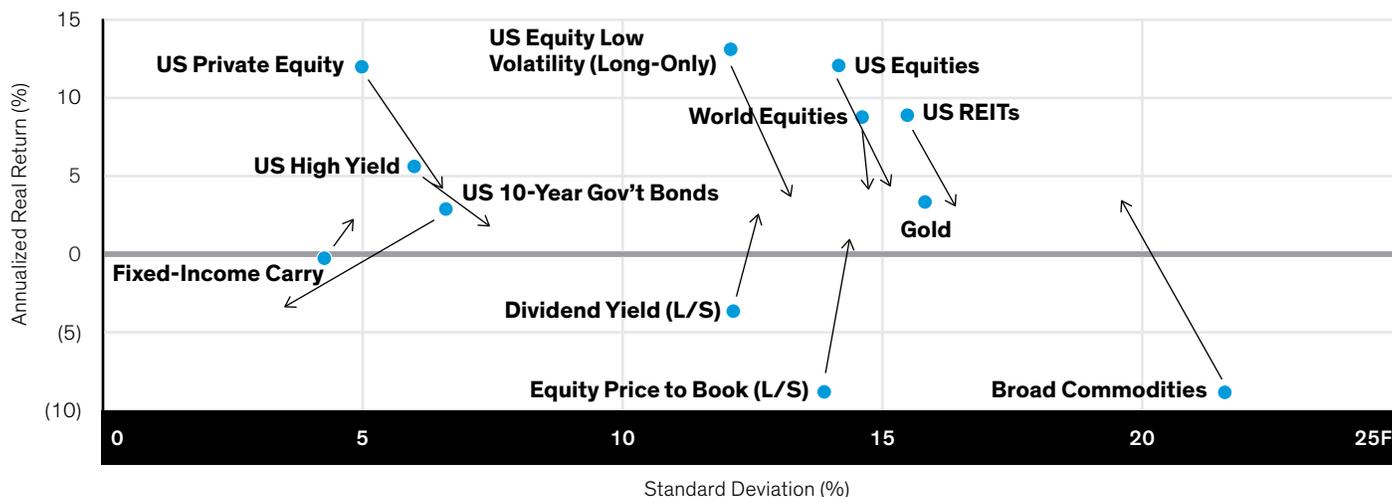
Historical analysis and current forecasts do not guarantee future results.

The size of the circle represents the R/R values.

Sample period 1992–2017 | **Source:** FactSet and IBES

DISPLAY 22: A COMPRESSION OF RISK-ADJUSTED RETURNS?

Investors Must Add Risk; Pension Plans May Need to Add Factors



Historical analysis and current forecasts do not guarantee future results.

The dots represent the real returns and volatility during the period of January 2010 through December 2020 for the major return streams that investors can buy. The arrows represent the AB Institutional Solutions team's forecasts for the next five to 10 years. As of June 2021 | Note: The US private equity data are compiled from 1,562 funds, including fully liquidated partnerships, formed between 1986 and 2019. All returns are net of fees, expenses and carried interest. Data are provided at no cost to managers. Private equity data provided as of March 31, 2020.

Source: Cambridge Associates, Datastream, FactSet, FRED, Ken French Data Library and AB

classes with valuation spreads within them. We think that these relationships mean that the post-pandemic return outlook is different from what we've seen before.

In *Display 22*, the dots show the return/risk trade-off of major asset classes and factors over the past decade; the arrows show how we expect these trade-offs to evolve over the next 10 years. Generally, expectations will decline for major assets, though many remain positive—at least in nominal terms. In contrast, we think factor returns can exceed the last decade's levels.

The problem with this claim: it asks asset owners to allocate to strategies such as value, yield and low volatility, which have struggled for a long time, and to reduce their allocation to high-grade fixed income in particular, which has worked for a long time. There may be an understandable wall

of skepticism facing the idea of allocating to factors at the expense of asset classes.

Aside from the case for individual factors outlined earlier, one might justifiably ask a broader question: Why now?

Valuation isn't a strong enough argument. After all, if one had followed a valuation signal, it would have led to a progressive lowering of equity exposure over the past decade, which would have punished portfolio returns. But the combination of valuation and the post-pandemic policy outlook, we think, makes a strong claim that asset allocators need to make this shift.

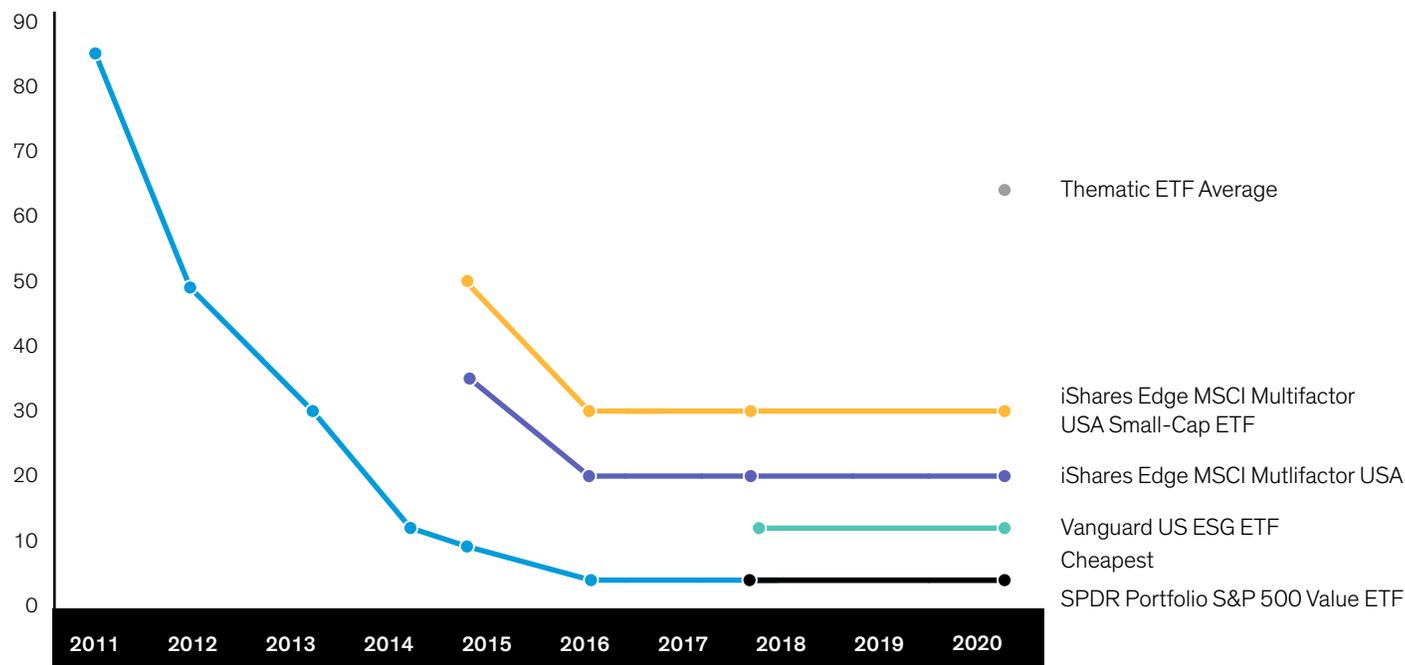
As we've discussed in recent research ([Alpha, Beta and Inflation: An Outlook for Asset Owners](#)), achieving moderate inflation becomes very desirable politically, given sizable debt levels. Even if real yields remain low, it's implied that nominal yields

will rise, which would likely make passive, long-duration allocations to high-grade fixed income a loss-making proposition.

As noted earlier, headwinds to some factor returns remain, but the proposition of a moderately higher equilibrium inflation materially changes the outlook, as does a cyclical upswing. In our expected asset-class returns from AB's Capital Markets Engine (*Display 22*), equity and US government bond forecasts are also consistent with a simpler valuation model; forecasts for factors assume an outcome of moderate—but not high—inflation.

The other potential pushback on a claim that factors are interchangeable with asset classes is the question of fees. Exposure to traditional asset classes comes at a nearly zero fee, so would a shift to allocate more to factors entail paying a higher fee?

DISPLAY 23: THE DECLINING COST OF BUYING FACTORS



Historical analysis and current forecasts do not guarantee future results.

Data sourced as follows: (1) Powershares RAFI pre-2012 fee referenced in <http://www.ft.com/cms/s/0/5133d548-3a3a-11e2-a32f-00144feabdc0.html#axzz3mdRjfaGM>; (2) Powershares RAFI fee cuts of 21–36 b.p. referenced in <http://www.ft.com/cms/s/0/5133d548-3a3a-11e2-a32f-00144feabdc0.html#axzz3mdRjfaGM>; (3) pre-2015 average fee level of State Street smart beta products as reported in <http://www.ft.com/cms/s/0/cc2c12da-b04c-11e4-a2cc-00144feab7de.html#axzz3pEk5uFHfY>; (4) February 2015 price reductions for State Street smart beta products as reported in <http://www.ft.com/cms/s/0/cc2c12da-b04c-11e4-a2cc-00144feab7de.html#axzz3pEk5uFHfY>; (5) GSAM active beta (multivariate smart beta) fee as reported in <http://www.ft.com/cms/s/0/21831abe-61f3-11e5-9846-de406ccb37f2.html#axzz3pEk5uFHfY>; (6) vanguard factor ETF as offered by <http://www.nutmeg.com>; (7) Schwab US Large-Cap Value ETF from December 2016 prospectus.

Source: *Financial Times* and AB

Not really. First, the price of access for the simplest forms of long-only factors has been declining. The going rate for ETF-based exposure to common equity factors is now only 4 basis points (b.p.) for US-benchmarked products (*Display 23*). The price of long-short and more sophisticated factors is higher, but this should be viewed as part of the broader fee picture.

Of course, fees are critical in allocation decisions, but should only really matter to asset owners to the extent that they affect net-of-fee returns. A low fee doesn't justify a passive allocation to an asset likely to deliver

a negative real return. And even though fees have been cut for traditional active products, asset owners have been happy to allocate more to high-fee private equity funds.

Higher private equity allocations are motivated by many of the same forces that make an allocation to factors more attractive: the prospect of lower returns on traditional asset classes, greater difficulty in achieving diversification and the wish to build in some protection against a potential upward move in inflation.

Are factors alphas or betas? We think it's impossible to answer that question without acknowledging that the alpha-beta distinction, while very helpful for modern investment theory and praxis, is not set in stone.

Declining fees on smart beta products have revealed that the alpha-beta distinction is dynamic. An alpha source requires research and implementation work to achieve. From an asset manager's point of view, it's a return stream that can command a fee. From an asset owner's perspective, alpha seems to require an active allocation decision. In

reality, none of these are fixed concepts. There really is no such thing as a passive investment decision—even buying an ETF based on the S&P 500 is an active act of asset allocation. As a return stream migrates from alpha to beta, it becomes easier to identify and access (easier data processing and lower fees, for example).

But the migration process also involves a social change in the acceptability of factors in the language of asset allocation. Twenty years ago, these concepts were less familiar; now they're more of a common currency. Within this fluid definition, we see "simple" factors such as equity value or fixed-income carry as being more like betas.

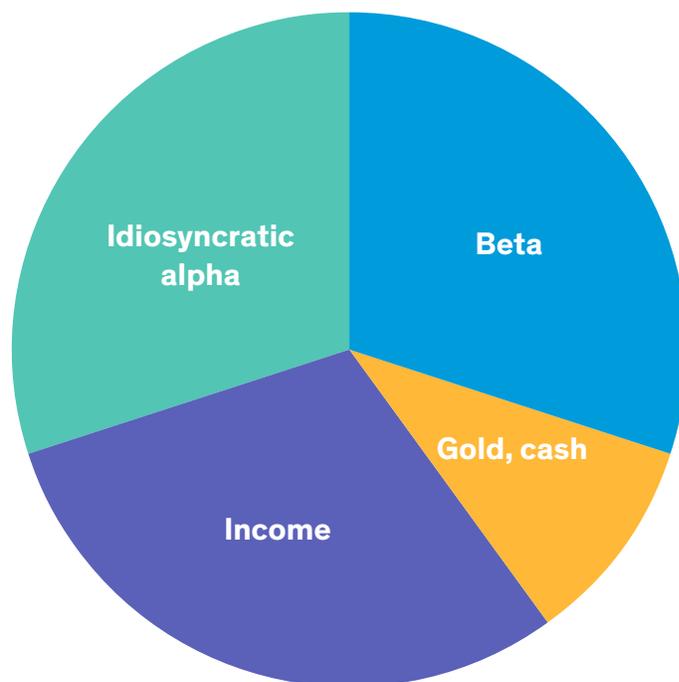
There is, however, a range. As we discussed earlier, the return stream a factor delivers is sensitive to parameterization, which gives it aspects, at least from a governance perspective, akin to alpha. Likewise, there are more complex manifestations of factors that appear highly active. So factor investing is really a spectrum from beta to alpha, especially in the context of an alpha that can be "portable" and distinct from asset classes.

Seen in this light, asset classes are not the fundamental building blocks of asset allocation. One can go a level deeper and describe the key distinction in asset allocation as betas versus idiosyncratic alphas. Betas are cheap exposures that can be bought at a lower fee, and asset owners should pay up for an active fee only where managers demonstrate idiosyncratic alpha. Add to these two simple building blocks the need for some investors to consider sources of income and liquid cash or cash equivalents (*Display 24*).

From this perspective, there's no separate allocation for private equity; instead, it can (in theory) be divided into a beta for illiquid, levered assets and idiosyncratic alpha just as other asset classes can be segmented. The beta component contains return streams that can be traditional asset classes and factors. Dividing the world this way helps with fee allocation, but also helps asset owners take advantage of the best diversification options—whether at the asset-class or factor level.

At the end of the day, asset allocation, at its most fundamental, is about allocating to different return streams. The world happens to have had a very constrained view of those, defining them primarily by asset class. We think this will change, a consequence of the macro environment and industry evolution.

DISPLAY 24: THE BUILDING BLOCKS OF ASSET ALLOCATION?



Source: AB

This conclusion has organizational implications for asset owners, asset managers and sell-side research teams. Across the investment industry, teams have been primarily arranged by asset class. Over time, this could shift to organizing people in terms of the nature of the return stream they generate or buy. An organization might include categories such as fundamental security-level research (spanning public equities, credit and even private assets), systematic strategies, tactical macro allocation and strategic allocation. Asset owners will likely need to lead this structural innovation, which could enable better efficiency and governance of the allocation process.

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