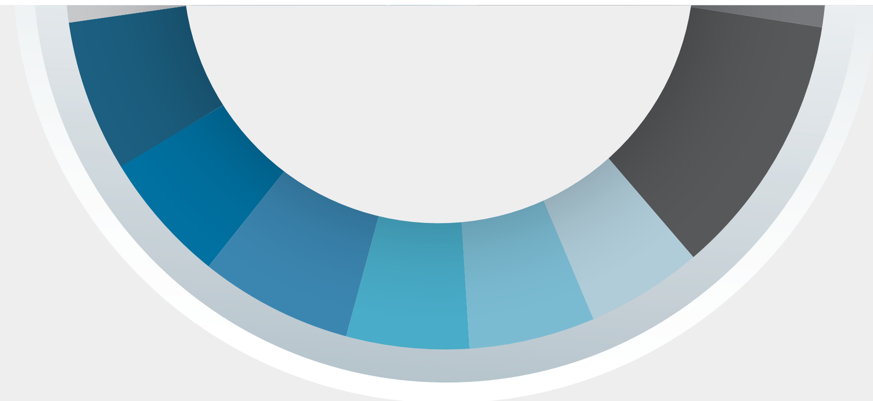
2019 Long-Term Capital Market Assumptions

23rd Annual Edition | Executive summary



Time-tested projections
to build stronger portfolios

IN BRIEF

This executive summary gives readers a broad overview of our 2019 Long-Term Capital Market Assumptions (LTCMAs) and provides a context for how some of the structural factors affecting economies today are likely to drive asset returns over a 10- to 15-year investment horizon. The key takeaways from this year's LTCMAs:

- Our 2019 estimate for real global GDP growth of 2.5% is unchanged from last year, and despite a few country-level adjustments, the secular growth outlook is stable and risks are balanced. Asset returns at equilibrium look reasonable by historical standards, but cyclical headwinds constrain our return forecasts today and still present a challenge.
- Cyclical risks are building, many economies are operating above trend with little slack, and asset valuations are elevated. While long-term investors should consider returns over the whole cycle, the starting point matters greatly to the long-term outlook. Traditional investment frameworks reflect market risk quite well but may not capture factors like illiquidity risk, which can profoundly affect asset returns late in the cycle.
- Bond return forecasts improve this year, notably in the U.S., where policy normalization has created a favorable entry point. Global equity returns are unchanged, but there is some regional divergence, which may offer opportunities for investors. Alternatives are a relative bright spot, as fee reduction and improved alpha trends lend support.
- Expected returns for a U.S. 60/40 portfolio are slightly better, and the stock-bond frontier rotated further in a clockwise direction due to higher expected bond returns. In other regions, the frontier is little changed. This reflects both the late-cycle environment in the U.S. and the regional divergence in economic cycles. Ex-ante Sharpe ratios for U.S. Treasuries now meaningfully exceed those of U.S. stocks for the first time in a decade.
- Our message this year is to manage outside the mean. This implies looking for insight beyond our traditional mean-variance tools to help us navigate the end of this cycle. In the longer term, it suggests that while mean reversion is a powerful force, it isn't infallible and we must be mindful which of today's dislocations may be tomorrow's new equilibria.

J.P.Morgan
Asset Management

INTRODUCTION

For investors, 2019 could prove to be a symbolic, possibly even seminal year. Should the U.S. expansion persist to the middle of 2019, it will set a new record for the length of a U.S. cycle. Still well short of Australia's 27-year (and counting) expansion, but a notable record nonetheless. That is true especially when we consider some of the paradoxes that characterize this cycle. Developed market (DM) policy rates are rising yet remain below prior cycle troughs, just as G7 unemployment rates are at 40-year lows. This S&P 500 bull market is the longest on record, with trough-to-peak gains almost twice the bull market average of the last 50 years; but at the same time, global equities have delivered gains about 6% shy of prior bull market averages. And just as technology is eroding geographic boundaries and functional barriers, trade protectionism may be forcing globalization into retreat, at least in the short term.

Of course, the simple chronological age of this expansion has triggered intense speculation about when the current cycle may end. Most of us will not succeed in perfectly timing the end of the cycle, and arguably the effort to do so may be something of a fool's errand. Nevertheless, understanding the complexion of late cycle and preparing for a bear market phase, whenever that may arise, is a vital exercise. Longer-term investors might be forgiven for thinking that the vagaries of the cycle are less relevant to them – but for all our focus on structural themes and equilibrium returns, we must all enter and exit the market at prevailing prices, and those will profoundly affect performance even over the longest horizons (**Exhibit 1**).

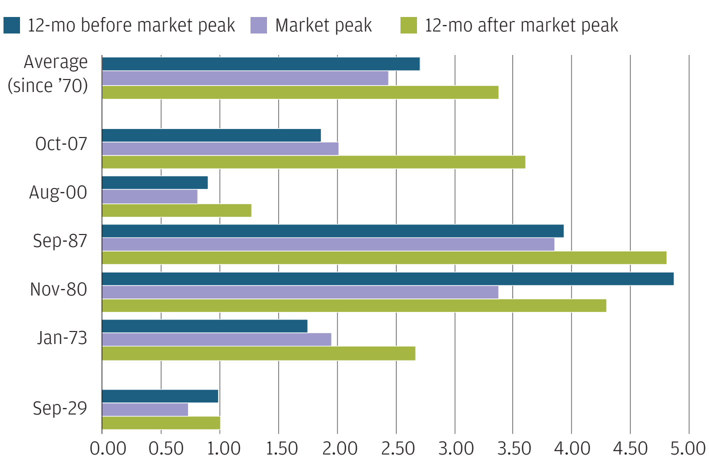
In making economic decisions, we instinctively weigh the possibilities to form a central case that is essentially an average, or mean, of possible future outcomes. But considering the end of the cycle implicitly means anticipating a discontinuity and an environment that will, for a time at least, be far away from any mean outcome. Much of our financial tool kit is anchored in average outcomes and mean-reversion, and therefore might not tell us the whole story at key turning points in cycles.

This isn't to say we should discard these trusted tools or abandon any instance of mean-reversion, and indeed our Long-Term Capital Market Assumptions work is grounded in such techniques. Instead, to gain better insight throughout the cycle we should complement those frameworks and better scrutinize assumptions of mean-reversion. After all, as this cycle has shown, economies and markets can stay far away from equilibrium for a long time, and those equilibria themselves are far from static.

Navigating late cycle demands that investors think and manage outside the mean, and evaluate how turning points in the cycle might lead to non-linear outcomes in even diversified portfolios. Scrutiny of when mean-reversion holds, and when it does not, also resonates with the broader thematic work we've undertaken. Exploring some of the apparent disequilibria we face – and recognizing where they might signal structural shifts in the fabric of our economies – is a thread that runs through all four of our thematic papers this year.

Entry point affects performance even over long time horizons

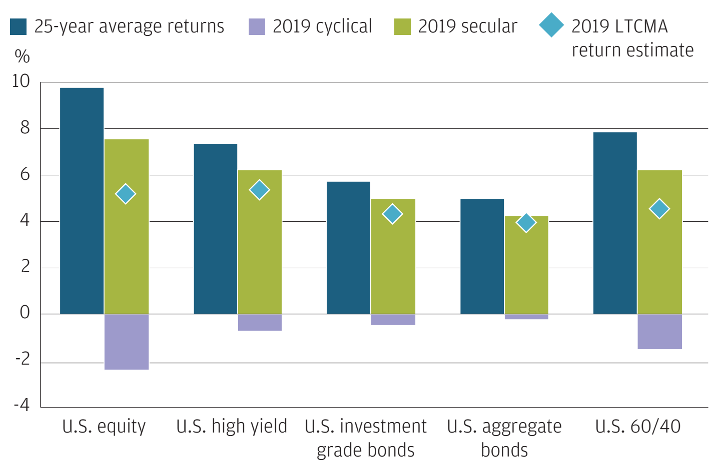
EXHIBIT 1: VALUE OF $1 INVESTED IN S&P 500 AFTER 10 YEARS GIVEN ENTRY POINT



Source: Bloomberg, J.P. Morgan Asset Management; data as of September 30, 2018.

We remain secular optimists despite increased cyclical headwinds; returns for a U.S. 60/40 stock-bond portfolio rise slightly due to better bond returns

EXHIBIT 2: HISTORICAL 25-YEAR AVERAGE RETURNS FOR KEY ASSETS AND THIS YEAR'S ESTIMATES, SPLIT INTO THEIR SECULAR (EQUILIBRIUM) AND CYCLICAL COMPONENTS



Source: Bloomberg, Datastream, J.P. Morgan Asset Management Multi-Asset Solutions; data as of September 30, 2018.

Last year, we described ourselves as secular optimists but cyclical realists. Our secular optimism is undiminished even as cyclical headwinds have increased this year — leading us to contemplate how to manage our portfolios as the storm clouds gather (**Exhibit 2**). We also note that some of the factors that might hasten the end of this cycle could also have gradual but profound effects on the economic and investment landscape over the long term. Indeed, the very nature of the cycle itself may well be changing, and with it the causes of — and remedies for — recessions. Debt levels and the size of central bank balance sheets create new challenges for policy and could ultimately compromise central bank independence; at the same time, the structure of the capital markets is evolving, generating new sources of return, and risk, for investors.

Overall, our long-term forecasts of economic growth and equilibrium interest rates change only modestly from last year. We see little upside pressure on price inflation and expect that over future cycles inflation will frequently fall short of central bank targets. This leads to a modest cut in our U.S. inflation expectations. Returns for a simple U.S. 60/40 stock-bond portfolio have risen slightly from 5.25% to 5.50% but, as a further sign that we are late in the cycle, this is entirely driven by higher returns from bonds. Most notably, our estimated Sharpe ratio for U.S. Treasuries is now meaningfully higher than that for U.S. stocks for the first time in a decade. As we will explore, Sharpe ratios don't tell the whole story, especially for assets with a left-tail risk[1] and especially when the cycle is mature, but they are a telling feature of today's investing environment.

MACROECONOMIC THEMES – MANAGING OUTSIDE THE MEAN

Our 10- to 15-year forecast for developed market real GDP growth is unchanged from last year at 1.50%, and we trim our emerging market (EM) estimate from 4.50% to 4.25% — although forecasts for the major EM economies[2] are unchanged. Overall, our global real GDP forecast of 2.50% is unchanged year-over-year and the relative levels of growth across countries and regions are similarly little changed (**Exhibit 3**). As was the case last year, our secular outlook is quite stable, with risks broadly balanced between the well-understood drag from demographics and the potential upside from a technology-led pickup in productivity. However, the cyclical risks have increased over the last 12 months — and not only from the simple aging of this cycle.

[1] We define left-tail risk as being the risk of more severe downside price action than upside price action; such assets can suffer more severe repricing during periods of stress than may be implied by a simple normal distribution.

[2] China, India and Brazil real GDP forecasts are unchanged this year; Russia real GDP growth forecasts are cut by 25 basis points.

Our 2019 global growth assumptions are subdued but mostly stable

EXHIBIT 3: MACROECONOMIC ASSUMPTIONS (%)

	2019 assumptions		2018 assumptions		Change (percentage points)	
	Real GDP	Core inflation	Real GDP	Core inflation	Real GDP	Core inflation
DEVELOPED MARKETS	**1.50**	**1.75**	**1.50**	**1.75**	**0.00**	**0.00**
U.S.	1.75	2.00	1.75	2.25	0.00	-0.25
Eurozone	1.50	1.50	1.50	1.50	0.00	0.00
UK	1.25	2.00	1.25	2.00	0.00	0.00
Japan	0.50	1.00	0.50	1.00	0.00	0.00
Australia	2.00	2.50	2.00	2.25	0.00	0.25
Canada	1.50	1.75	1.50	1.75	0.00	0.00
Sweden	1.75	1.75	1.75	1.75	0.00	0.00
Switzerland	1.25	0.50	1.25	0.75	0.00	-0.25
EMERGING MARKETS*	**4.25**	**3.50**	**4.50**	**3.50**	**-0.25**	**0.00**
China	5.00	2.75	5.00	2.75	0.00	0.00
India	7.00	5.00	7.00	5.00	0.00	0.00
Brazil	3.00	4.75	3.00	5.00	0.00	-0.25
Russia	1.25	5.50	1.50	5.50	-0.25	0.00
GLOBAL	**2.50**	**2.25**	**2.50**	**2.50**	**0.00**	**-0.25**

Source: J.P. Morgan Asset Management; estimates as of September 30, 2017 and September 30, 2018.

* Emerging markets aggregate derived from nine country sample.

The U.S.-China[3] trade dispute increasingly appears to be as much about ideology as tariff disparity and could well define the path of globalization far beyond the current cycle. U.S. policy normalization is inexorably tightening global financial conditions and may yet hasten the turn of the cycle, perhaps before other central banks even get going (**Exhibit 4**), risking a semi-permanent divergence in policy across the world economy. Corporate leverage itself might not trigger a downturn but could be an accelerant, and in the longer run high indebtedness across an economy complicates the transmission of monetary policy. But rather like trying to time a downturn, attempting to identify precise catalysts can be a futile exercise. Instead, recognizing where risks reside and considering how they might evolve and affect our secular framework is a key area of focus for our LTCMA thematic papers this year.

Our first paper explores this trend directly. It looks at the anatomy of past recessions and considers what the nature of future recessions – and recoveries – might be. Our LTCMA framework is designed to be "cycle neutral" by virtue of its long horizon, but it is not "cycle agnostic" in any sense. Put another way, we don't seek to time cycles within our framework, but our return forecasts are sensitive to the starting point. Arguably, the global economy today is more stable, which likely means longer and shallower cycles in the future as imbalances take longer to build up.

But just as downside risks are muted by a shorter inventory cycle, improved bank capitalization and steadier government spending patterns, the tools to stimulate an ailing economy are also blunted and forces that drove V-shaped recoveries in the past are fading. This likely means shallower recoveries and ever more inventive monetary policy. In short, it is likely that over the next decade policy rates are more often loose, with respect to the neutral rate of interest, than tight. Rates may remain below equilibrium for longer periods than in the past, as protracted periods of loose policy will probably be needed to stabilize future expansions.

Shallower and longer cycles that rely on prolonged stimulus will likely subdue interest rates, and this has major implications for debt dynamics. In our second paper, we explore government indebtedness – what might reduce it and whether governments either need to or want to reduce their debt levels. With rates likely to remain low and frequently below their neutral rate, there may be little incentive for governments to address debt levels over our 10- to 15-year forecast horizon. While this simply postpones the issue, it also means that anchoring our forward expectations to past averages for either sustainable debt levels or policy rates may prove incorrect. Perhaps, more profoundly, it also raises the question of whether the dual forces of rising government debt levels, and the growing exposure of central bank balance sheets to that debt, means we've passed the high water mark of central bank independence.

[3] Other trade disputes – e.g., NAFTA and with the European Union – we expect to be resolved through tariff negotiation, but the dispute with China at the time of writing appears less likely to be readily resolved.

Hiking cycles are often more globally synchronized; the U.S. yield curve is flatter today than the typical levels at which other regions would start their hiking cycles

EXHIBIT 4: U.S. 3-MONTH TO 2-YEAR BOND CURVE AT THE START OF MAJOR CENTRAL BANKS' HIKING CYCLE (BPS)

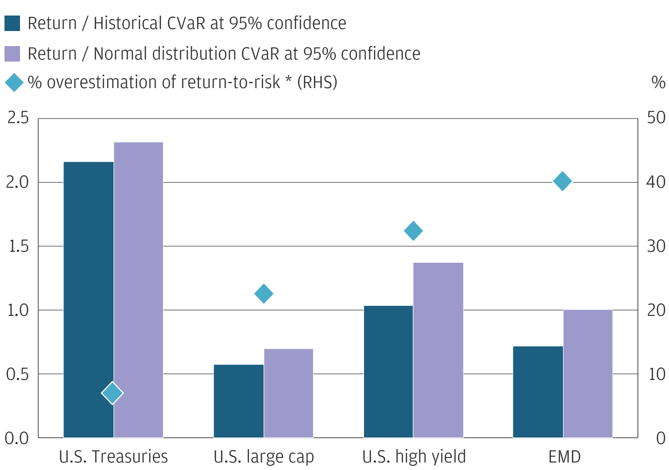
Source: Bloomberg, J.P. Morgan Asset Management; data as of October 2018.

Our third paper starts by looking at how the secular decline in interest rates has helped to catalyze an evolution of public equity markets from a venue primarily for raising investment capital to a venue used increasingly for cash distribution and balance sheet management. At the same time, private markets have grown in scale and scope to offer development capital to firms of all sizes. Today's large and accessible private asset markets offer potentially superior returns, subject to illiquidity risk and appropriate manager due diligence. Even as private assets have moved into the mainstream for investors, illiquidity risk – in both private and some public assets – can be a secondary consideration for many investors.

Common investment tools like Sharpe ratios take little direct account of liquidity, especially in periods of market stress, but other tools, such as CVaR (conditional value at risk) or Sortino[4] ratios, can be illuminating (**Exhibit 5**). And as late cycle plays out, ensuring proper compensation for illiquidity risk as well as market risk is crucial. Over the long term, public equity returns are likely to be dominated by income – leaving private asset markets to fill a return gap for investors and a funding gap for corporates. Ultimately, this demands new portfolio construction tools that account for the wider spectrum of risks that investors will need to assume to drive returns in the future.

Metrics that account for the distribution of risks as well as the average level of risks are valuable in late cycle

EXHIBIT 5: RETURN-TO-RISK RATIOS FOCUSED ON LEFT-TAIL RISK



Source: J.P. Morgan Asset Management Multi-Asset Solutions; data as of September 2018.

* Percentage difference between return-to-CVaR based on normal assumption and return-to-CVaR based on historical experience. Both CVaR measures are computed at 95% confidence level. See Volatility assumptions section for details.

The practicalities of managing a portfolio over the cycle is the focus of our final paper. Based on historical precedent, and a little humility, it is fair to say that most of us can neither predict the cause nor the timing of a downturn. However, we can make a reasonable assessment of the events that would wreak the greatest havoc in our particular portfolios. A shock caused by an excessive rise in interest rates may well have less impact on a liability-driven portfolio than on a long-only bond mutual fund, while a slump in corporate confidence and earnings might hit U.S. retail investors harder than their European peers, who generally own fewer stocks. If managing outside the mean is central to navigating the end of this cycle and locking in the more compelling secular returns that we anticipate, then identifying the non-linear exposures in specific portfolios is perhaps the best place to begin.

A common theme in our work this year is anticipation of discontinuity in the short term and accommodation of disequilibria in the long term. And yet we remain, at heart, quite optimistic. Our return numbers at equilibrium[5] are a little below the averages of the last 50 years, but after accounting for prevailing cyclical headwinds they are healthy enough. To be sure, investors may need to look for ways to complement existing investment frameworks. Managing outside the mean doesn't imply ignoring average return expectations and normalized risk-return profiles, but builds upon the traditional investing tool kit to better reflect tail risks and factors such as illiquidity. Nor does managing outside the mean suggest that we ignore equilibrium anchors, but it does imply that we should anticipate that some factors can stray from fair value for prolonged periods – especially given the unprecedented patterns of demographics, policy and market structure that look set to define the long-term investing environment.

4 Conditional Value-at-Risk (CVaR): A risk assessment measure that qualifies the amount of tail risk in a portfolio, with a focus on less profitable outcomes, useful in unlikely scenarios. Sortino ratio improves the Sharpe ratio by isolating downside volatility from total volatility by dividing excess return by downside deviation.

5 "At equilibrium" return numbers represent our forecasts assuming valuations, margins, credit spreads and interest rates to be at our fair value estimates rather than at prevailing market levels.

Selected LTCMA returns — Cyclical risks are building, weighing on returns and risk premia for equity and riskier credit

EXHIBIT 6: SELECTED LTCMA RETURNS (%)

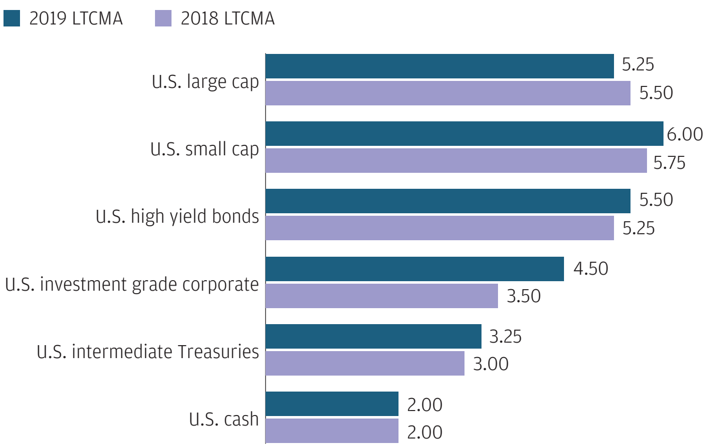
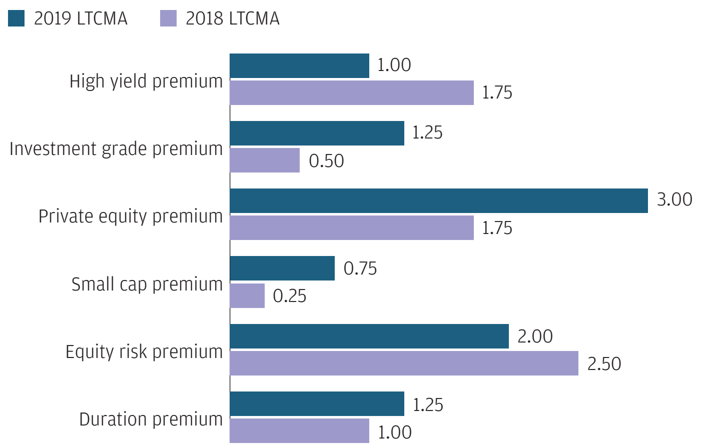


EXHIBIT 7: SELECTED LTCMA RISK PREMIA



Source: J.P. Morgan Asset Management; estimates as of September 30, 2017 and September 30, 2018.

MAJOR ASSET CLASS ASSUMPTIONS

Our stable long-term economic outlook this year translates into a fairly stable outlook for returns at equilibrium, with much of the variation in our asset return forecasts explained by market moves over the course of 2018 (**Exhibits 6 and 7**).
At a global aggregate level, equity return expectations are little changed from last year, while our forecast for global government bond returns is slightly higher. There are meaningful regional differentials, mainly reflecting U.S. leadership in equity markets over 2018 and the more advanced state of policy normalization in U.S. rates.

Ex-ante Sharpe ratios for U.S. Treasuries now stand above those for U.S. equities, which is consistent with an economy late in its cycle. What is perhaps an important nuance is that the U.S. Treasury Sharpe ratio is boosted more by low interest rate volatility than by elevated returns. This may be an overhang of the loose monetary policy we have experienced over this cycle. In most other regions, however, equity Sharpe ratios are still higher than those for bonds, largely because policy normalization has yet to begin in many economies. The puzzle that investors face in judging the long-term global outlook in 2019 may be in deciding the extent to which patterns in the U.S. market will dominate risk appetite around the world — and in turn how much the U.S. will set the tempo for the entire global economic cycle.

FIXED INCOME – Flatter curves, lower yields

U.S. policy normalization has continued at a slow and steady pace. At the time of writing, U.S. cash rates and 10-year yields are close to our estimates of long-term equilibrium. We expect cash rates to rise further in this cycle but see less upside risk to long-end yields, likely leading to a flat or inverted yield curve at the end of this cycle, albeit at low absolute levels of rates. We see lower rates and flatter curves as a secular condition over the next 10 to 15-years, a view that reflects our dovish inflation outlook and anticipation of extended periods of stimulus as future business cycles elongate.

With U.S. rate normalization well advanced while other regions have yet to begin, there is a risk that this economic cycle might end before the hiking cycle outside the U.S. gets underway — raising the prospect of structural divergence in policy around the globe that transcends the current cycle. Cuts to equilibrium rate assumptions plus normalization[6] in some regions mean that our return expectations for global government bonds are slightly higher than last year. Credit and EM debt still offer the best return possibilities across fixed income over our forecast horizon. However, we would caution that their optically strong Sharpe ratios and contained volatility estimates probably do not capture the illiquidity risk that can manifest itself in stressed markets.

[6] Policy normalization in the U.S. has resulted in a more favorable starting point for U.S. bonds; for regions yet to begin normalizing rates (e.g., Europe), there is still a meaningful normalization penalty weighing on bond returns.

EQUITY – Turning a corner, returns hold steady

Our equity return forecasts for 2019 are largely a reflection of the variation in regional fortunes over the last year. Our forecast for U.S. equities, which led the pack in 2018, is down 25 basis points (bps) to 5.25%, and the U.S. equity risk premium (ERP) is now below long-term averages. By contrast, our forecast for EM equities, 2018's laggard, is up 50bps to 8.50%. This modestly widens the wedge between DM and EM equity return forecasts to 2.75% in USD terms and 3.00% in local FX. The underlying return drivers for DM and EM equities diverge further still in our 2019 forecasts, with as much as four-fifths of forecast returns in DM equity coming from dividends and buybacks, compared with less than one-third in EM equity.

One factor that unites both DM and EM equity is that stock markets in general are a lightning rod for de-risking when the economic cycle turns. So while investors must judge both how much risk to carry in late cycle and how far the cycle could run, we would reiterate that the equilibrium return assumptions for global equities are stable and reasonably attractive. Crucially, the cyclical elements that constrain returns today in some markets result in very different optimized portfolio allocations at prevailing return forecasts and at our expected equilibrium returns (**Exhibit 8**). What count for cyclical headwinds today – high valuations and wide margins – will become cyclical tailwinds after this cycle has troughed. A crucial consideration for any long-term investor in 2019 will be the trade-off between how much to continue to attempt to extract returns from risk assets in this cycle and how much "dry powder" to try and keep for the next one.

ALTERNATIVE ASSETS – Alpha gets you halfway

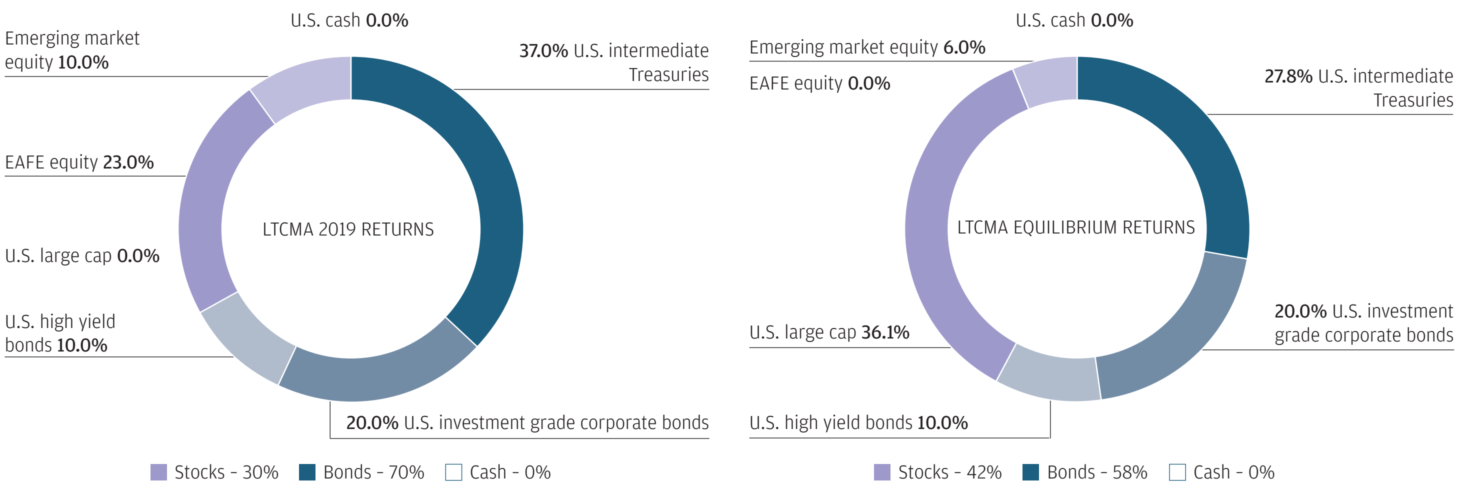
Alternative assets are a relative, and in some cases an absolute, bright spot in our 2019 assumptions. Improving alpha expectations in private equity result in an upgrade to our outlook this year. Elsewhere, return expectations across most other alternatives classes are little changed from last year, as the tailwind from lower fees roughly balances the headwind from lower public market returns. Given the paucity of returns in traditional asset classes, we expect that capital will continue to flood into alternative assets in search of enhanced returns – but probably pushing up valuations and eventually weighing on future returns. This prompts us to repeat our refrain that manager selection is the primary determinant of return across alternatives. Compensation for illiquidity and a modest boost to our alpha assumptions may get investors part of the way to their return aspirations in alternatives, but there really is no substitute for manager due diligence – especially given where we are in the economic cycle.

FOREIGN EXCHANGE – All roads lead to the dollar

Our forecasts for the major currencies this year are little changed, with our fair value estimate of EURUSD at 1.32 and USDJPY at 92, which illustrates the relative stability in our long-term economic outlook this year. The U.S. dollar remains well above fair value, but as price action over the last 12 months demonstrates, long-term valuation anchors have only limited influence on currencies' short-term trading patterns. Nevertheless, we expect that the dollar will weaken against most major crosses over our forecast horizon, boosting returns from international diversification for USD-based

An optimized liquid asset portfolio using our prevailing 10- to 15-year return assumptions looks very different from an optimized portfolio using equilibrium return estimates

EXHIBIT 8: LIQUID PORTFOLIO (EX-ALTS) WITH 2019 LTCMA RETURNS VS. EQUILIBRIUM RESULTS



Note: Stylized liquid asset portfolio mean-variance optimized for moderate risk tolerance using 1. LTCMA 2019 returns and 2. Equilibrium returns; max allocation constraints of 20% IG, 10% HY, 55% U.S. equity, 35% EAFE equity, 10% emerging market equity.

Source: J.P. Morgan Asset Management Multi-Asset Solutions; estimates as of September 30, 2018.

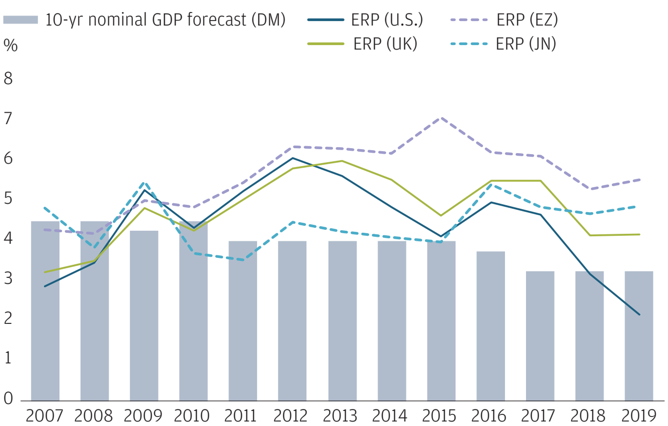
investors but having a rather more nuanced effect for non-dollar based investors. The Chinese renminbi will likely gain greater stature as an international reserve currency over the next decade. But despite concerns over U.S. deficits and debt dynamics that will only increase as time passes, we see little challenge to the dollar as the world's reserve currency over our forecast horizon. As a result, the trajectory of the greenback will continue to set the tone in currency markets.

IMPLICATIONS FOR INVESTORS

A couple of years ago, our secular growth forecasts were still falling but equity risk premia were elevated. Today our growth estimates are stable, but equity risk premia, notably in the U.S., are lower (**Exhibit 9)**. The result is a progressive flattening of the U.S. stock-bond frontier, last year driven mostly by lower equity return expectations but this year largely driven by better bond returns. In other regions, where policy normalization has yet to begin, stock-bond frontiers are steeper even though returns for a 60/40 stock-bond portfolio are lower in absolute terms.

Estimates for equity risk premia are falling, especially in the U.S., even though GDP growth forecasts are stable

EXHIBIT 9: LTCMA IMPLIED EQUITY RISK PREMIA (ERP), % PER ANNUM

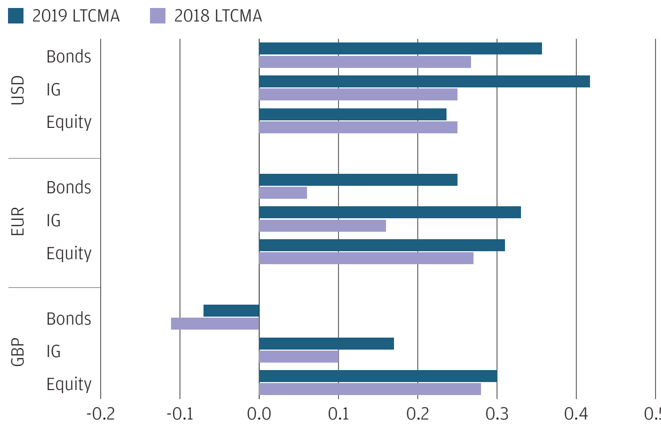


Source: J.P. Morgan Asset Management Multi-Asset Solutions; estimates as of September 2018.

The pattern also holds in regional Sharpe ratios: U.S. bond Sharpe ratios are ahead of those for U.S. stocks, but in Europe the reverse is true (**Exhibit 10**). The relative shape of stock-bond frontiers and rank order of Sharpe ratios in various currencies reflect the regional differences in stages of the business cycle and policy normalization rather well. But they won't tell us when a downturn may hit, where it will start and how it could spread, or what the distribution of returns might be in stressed markets.

For the first time since the crisis, U.S. bond Sharpe ratios are well ahead of those for U.S. stocks, but in Europe the reverse is true

EXHIBIT 10: SELECTED SHARPE RATIOS FOR G3 CURRENCIES



Source: J.P. Morgan Asset Management; estimates as of September 30, 2017 and September 30, 2018.

Looking ahead, a recession is virtually inevitable over the next decade and likely to occur sooner rather than later in our 10- to 15-year horizon. Many investors fixate on the precise catalysts and shape of the next downturn – and specifically on avoiding it. Yet market timing is notoriously tricky. We believe that focusing on staying in the game through a contraction and evaluating the possible contour of the next cycle is the more effective approach over the long run.

For any investor – even those with a longer-term horizon – navigating late cycle means recognizing what a traditional mean-variance-based framework can tell us and what it cannot. A relatively flat U.S. stock-bond frontier (**Exhibits 11A** and **11B**) tells us that de-risking is becoming more attractive, but it doesn't tell us whether policy rates outside the U.S. will normalize before the cycle rolls over. Relatively high Sharpe ratios in U.S. high yield and EM debt tell us that credit is attractive over a whole cycle, but don't tell us whether there will be the liquidity to cut positions in a weak market. And average long-term return forecasts for eurozone stocks that are three-quarters of a point above those for U.S. stocks don't tell us whether the skew of actual returns might be to the left in Europe but to the right in the U.S.

Managing outside the mean late in the cycle entails not only optimizing to market risks evident in our traditional frameworks, but also recognizing the risks they don't capture and, most importantly, ensuring those are compensated.

Turning to the long-term investing environment, we believe that identifying which elements of the current cycle might evolve into structural hallmarks of the next one is an important exercise; in particular, where they may lead apparently cyclical dislocations to become permanent or cause accepted equilibria to reset. After all, mean-reversion is a powerful force, but it is not infallible. Differentiating among those dislocations that may be persistent, rather than merely stubborn, is critical in understanding the secular economic and investment environment.

We imagine that it is in policy rates where persistent dislocations are most likely to arise, as flatter cycles less sensitive to stimulus hold policy rates below equilibrium for long periods. This could in turn stoke asset prices, driving future rounds of asset inflation without associated price inflation. The new technology trends we wrote about last year[7] only serve to contain price and wage inflation further, even as they boost real growth and productivity. To the extent that such an environment reinforces economic inequality, the temptation for governments to borrow to fund fiscal stimulus is a good reason to think that national debt levels are unlikely to mean-revert anytime soon. In our view, policy rates, government balance sheets, market structure patterns and inflation trends all represent structural shifts in the investing environment that a simple mean-reversion framework is unlikely to capture.

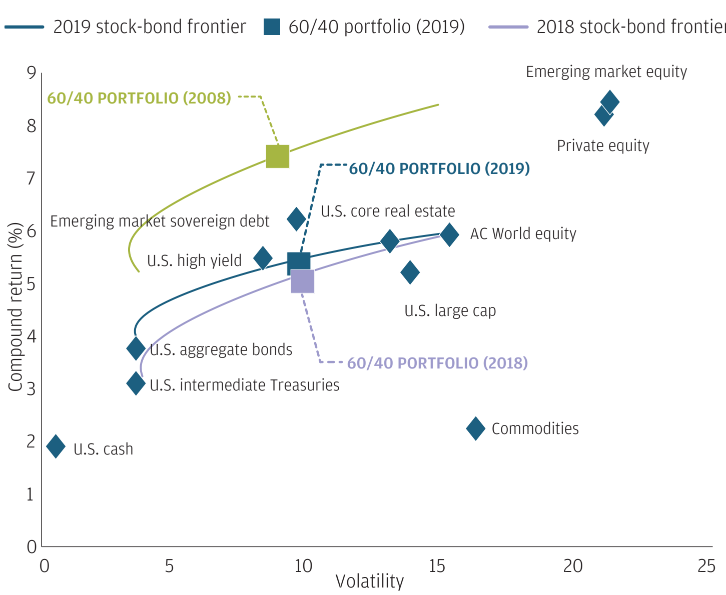
To help meet these challenges, investors will be well served by focusing on more active investment around secular themes such as technology, and the growth in alternative assets, as well as ensuring all elements of risk – not merely market risk – are appropriately rewarded. For larger, more constrained or more risk-averse investors, the ability to de-risk efficiently as expected bond returns rise in some markets helps with staying in the game in late cycle, and in positioning for the next one. And for investors with deeper pockets or limited mark-to-market pressure, attractive Sharpe ratios on some less liquid assets create the potential to enhance returns over the long run, albeit with some nearer-term volatility. In any case, navigating late cycle doesn't mean avoiding risk, but it does mean knowing the risks you're taking.

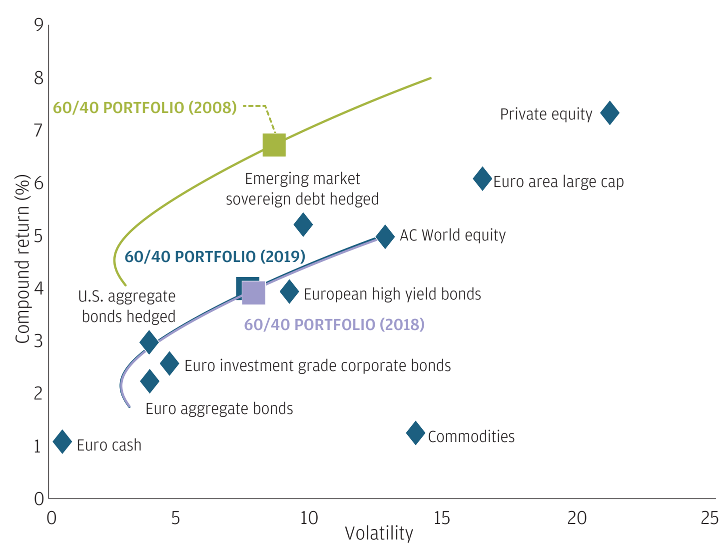
[7] "The impact of technology on long-term potential economic growth," 2018 *Long-Term Capital Market Assumptions*, J.P. Morgan Asset Management, 2017.

Compared with last year, expected returns on a U.S. 60/40 portfolio are slightly better and improved bond returns have rotated the stock-bond frontier clockwise; by contrast, in Europe returns and frontiers are unchanged, reflecting that Europe has lagged the U.S. in policy normalization

EXHIBIT 11A: USD STOCK-BOND FRONTIERS AND 60/40 PORTFOLIOS BASED ON 2019 VS. 2018 LTCMAS FOR RISK AND RETURN (%)

EXHIBIT 11B: EUR STOCK-BOND FRONTIERS AND 60/40 PORTFOLIOS BASED ON 2019 VS. 2018 LTCMAS FOR RISK AND RETURN (%)





Source: J.P. Morgan Asset Management Multi-Asset Solutions; estimates as of September 30, 2017 and September 30, 2018.

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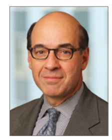

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