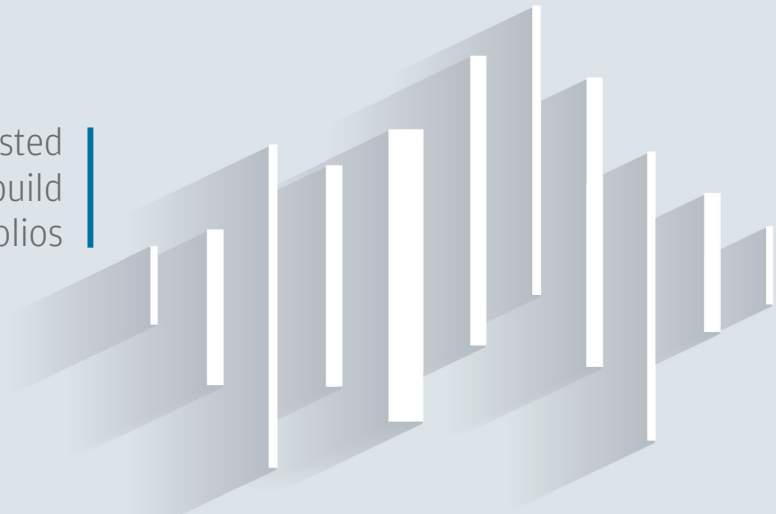


2017 Long-Term Capital Market Assumptions

21st Annual Edition | Executive summary

Time-tested
projections to build
stronger portfolios



IN BRIEF

This executive summary gives readers a broad overview of our 2017 Long-Term Capital Market Assumptions (LTCMAS); it also 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:

- Growth remains under pressure as aging populations and below-average productivity take real economic growth down by 25 basis points (bps) in developed markets and 50bps in emerging markets; the result is lower equilibrium interest rates at all points in the yield curve.
- Policy normalization will take much longer than previously thought. In combination with lower equilibrium interest rates, this leaves returns on long-duration government bonds roughly in line with cash and implies that after several years of quantitative easing (QE), duration premia have finally collapsed to zero.
- Lower rates translate to elevated equity risk premia, even though growth has weighed on expected returns; credit is the bright spot in fixed income markets, but it is real assets that hold up best in a world of challenged growth and lackluster returns.
- Expected returns for a simple balanced 60/40 stock-bond portfolio are down by around 75bps and reinforce our view that static balanced allocation has run out of road; investors seeking to boost returns will have to increasingly consider alternative assets, new avenues of diversification and, above all, an active approach to asset allocation.

A BACKDROP OF PARADOX AND CHALLENGE FOR INVESTORS

The 2017 edition of our Long-Term Capital Market Assumptions is written in an environment that is, in equal measure, strikingly familiar yet completely without precedent. The backdrop of sluggish growth and uninspiring return expectations follows the rhythm of recent years, but the monetary policy decisions of the last 12 months are truly groundbreaking. The starting point for the 2017 assumptions is a paradox in many ways. The U.S. economic expansion is now in its eighth year, yet interest rates have hardly moved from zero. Stock markets are breaking to new highs despite persistent earnings weakness. Capital spending is weak even though the cost of financing is at all-time lows.

Certainly, the environment presents a sizable challenge for investors. The undercurrents behind our long-term assumptions—poor demographics, weak productivity and extended leverage—will be familiar to our regular readers, and once again contribute to a further downgrading of our growth and return assumptions. However, the challenge of normalizing from today's unorthodox policy stance adds a new dimension, and has profound implications for returns across all asset classes.

MACROECONOMIC OUTLOOK

The specter of aging populations continues to haunt most developed market (DM) economies and leads us to downgrade our outlook for global growth again this year (**Exhibit 1**). Over our 10- to 15-year forecast horizon, we see DM real GDP growth of 1.50% and emerging market (EM) growth of 4.50%, down by 25bps and 50bps, respectively, compared with 2016. Persistently weak productivity creates further downside risks to our long-term growth estimates; and while such fallow periods in productivity growth are not without precedent, the low prevailing levels of investment spending compound risks from anemic productivity into the future. The narrowing of the EM over DM growth premium reflects, in part, the demographic challenges facing the developed world while also taking into account the potential deleveraging cycle that still lies ahead for emerging markets.

We maintain the view that most central banks will come close to hitting their inflation targets, but acknowledge that this may be a lengthy process. Given the uncertainty around the path to long-run inflation normalization—notably in Europe and Japan—we trim our DM inflation expectations by 25bps to 1.75% while leaving our EM assumption unchanged at 3.75%. This leads to a uniform downgrade to our global *nominal* GDP expectations of 50bps this year, with DM at 3.25% and EM at 8.25%.

Our 2017 assumptions anticipate lower real GDP growth globally, a narrower DM-EM growth gap and generally stable inflation

EXHIBIT 1: MACROECONOMIC ASSUMPTIONS

	2017 assumptions		2016 assumptions		Change (percentage points)	
	Real GDP (%)	Core inflation (%)	Real GDP (%)	Core inflation (%)	Real GDP	Core inflation
Developed markets	1.50	1.75	1.75	2.00	-0.25	-0.25
U.S.	1.75	2.25	2.25	2.25	-0.50	0.00
Eurozone	1.25	1.50	1.50	1.50	-0.25	0.00
UK	1.25	2.00	1.50	2.25	-0.25	-0.25
Japan	0.50	1.00	0.50	1.50	0.00	-0.50
Australia	2.25	2.25	2.00	2.50	0.25	-0.25
Canada	1.50	1.75	1.75	2.00	-0.25	-0.25
Switzerland	1.50	0.75	1.75	0.75	-0.25	0.00
Emerging markets	4.50	3.75	5.00	3.75	-0.50	0.00
Brazil	2.75	5.25	3.00	5.25	-0.25	0.00
China	5.25	3.00	6.00	3.00	-0.75	0.00
India	7.00	5.00	7.25	5.00	-0.25	0.00
Russia	2.25	5.50	2.75	5.50	-0.50	0.00

Source: J.P. Morgan Asset Management; estimates as of September 30, 2016.

POLICY CHALLENGES AND THE PATH TO NORMALIZATION

Over the last 12 months central banks have demonstrated again and again that when it comes to rates being lower for longer, “they say what they mean, and they mean what they say.” Speculators have lately tired of fighting central banks, and this shift in behavior, coupled with the substantial negative net supply of high quality paper, has pushed rates to, and in many cases through, the zero interest rate bound.

We now consider negative rates and quantitative easing just another part of the central bank tool kit, but we do not expect current zero or negative interest rate policies to remain in place throughout our entire forecast horizon. Nevertheless, the implications of current policies will persist well into our time frame and markedly skew expected returns. We anticipate a protracted period of normalization for all central banks, with the Federal Reserve (Fed) leading the way, but to an equilibrium interest rate in the U.S. that is much lower than in the past. The European Central Bank (ECB) and Bank of Japan (BoJ) will not start to normalize rates until three years into our forecast horizon, we believe, and they will take a further four years to reach equilibrium.

Three notable effects of current policy manifest themselves in our long-run forecasts. The first is that cash rates struggle to reach inflation rates in many economies, resulting in near zero real cash returns at equilibrium and negative real returns, on average, over our 10- to 15-year horizon. The second and more subtle effect is

that returns on high quality 10-year bonds are barely above cash returns over our forecast horizon. Effectively, duration premium over the longer run has been eroded to near zero since higher bond yields at some future point must, by definition, force bondholders to bear losses in price terms as normalization takes place. The level of terminal yield justified by our growth assumptions, once rates are eventually at equilibrium, simply does not compensate for today’s meager returns and the impact of a protracted normalization phase. The final and most palpable effect of current policy is that returns have essentially been borrowed from the future. In the absence of a substantial upside surprise to nominal growth, we struggle to see a scenario in which the piper is not paid, which means future returns in many asset markets will suffer.

MAJOR ASSET CLASS ASSUMPTIONS

Our message this year is circumspect, but not gloomy. While we recognize that current and prior policies have, in part, mortgaged the future, we acknowledge that the crisis policymakers navigated was grave indeed. We are also struck by the ingenuity of financial policy and expect new policy innovations to emerge as current tools reach their limits of usefulness. Our 2017 return assumptions across all asset classes are affected strongly both by our growth assumptions and by our expectations for policy normalization. The common thread of sluggish growth and an extended period of exceptionally low rates runs through our assumptions for bonds, credit, equities and alternative assets alike (**Exhibits 2A and 2B**).

A common thread—sluggish growth and an extended period of exceptionally low rates—runs through all our assumptions

EXHIBIT 2A: SELECTED LTCMA RETURNS (%)

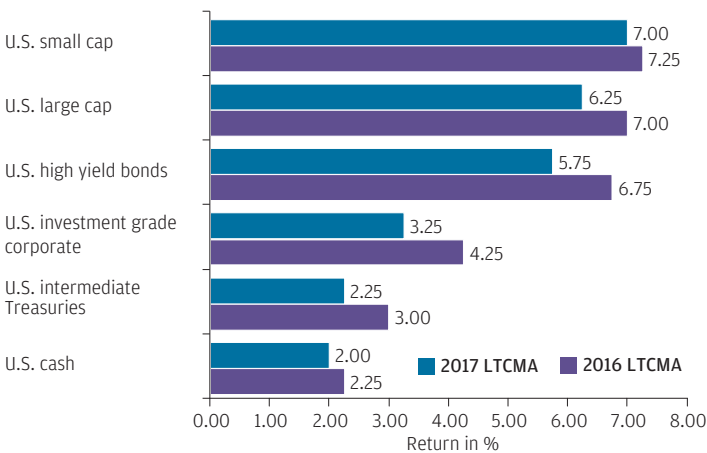
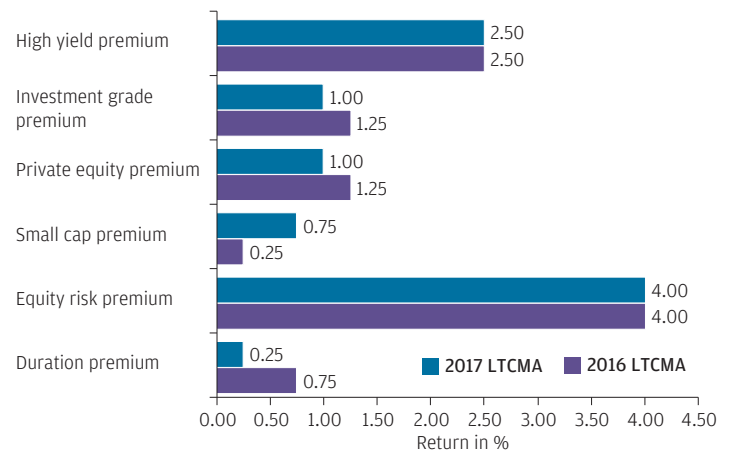


EXHIBIT 2B: SELECTED LTCMA RISK PREMIUMS (%)



Source: J.P. Morgan Asset Management; estimates as of September 30, 2015, and September 30, 2016.

FIXED INCOME – Credit a relatively bright spot

Government bond returns exhibit the most direct sensitivity to our forecast of low economic growth and a protracted normalization phase. Our projected returns for cash and government bonds are low in all major currencies, with the impact of near zero interest rates felt all along the yield curve. Credit markets are a relatively bright spot in the fixed income universe, as they were last year. We start from a point of somewhat tighter spreads, but returns remain attractive over our forecast horizon in high yield and longer-dated investment grade corporate credit in particular. In EM debt, we believe that current spread levels fairly represent the structural challenges and lower growth that confront many emerging economies. Our analysis suggests that despite fears over EM leverage, external debt levels are manageable and systemic risks are limited. As a result, EM debt, like corporate credit, offers some return potential in what are otherwise likely to be lean times for fixed income investors.

EQUITY – A less rewarding but still important source of returns

We reduce our return expectations for global equity markets roughly in line with cuts to our growth estimates, also recognizing the higher valuation starting point in world equities compared with last year. Our total return forecasts range from the mid to high single digits across all major equity regions. However, the source of returns differs markedly: DM returns come principally from increased payouts to shareholders, while EM returns are driven more by EPS growth. The implied equity risk premium (ERP) remains elevated in this year's assumptions, and in some markets sits above the long-term average. The elevated ERP does not signal that equities are cheap, however. To our mind, it suggests instead that bonds are expensive and that our expectations of low growth could lead to greater earnings volatility. A slightly elevated ERP can therefore be considered a natural offset to a lower and more uncertain growth outlook. On balance, though, we believe that equity markets will continue to offer investors an important source of returns.

ALTERNATIVE ASSETS – Real assets resilient even as public market betas decline

In our return forecasts for alternative assets, real assets fare generally better than financial assets. Real estate returns in particular appear likely to be quite resilient against the background of a deteriorating growth outlook, as a pause in

supply and improvements in operating cash flow contribute to an appealing valuation picture. The relative attractiveness of real estate compared with other long-duration assets has picked up markedly, and we would expect demand for real assets to remain robust across our forecast horizon. Despite the trimming of our inflation forecasts, commodities are one of the few asset classes where long-run return expectations rise this year compared with last. Sluggish global growth—and especially the slower pace of Chinese growth—make it unlikely that we will see the early onset of a renewed commodity supercycle. However, eradication of supply excesses in key commodity sectors points to a modestly better outlook for the asset class.

We pare our private equity returns in line with our equity market return assumptions this year. Nevertheless, given the scarcity of growth and low return expectations in traditional asset classes, we expect the gravitational pull toward private equity will be hard to resist for some investors. In such an environment, it is especially important for investors to recognize that there is a significant spread of manager performance in private equity returns. Allocation to a median manager adds little to a portfolio in risk-adjusted terms, but we continue to anticipate significant return premiums for upper quartile managers.

FOREIGN EXCHANGE – Still some way from equilibrium, but starting to stabilize

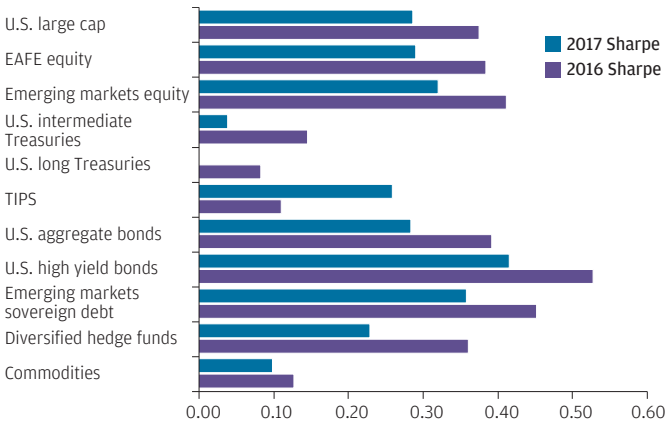
In recent years, policy and growth divergence drove exchange rates some way from their long-run equilibrium fair values. In the last 12 months, some of the more extended currency valuations have begun to reverse, and we see USD/EUR and USD/JPY beginning to move back in the direction of their long-run equilibriums, but the U.S. dollar remains overvalued against both currencies. We expect further dollar depreciation to happen only slowly, as policy differentials between gradual U.S. normalization and unremittingly easy policy in Europe and Japan are likely to persist for several years. Over the past few years, EM currencies have weakened markedly, reflecting the cyclical slowdown brought on by the end of the commodity supercycle. As EM economies address various structural challenges, there is scope for pockets of further temporary weakness. However, the broad-based underperformance of EM currencies is coming to an end and we see scope for USD to weaken against EM FX over the latter stages of our forecast horizon.

IMPLICATIONS FOR INVESTORS

Lower levels of growth and the collapse in duration premium lead to lower risk-adjusted returns across most asset classes in this year's assumptions. There is a stark contrast, however, between government bond markets and riskier assets such as equity and high yield credit. Expected Sharpe ratios in government bonds have dropped precipitously compared with 2016 and now stand close to zero. This is the clearest manifestation of the entire erosion of duration premium, in large part a direct consequence of central bank policy. Sharpe ratios in equity have moderated a little from 2016, reflecting a combination of slightly higher starting valuations and modestly impaired growth prospects. Credit also sees a drop in the expected Sharpe ratio, for similar reasons, amplified by the additional drag exerted by duration on these assets. Real assets, by contrast, have seen their expected risk-adjusted returns hold up reasonably well compared with 2016 (**Exhibit 3**).

Expected Sharpe ratios decline for equity and high yield credit; they drop precipitously for government bonds

EXHIBIT 3: RISK-ADJUSTED RETURN ASSUMPTIONS ACROSS ASSET CLASSES-SHARPE RATIOS



Source: J.P. Morgan Asset Management; estimates as of September 30, 2015, and September 30, 2016.

In recent years, we coined the phrase “6% is the new 8%” to describe our new world, recognizing that many of today’s money managers came of age at a time when 8% was considered an appropriate, and achievable, return from a balanced portfolio with moderate risk tolerance. Our 2017 LTCMAs continue along a similar path. The initial slight valuation boost picked up in last year’s numbers has disappeared, and we find ourselves in familiar territory, with a static 60/40 global equity-aggregate bond portfolio offering expected returns between 5% and 6%. Further diversification into real estate, credit, emerging market equities and

alternatives can boost returns. Simply put, the game is up for static balanced investing. Investors face a stark choice: They can maintain a largely static allocation approach and accept a lower level of return, or they can explore alternative assets more fully, seek new sources of diversification and, above all, extend efforts to follow a truly dynamic asset allocation approach to tap into additional potential returns. The importance of an active approach also extends down to the asset class level—when potential returns for major asset classes are as muted as we expect, the potential alpha from active management represents a significant share of total returns.

A simple efficient frontier (**Exhibit 4**) drives this point home. The uninspiring returns offered in sovereign markets, and the modest drop in economic growth assumptions, which weighs on equity returns, combine to pull the efficient frontier down in a uniform manner. Given the collapse in duration premium this year, risk assets remain more attractive than riskless assets. But simple balanced portfolio returns have dropped 75bps, and few assets offer returns at or above the 8% psychological threshold that many investors still have in the back of their minds. High yield, EM debt and EM equities all sit above the efficient frontier. This suggests meaningful opportunities for diversification, but beating the 8% hurdle is going to be increasingly challenging for investors.

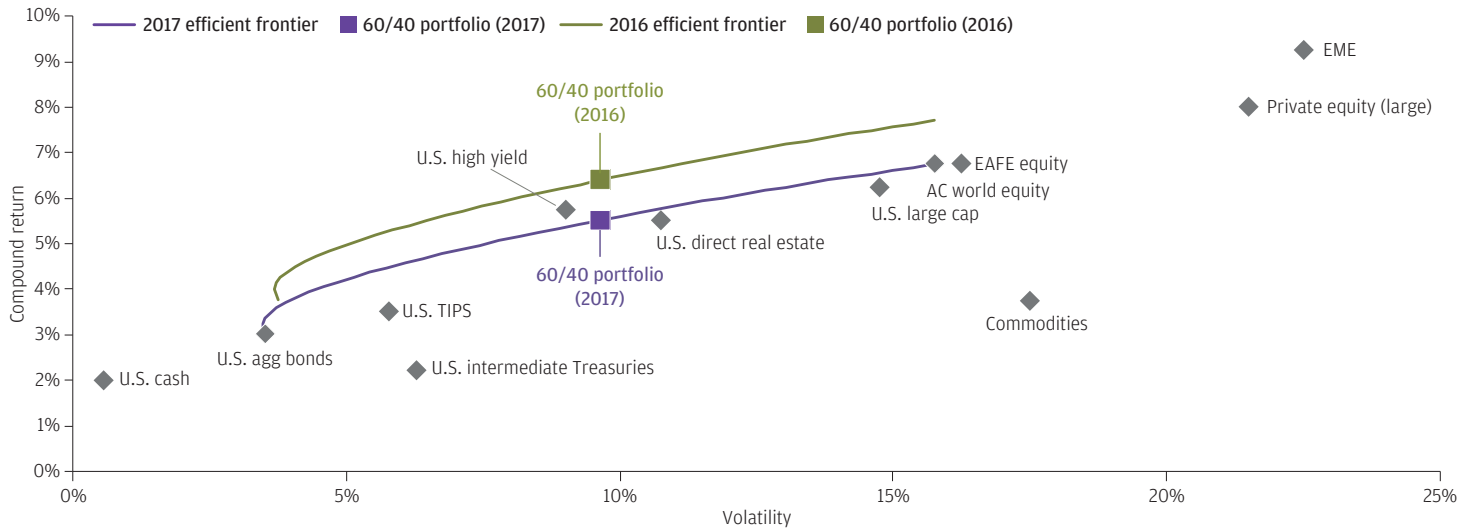
The collapse of returns from duration toward the level of cash returns can be traced almost entirely back to cumulative central bank action since the global financial crisis. While we do anticipate an eventual end to QE policies, the effect of them will linger for an extended period—in turn, requiring investors to approach asset markets with a different mindset. In our view, the compounded effect of QE has been to shift the global capital stack¹ downward.

Central banks are now willing and able to act on the entire government yield curve—and in some cases, even in corporate bond markets. The result is that, in return terms, duration is becoming a proxy for cash and investment grade credit a proxy for sovereign duration, and with so much of developed market equity return now coming from yield, stocks increasingly resemble corporate bonds. This shift downward in the capital stack is, in roughly equal measure, a consequence of caution from policymakers, corporates and investors alike; this, in turn, is putting persistent pressure on public market returns and forcing any form of growth funding to rely increasingly upon private markets. The difficult but unavoidable upshot of this year’s message remains that, as a consequence of monetary policies which probably prevented economic Armageddon, we’ve borrowed returns from the future. Now that future is here.

¹ “Global capital stack”: a representation of the global financial markets as an analogy to the capital structure in a financial firm, with cash having the lowest risk but also the lowest returns, followed by bonds, then credit and finally equity, with higher risk but commensurately the highest expected returns.

Investors face a stark choice, our assumptions suggest: Accept a lower level of return and stay static, or explore alternative assets more fully, seek new sources of diversification and embrace an active allocation approach

EXHIBIT 4: EFFICIENT FRONTIERS AND 60/40 PORTFOLIOS BASED ON 2017 VS. 2016 LTCMAS FOR RISK AND RETURN



Source: J.P. Morgan Asset Management; estimates as of September 30, 2015, and September 30, 2016.

AUTHORS

EDITORIAL TEAM



John Bilton, CFA
*Head of Global Multi-Asset
Strategy*



Michael Hood
*Global Strategist,
Multi-Asset Solutions*



Patrik Schowitz, CFA
*Global Strategist,
Multi-Asset Solutions*



Michael Feser, CFA
*Portfolio Manager,
Multi-Asset Solutions*



Dr. David Kelly, CFA
*Chief Global Strategist, Head of
Global Market Insights Strategy*



Anthony Werley
*Chief Portfolio Strategist,
Endowment
and Foundations Group*



Jonathon Griggs
*Head of Applied Research,
Global Fixed Income, Currency
and Commodities*



Stephen Macklow-Smith
*Portfolio Manager,
European Equity Group*

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