EQUITY ASSUMPTIONS

Better through-cycle returns, challenging starting point

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IN BRIEF

- Our long-term equity return assumptions are only mildly lower, despite a year of strong equity market performance.
- Our continuing research into equilibrium margin and valuation assumptions leads us to upgrade our fair value estimates, further reflecting the impact of sector composition, leverage, shareholder returns and the rate environment.
- This supports the equilibrium component of our equity return forecasts. The cyclical component of our forward-looking returns, however, becomes a bigger drag, as margins have spiked higher, and are expected to fall from here.
- Emerging market stocks retain their return premium in our forecasts, mainly due to their superior revenue growth prospects. However, that premium has narrowed, and EAFE equities offer a superior Sharpe ratio.

J.P.Morgan
Asset Management

ONLY MODEST CHANGE

Our expected equity return assumptions are mildly lower compared with last year's assumptions. Our modeling of the equity market continues to reflect five key themes:

- **Moderate returns**: We forecast mid-single digit equity market returns over our 10- to 15-year investment horizon, with moderate dispersion in developed markets and more dispersion in emerging markets.
- **A challenging starting point**: In many markets, current valuations and profit margins are higher than our long-term estimates of fair value.
- **The importance of shareholder returns**: Anticipating modest earnings growth, we expect a significant portion of returns will come from buybacks in developed markets and from dividends in emerging markets, particularly given the corporate sector remains well capitalized coming out of the pandemic.
- **International premium**: Once again, we assume that non-U.S. equities will outperform the U.S. market. To a great extent, this is driven by the valuations of U.S. stocks – a substantial headwind even relative to our raised equilibrium valuation assumption. Looking past the cyclical elements of our return forecasts, our equilibrium return forecasts for developed and emerging market stocks are closer.
- **The impact of foreign exchange**: In a world of mid-single digit equity market returns, currency is a key consideration. We expect the USD to weaken relative to key developed market currencies, making markets outside the U.S. even more attractive to U.S. dollar-based investors.

Valuations continue to depress our forecasted equity returns. At the time of writing, the 12-month forward P/E ratio for MSCI AC World equity was 18.0x, significantly above the long-term average of 15.8x. Price-to-book ratios are similarly extended, with 12-month forward multiples of 2.7x, vs. a long-run average of 2.0x. Elevated valuations are most prominent in U.S. equity markets, but the phenomenon is present elsewhere, too, even after a move lower in valuations in the middle of 2021. Investors are faced with a puzzle: Will valuations "mean revert" over time, and, if so, what will that do to equity market returns? In the past, starting from levels equivalent to today's valuation levels has resulted in unspectacular returns in equity markets (**EXHIBIT 1**).

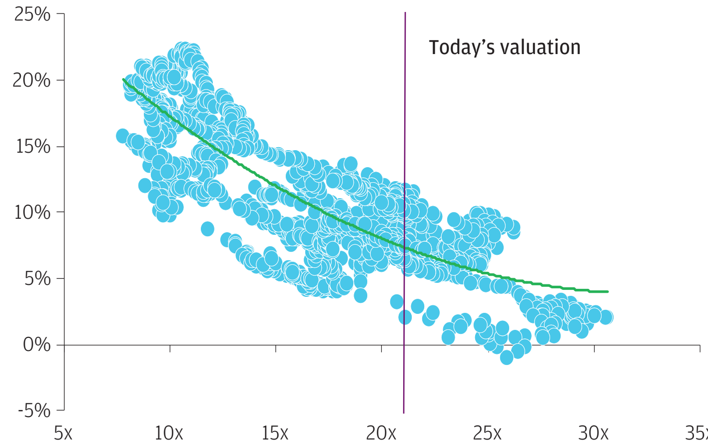
Reasons for optimism

We see several causes for optimism.

First, in relative terms, equities look attractively valued when they are compared with other asset classes, especially fixed income. Global equities currently offer a 5% free cash flow yield, which we expect to grow over time. As such, the opportunity to compound attractive returns from the equity market over the longer term remains intact, particularly given the prospects for increasing shareholder returns.

History suggests that starting from today's valuation levels usually results in subpar equity returns

EXHIBIT 1: DEVELOPED MARKET EQUITIES, 10-YEAR RETURNS (ANNUALIZED) VS. STARTING VALUATIONS, 1973–2011



Source: Datastream, J.P. Morgan Asset Management Multi-Asset Solutions; data as of September 30, 2021.

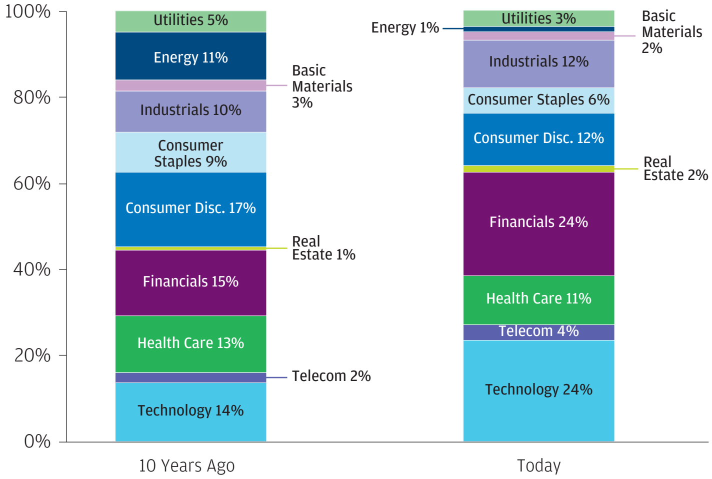
Second, we believe that equity markets can sustain equilibrium P/E ratios (and margins) that are higher than they were in the past. We expect this outcome for several reasons:

- **Sector composition**: Over time, equity markets have become less exposed to cyclical sectors. This reduces the volatility of earnings, which may lead investors to pay a higher premium for those earnings. The growing significance of higher quality "secular growth" sectors, often in technology and consumer products and services, supports our fair value P/E as well as margin assumptions, which are higher than historical averages (**EXHIBITS 2A** and **2B**).
- **Shareholder returns**: Equities are paying more to shareholders (in dividends and buybacks), which may support higher fair value P/E ratios. We expect this to remain an important dynamic, especially in light of the current strength of corporate balance sheets as we come out of the pandemic. We estimate U.S. and European companies have a year's worth of EBITDA in gross cash that they are able to distribute or spend on accretive M&A.
- **Rates**: Our Long-Term Capital Market Assumptions (LTCMAs) forecast interest rates that are higher but still below historical averages. This may support fair value P/E ratios by flattering the cash flows offered by equities relative to bonds.[1]

[1] Historically, the inverse relationship between bond yields and equity market valuations has been less clear outside of the U.S. This may partly reflect the fact that equity markets outside the U.S. are more asset-heavy, meaning that they rely on a lot of capital assets, such as plant and machinery, and generally offer fewer structural growth qualities.

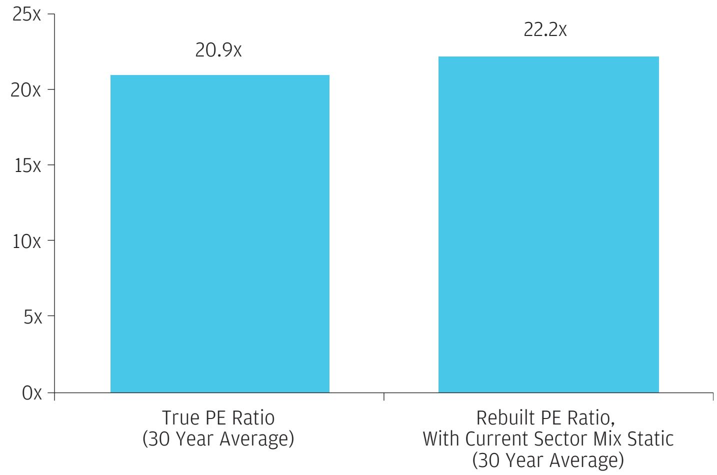
Technology stocks account for a much larger earnings weight than in the past, which may support higher fair value P/E ratios and margins

EXHIBIT 2A: EARNINGS WEIGHT OF U.S. STOCKS BY SECTOR



Simply adjusting historical U.S. P/E ratios for today's sector mix adds 1.3 points to historical average valuations

EXHIBIT 2B: U.S. TRAILING P/E RATIOS, REALIZED AND ADJUSTED FOR SECTOR COMPOSITION CHANGES



Source: Datastream, J.P. Morgan Asset Management Multi-Asset Solutions; data as of September 30, 2021.

- **Leverage and capital structure**: The use of leverage has been a tailwind to margin sustainability, with interest expense relative to revenue falling in conjunction with a significant extension of the duration of the corporate investment grade bond market.

In aggregate, we make a 0.5x upgrade to our fair value P/E and a 0.4% upgrade to our margin assumptions for MSCI AC World equity. This year marks the most significant upgrade that we have made to our assumptions of equilibrium margins and valuations for a number of years.

U.S. equities

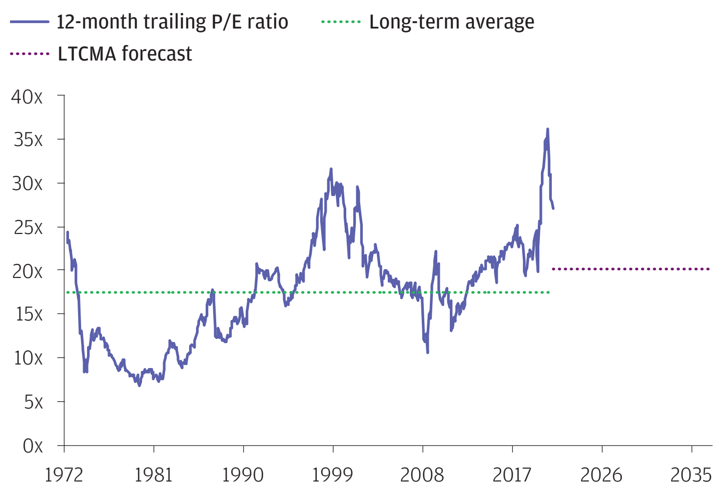
Our expected return for U.S. equities is unchanged at 4.1%, despite a significant rally from last year. This is for two main reasons. First, though the market has rallied, valuations have actually moved lower, reflecting particularly strong earnings growth. Second, by applying a more thoughtful approach to fair value valuations and margins – reflecting the present and likely future composition of the U.S. market – we land on a more optimistic view of U.S. equity returns. Earnings growth, buybacks and dividends continue to contribute a significant proportion of expected return, while margins and valuations continue to drag on performance.

As discussed, we make significant upgrades to our equilibrium assumptions for margins and P/E ratios (**EXHIBIT 3**). The resiliency of corporate profitability for U.S. large caps during the depths of the coronavirus recession in 2020 reaffirmed our conviction that our estimates for higher equilibrium margin assumptions are justified. Moreover, ongoing digitalization across U.S. industries should provide further support. With a backdrop of stable cash flows and dividends, investors are likely to pay a higher multiple for a market with reduced overall cyclicality and inherently less volatility in operating results.

There is a significant difference between the sector breakdowns of the key stock market indices in the U.S. In the new economy U.S. large cap index, the technology sector accounts for 28% of market capitalization, vs. just 13% for small cap indices. We note as well that the growth of private capital formation has allowed companies to stay private longer. Some of the best companies of the coming decade may go public as mid or large cap stocks. As a result, we assign a smaller premium to small caps relative to prior LTCMAs. We upgrade the equilibrium assumptions for mid cap in line with large cap.

For most markets, our forecast for P/E ratios is significantly higher than long-term averages

EXHIBIT 3: U.S. LARGE CAP VALUATIONS AND LTCMA FORECAST



Source: Datastream, J.P. Morgan Asset Management Multi-Asset Solutions; data as of September 30, 2021.

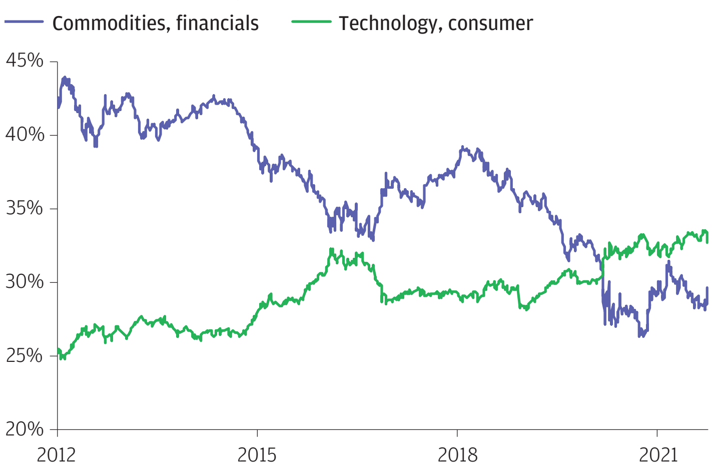
Europe, UK and Japan equities

We make a significant upgrade to our eurozone equity assumptions, from 5.2% to 5.8% in local currency terms.

All in all, we're optimistic about the prospects for European equities. The market's exposure to the tech and luxury goods sectors has increased, and though the quality of European companies tends to be worse than U.S. peers, we see scope for improvement. Both sectors have a secular growth quality that will likely garner high valuations. At the same time, the market's exposure to the commodity and financial sectors has decreased (**EXHIBIT 4**). As a result, the type of economic activity capitalized in the European stock markets is likely to be less cyclical than in the past, and in our view warrants a more elevated multiple. Over the past decade, eurozone markets confronted political crises and a double-dip recession. Today, Europe has taken meaningful steps toward collective fiscal policy. The market looks well positioned to capitalize on growth in environmental technology, such as wind farming. As in other markets, valuations are less of a headwind relative to last year.

Europe's stock market is now more geared to technology and consumer sectors than to commodities and financials

EXHIBIT 4: MSCI EUROPE, SECTOR WEIGHTS



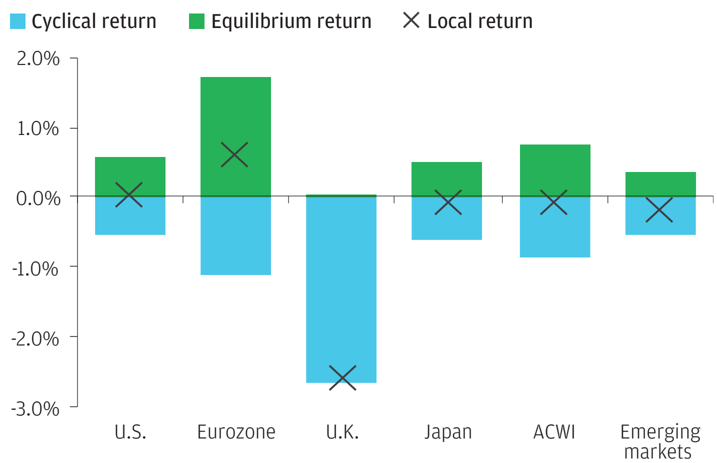
Source: Datastream, J.P. Morgan Asset Management Multi-Asset Solutions; data as of September 30, 2021.

Conversely, our expected returns for UK equities fall precipitously from 6.7% to 4.1%. Year-on-year, the biggest driver comes from the impact of margins. Profit margins were very low in September 2020, still reflecting issues stemming from the COVID-19 pandemic. Today, they are sharply higher, now sitting above our long-term estimates. Unlike markets such as the U.S. and Europe, the UK has not benefited from our closer look at the impact of sector composition on valuations and margins. As such, while the cyclical component of our forward-looking return for the UK has moved lower, there has been no pickup in our equilibrium return for this market (**EXHIBIT 5**). Given the region's weighting toward energy and materials companies, the UK large cap market may struggle to garner investor interest as the financial community continues to focus on climate policy. We are more positive about UK small caps. A number of these companies are benefiting from a combination of secular trends, such as the structural underbuild of UK housing. They also benefit from growth into overseas markets, which is a common strategy for retail companies.

Our return assumption for Japanese equities falls from 5.1% to 5.0% in local currency terms. After upgrading our fair valuation assumptions as part of our new methodology, we now see the Japanese market as fairly valued. Margins remain a key detractor, though. While we are optimistic about the prospect for profit margins to stay well above historical averages, today's starting point is elevated.

Most markets receive significant upgrades to their equilibrium returns this year: the UK is a notable exception

EXHIBIT 5: CHANGE IN LTCMA EQUITY RETURNS, 2022 VS. 2021, IN CYCLICAL AND EQUILIBRIUM COMPONENTS



Source: Datastream, J.P. Morgan Asset Management Multi-Asset Solutions; data as of September 30, 2021.

Emerging market equities

Our expected return for emerging market (EM) equities ticks down, to 6.60% from 6.80% in local currency terms. In USD terms, it falls to 6.90% from 7.20%. The return premium we expect from emerging markets relative to developed markets drops only marginally, to 210 basis points (bps) in USD from last year's 230bps (**EXHIBIT 6**).

Over the past year, EM equities once again underperformed developed market (DM) equities. A key driver of this was the Chinese equity market, which accounts for 30% of the EM equity universe. Chinese equities peaked in early 2021 amid concerns about economic growth and increased corporate regulation.

Declining economic growth forecasts for a number of EM economies – reflecting a variety of factors – weigh on return forecasts. We make notable GDP growth downgrades in India due to disappointing progress on structural reforms and a likely persistent overhang from a weakened financial sector, and in Brazil due to policy instability. However, growth potential in EM economies still surpasses their DM counterparts, thanks mostly to the prospects for improved productivity and – outside of parts of East Asia – more favorable demographics.

Translating economic growth into emerging market equity returns is a nuanced process that investors need to consider as they determine their allocations. We once again caution that data history in emerging economies is generally shorter and data quality less robust, so confidence in the resulting assumptions is naturally somewhat lower than for developed markets.

We continue to note the dispersion among returns in individual emerging markets. Variations in market structure, sectoral composition, corporate governance and external exposure all contribute to the spread among individual EM market returns.

We derive our aggregate EM equity assumption by applying the same methodology we use for DM equity assumptions to nine large emerging markets and aggregating by market capitalization weight. The countries we include account for more than 80% of the market capitalization of the MSCI Emerging Markets Index.

We highlight a few changes in our EM regional return assumptions. EM EMEA return assumptions are now 20bps lower than last year, at 8.40%. This reflects lower shareholder dilution in Russia and bigger margin headwinds in both Russia and South Africa. For Latin American markets, return assumptions rise by 110bps, to 9.1%, due to a positive valuation impact, mostly in Brazil and somewhat in Mexico. EM Asia return assumptions decline modestly, by 30bps, to 6.2%. This reflects downgrades to a number of markets, notably Taiwan due to an expected normalization of elevated margins and MSCI China due to increased valuation and dilution headwinds amid greater uncertainty.

Our 2022 equity return assumptions decline across most regions

EXHIBIT 6A: SELECTED DEVELOPED MARKET EQUITY LONG-TERM RETURN ASSUMPTIONS AND BUILDING BLOCKS

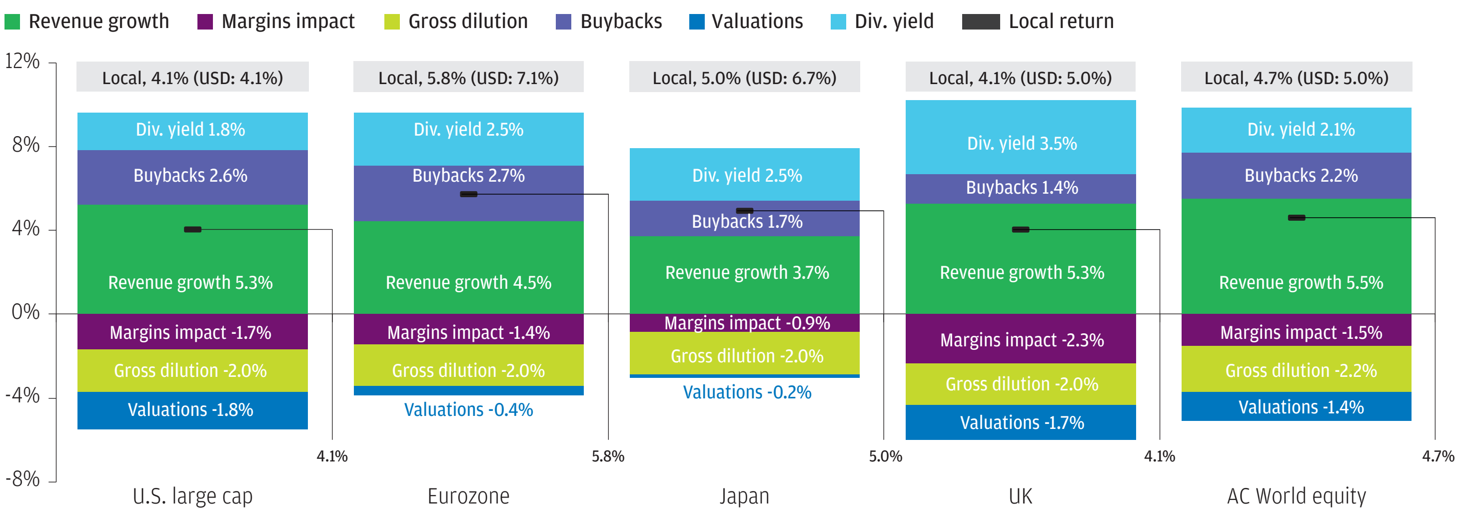
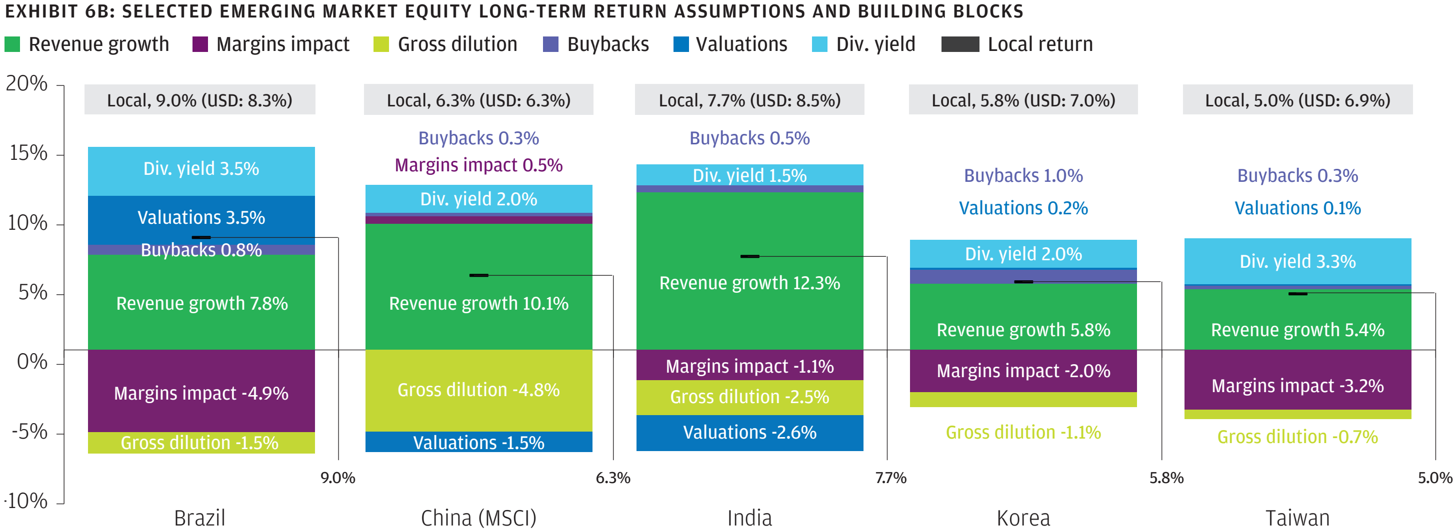


EXHIBIT 6B: SELECTED EMERGING MARKET EQUITY LONG-TERM RETURN ASSUMPTIONS AND BUILDING BLOCKS



Source: J.P. Morgan Asset Management; estimates as of September 30, 2020, and September 30, 2021. Components may not add up to totals due to rounding.

EQUITY FACTORS

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EQUITY FACTOR ASSUMPTIONS

Our long-term assumptions include return estimates for a range of long-only equity factor strategies. We cover five individual factor strategies (value, quality, momentum, minimum volatility and dividend yield) and multi-factor strategies in four geographies (U.S., global developed, international developed and emerging markets), with U.S. assumptions included in this report.

Our long-only factor strategy return assumptions reflect favorable valuations across a wide range of factors and signal the potential for significant excess returns relative to passive U.S. large cap equity exposures. Indeed, we see the most favorable valuation environment for factors in around 20 years (**EXHIBITS 1** and **2**).

METHODOLOGY

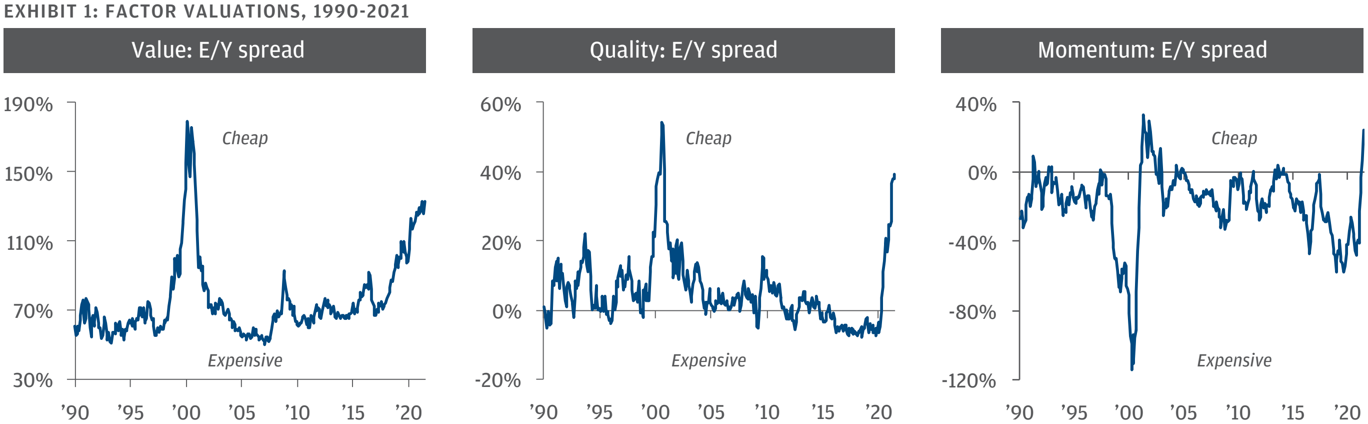
We determine our long-term assumptions by examining properties of two index suites, designed by J.P. Morgan Asset Management and calculated by FTSE Russell. The J.P. Morgan Diversified Factor Suite describes the performance of stocks chosen for their characteristics across multiple factors; the J.P. Morgan US Single Factor Suite describes the performance of large U.S. companies chosen to target a single factor or characteristic. While there is no unambiguous, natural choice of index to represent long-only strategies in these spaces, we hope that these assumptions will help inform how investors think about asset allocation with respect to factors.

A long-only factor strategy return assumption is made up of a return contribution from equity market exposure and a contribution from its exposure to the factor itself. To reach a factor return assumption, we first make assumptions about the relative performance of the best and worst stocks according to a factor. Significantly, we measure them relative to their sector and geographical peers, isolating the pure factor performance. We rebalance the quartile portfolios monthly and incorporate conservative estimates for the cost of trading. We then apply a haircut to these returns to account for potential selection bias effects and market adaptation. These steps form a long-term baseline for our long-short factor return assumptions.

Next, we adjust for the current richness/cheapness of factors under the assumption that long-short factor returns are persistent but cyclical. Mechanically, we assume that the forward earnings yield differential between top-quartile stocks and bottom bottom-quartile stocks will revert toward its long-term average over time, and adjust the factor return assumption accordingly. This year, the value and quality factors receive significant boosts from our valuation adjustment step, reflecting that both factors are as cheap as they have been since the dot-com bubble. In addition, momentum, which is typically biased to more expensive growth stocks, is currently favoring value stocks to the greatest extent since the dot-com bubble burst, removing what is usually a headwind to returns.

Valuations suggest significant excess returns vs. passive U.S. large cap equity exposures

EXHIBIT 1: FACTOR VALUATIONS, 1990-2021



While the momentum factor is currently “cheap,” we do not assume a tailwind to returns based on valuations, given the potential for valuation spreads to converge as a result of composition shifts among top-ranked and bottom-ranked momentum stocks rather than price action.

EXHIBIT 2: RETURN ESTIMATES

		U.S.					
		DIVERSIFIED	VALUE	QUALITY	MOMENTUM	DIVIDEND	MIN VOL
Equity market beta	(1)	0.9	1.0	0.9	1.1	1.0	0.8
Market return contribution	(2)	3.7%	4.1%	3.8%	4.4%	4.0%	3.4%
Factor return contribution	(3)	1.6%	1.5%	0.9%	0.3%	1.2%	1.2%
Long-only factor strategy return assumption (2022)	**(2)+(3)=(4)**	**5.3%**	**5.6%**	**4.7%**	**4.7%**	**5.2%**	**4.6%**

CONVERTIBLE BONDS

Winnie Liu, *Portfolio Manager, International Equities*

Convertible bonds are corporate debt securities that the holder can convert into equity in the future under certain conditions. Like a debt security, convertibles are issued with a coupon, maturity date and redemption value. However, they also come with an embedded call option, allowing the holder to exchange them for a certain number of shares of the issuer’s equity at a predetermined price.

The hybrid nature of convertible securities allows for modest income from the coupon, downside protection due to the bond element and potential for upside equity participation from the option component. As such, convertibles can be used by equity investors as a more defensive alternative, as well as by fixed income investors.

Convertibles can improve the risk-adjusted returns of balanced stock-bond portfolios due to their asymmetric return profile and diversification benefits. In addition, convertible valuations can benefit from increased volatility, as they are implicitly long volatility via the optionality embedded within them. As a credit alternative, convertible bonds offer an income component and structurally lower duration than credit broadly. As such, convertibles will generally be more positively affected by rising stock values than negatively affected by rising interest rates due to their low duration.

For our convertible bond assumptions, we incorporate our existing LTCMA projections for equity and fixed income, along with convertibles’ equity sensitivity, credit quality, option premium and the underlying stocks’ unique characteristics. While the geographic composition of the global convertible bond universe is similar to that of the MSCI World Index, it has historically been biased toward smaller companies and growth sectors. Thus, our convertible bond assumptions estimate regional betas based on a historical regression and apply that to our regional weight and delta assumptions, and the existing regional equity return LTCMA numbers.

In our view, the current trend of more issuance coming from the Americas and Asia-Pacific ex-Japan will continue. We believe the delta of the convertible bonds will continue to move higher as more growth companies issue convertibles. For the fixed income component of convertible bonds, we make an assumption of future investment grade vs. high yield issuance and use our LTCMA regional credit return assumptions. In our view, there will be greater high yield issuance as a result of higher growth companies issuing convertibles. This year, our global convertible bond and global credit-sensitive convertible bond assumptions (hedged into USD) are 5.5% and 4.6%, respectively.* Credit-sensitive convertibles are securities whose underlying stock trades significantly below the conversion price, resulting in behavior more akin to debt than equity.

* The jump in Asian high yield returns this year has boosted returns for the global convertible aggregate by around 60bps.

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