Investment Insights

Capital market assumptions Q3 2019
United States Dollar (USD)

Invesco Investment Solutions develops capital market assumptions (CMAs) that provide long-term estimates for the behavior of major asset classes globally. The team is dedicated to designing outcome-oriented, multi-asset portfolios that meet the specific goals of investors.

The assumptions, which are based on a 10-year investment time horizon, are intended to guide strategic asset allocations. For each selected asset class, we develop assumptions for expected return, standard deviation of return (volatility) and correlation with other asset classes.

This document summarizes quarterly changes in our long-term asset class expectations.

Executive summary

- The US Federal Reserve has led many central banks in turning dovish as evidence of a global slowdown, concentrated in manufacturing and investment, especially in trade-surplus economies, continued to gather in response to trade tensions. Deficit and consumption/services-led economies have also suffered collateral damage both via financial conditions, business/consumer confidence and direct economic shocks.
- A truce in US-China trade tensions and the Fed, by validating market expectations of a rate cut, have eased financial conditions, raising hope that the US expansion, already the longest since World War II and global growth, will extend further.
- Even so, major risks remain. US-China tensions are far from resolved. Concerns persist about Europe. The rising risk of a "no-deal" Brexit is pressuring confidence and investment in the UK; an actual no-deal Brexit could precipitate a recession in the UK and tip Continental Europe's already weak growth closer to a recession.
- Wider worries also weigh on growth, including "weaponization" of the economy by tariffs; by links to immigration raised by Brexit and challenges to the new NAFTA; by sanctions that curtail access to the dollar-based global financial system.
- Uncertainty is compounded by doubts about commitment to agreed deals, like efforts to re-open the Brexit Withdrawal Agreement, to link the new NAFTA to immigration; and claims of backtracking on progress in US-China trade talks.
- The risk of US intervention to weaken the dollar is also a new challenge which could prevent currency realignment and force adjustment on net trade, imposing additional downside risks to global growth and inflation.
- Hence the broader backdrop is one of higher barriers to trade and investment, and greater uncertainty in the global economy than at any time in recent decades, pointing to investment and trade diversion. Accordingly, confidence in capital markets assumptions, and in the prospect of mean reversion in global economic growth, inflation and asset valuations may well be lower as the potential distribution of outcomes widens, potentially skewed to downside risks.

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- A silver lining is that trade and investment barriers are likely to produce greater variation in economic and financial performance, boosting diversification benefits both geographically and across asset classes.
- For USD-based investors, our 10-year expected returns relative to historical risk resembles a traditional efficient frontier, with greater returns for greater risk across many asset classes and regional exposures (though not all), with domestic asset classes ranging across the risk spectrum as well as overseas assets. USD-based investors can therefore avail themselves of diversification opportunities both at home and globally, depending on their preferences for global exposure or home bias, in line with views on economic fundamentals and financial valuations – including of the dollar – vs. risks of more severe trade or investment restrictions.

Global overview

Risks to the structure of global trade and investment persisted in Q2, remaining a threat to global potential growth. Major central banks, led by the US Federal Reserve, turned decisively dovish as evidence of slowing growth and sliding inflation spread across developed and emerging economies. Such concerns also contributed to a pause in US-China trade friction, but some damage has already very likely been done to both the current cycle and to potential growth given weakening investment growth.

The slowdown in investment started on the demand side, manufacturing on the supply side and current-account/trade surplus economies geographically. But "soft" survey data and actual activity data have also weakened in consumption/services/trade-deficit economies as financial conditions shocks — "risk-off" in equity, credit and EM – combined with confidence concerns across firms, financials and households threaten to slow growth and darken the outlook. Brexit seems to have aggravated challenges to growth in Europe. In the UK, stockpiling ahead of the original March 29 Brexit date helped support growth in Q1, but is now passing, contributing to Q2 slowdown in both the UK and the Eurozone (EZ), an effect that may repeat ahead of the new October 31 deadline.

Cyclical and structural challenges to global growth seem likely to persist. Brexit will likely continue to pose significant downside risks in Europe, especially in the UK, smaller EZ economies and major trading partners, as well as threaten investment. US-China tensions may have stabilized for now, but uncertainty persists amid few signs of tangible progress and little indication of de-escalation. An easier stance by major central banks already seems to be reducing the impact of these challenges via easier financial conditions and higher asset prices.

Indeed, winners and losers are starting to emerge, at least in relative terms, even if global growth in absolute terms will be lower than in a flatter world with lower trade and investment barriers. There is growing evidence of trade and investment diversion as global supply chains are relocated to reduce exposure to geopolitical/geo-economic risks like US-China rivalry and tensions in UK-EU relations. Plus, firms and investors also worry that the US may unilaterally intervene to weaken the dollar to offset the effect of tariffs or monetary easing on currencies, which could prevent global exchange rate shifts, instead inducing weaker global growth.

United States

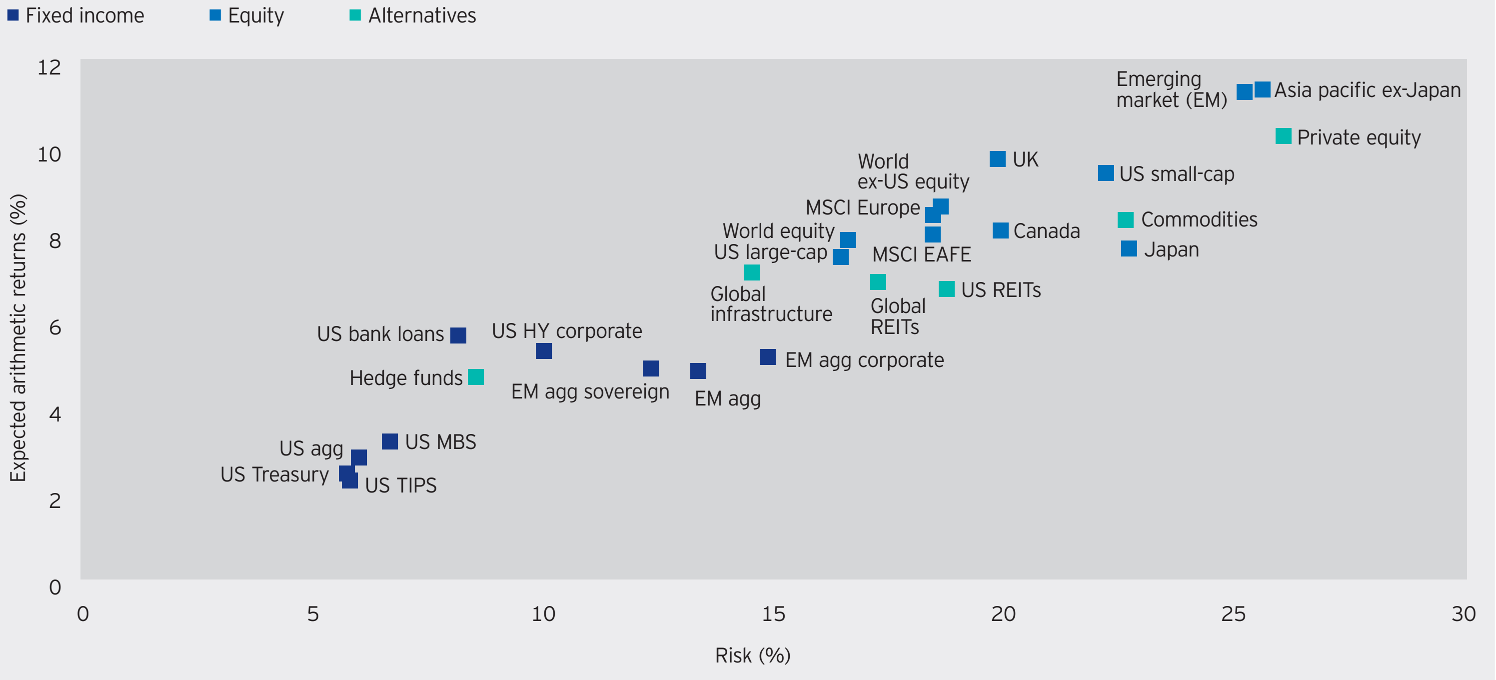
The Fed's dovish shift has helped shift the yield curve slope from inverted (widely linked to recessions) into a "bear steepening", raising longer dated bond yields. This twist has boosted risky asset prices by reducing perceived recession risk. But the dollar has not fallen by much and the yield curve is nearly flat rather than positively sloped. Investors may well see the price action across asset classes as suggesting that the Fed's dovish policy tilt is necessary but insufficient to sustainably raise growth to trend or inflation to target, which would likely be accompanied by an upward sloping yield curve.

Dollar stability and a flat yield curve may also be due in part to expectations of global easing that would prevent a global redistribution of growth from one major economy to another. However, even global easing may not be enough to reinvigorate global growth in the face of the structural challenges to both the current cycle as uncertainties weigh on investment and demand today and as weak investment today points to lower potential growth in future. If China-US trade tensions re-escalate, if a no-deal Brexit materializes or if such risks reduce as well as redirect investment, fiscal easing and structural reform might be required to boost cyclical or potential growth.

Despite these issues, our 10-year USD projection of expected returns and risk once again resembles a traditional efficient frontier – with higher historical risk/volatility compensated by higher expected returns. Furthermore, the risk/return trade-off across asset classes and geographic exposure offers options for both geographic diversification and home bias, depending on views of dollar-based investors about shifts in valuations and the structural challenges posed by trade, investment, technology or geopolitical frictions to various asset-class or geographic exposures. Our sense is that the tensions will persist – that is, there will be no major or decisive breakdown in relations or negotiations, nor a conclusive resolution. The challenges will therefore continue, but the world economy will continue to be largely open for trade and investment, which in turn calls for selective diversification rather than indiscriminate home bias. The relatively high valuations of the dollar and US assets also support the case for diversification.

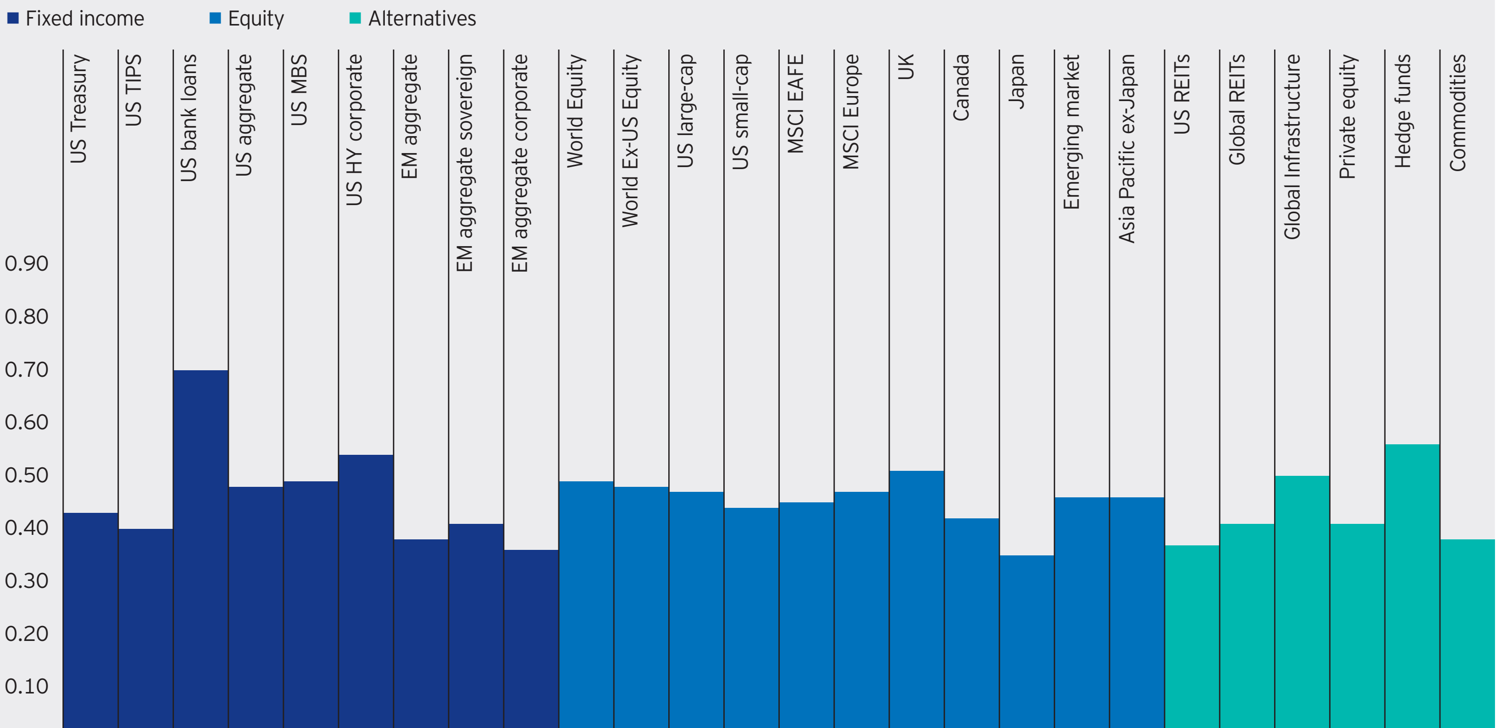
Overview

Figure 1: 10-year asset class expectations (USD)



Source: Invesco, estimates as of June 30, 2019. Proxies listed in figure 7. These estimates are forward looking, are not guarantees, and they involve risks, uncertainties, and assumptions. Please see page 8 for information about our CMA methodology. Please see page 10 for the complete CMA disclosure. These estimates reflect the views of Invesco Investment Solutions, the views of other investment teams at Invesco may differ from those presented here.

Figure 2: 10-year asset class expected return-to-risk (USD)



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Fixed income

Figure 3: QoQ change in 10-year return expectations (USD)

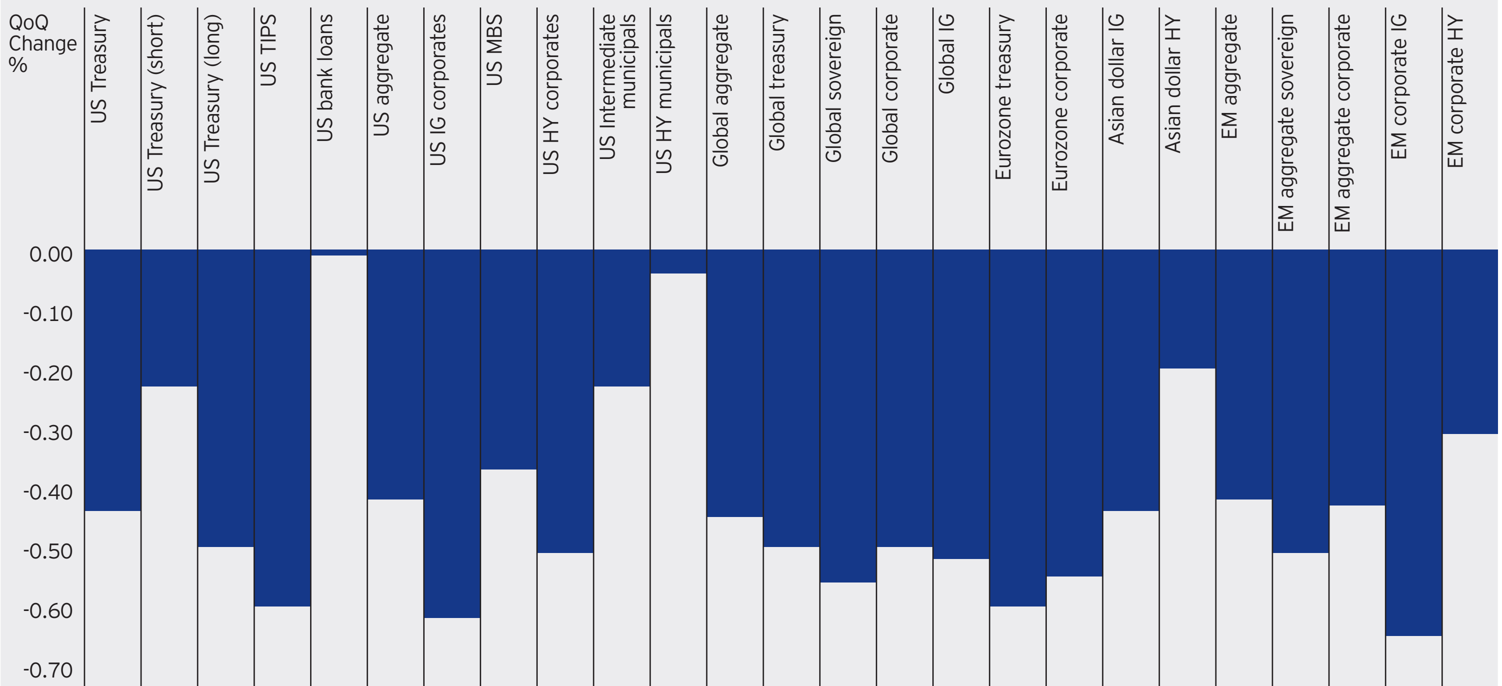

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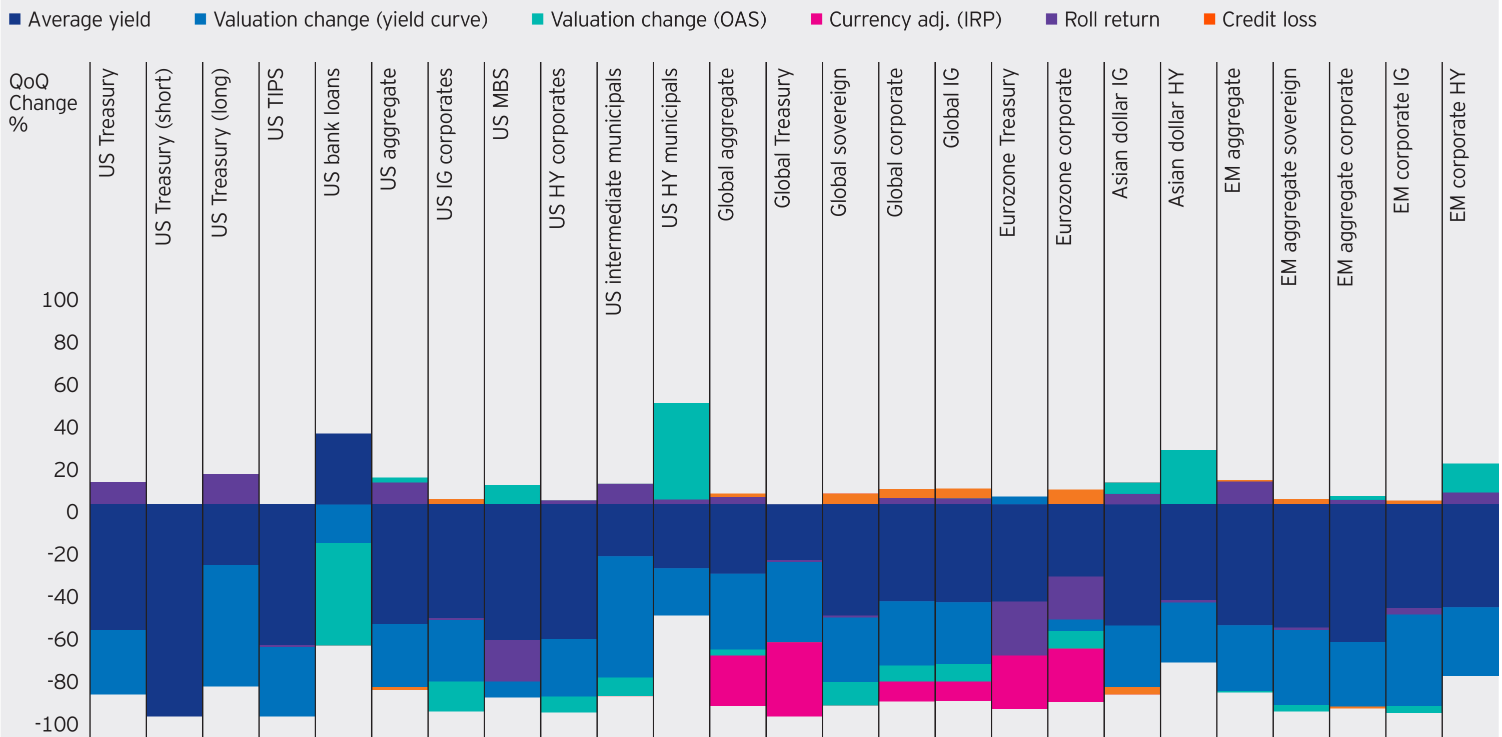
Figure 4: Attribution of QoQ change in 10-year return expectations (USD)



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Equity

Figure 5: QoQ change in 10-year return expectations (USD)

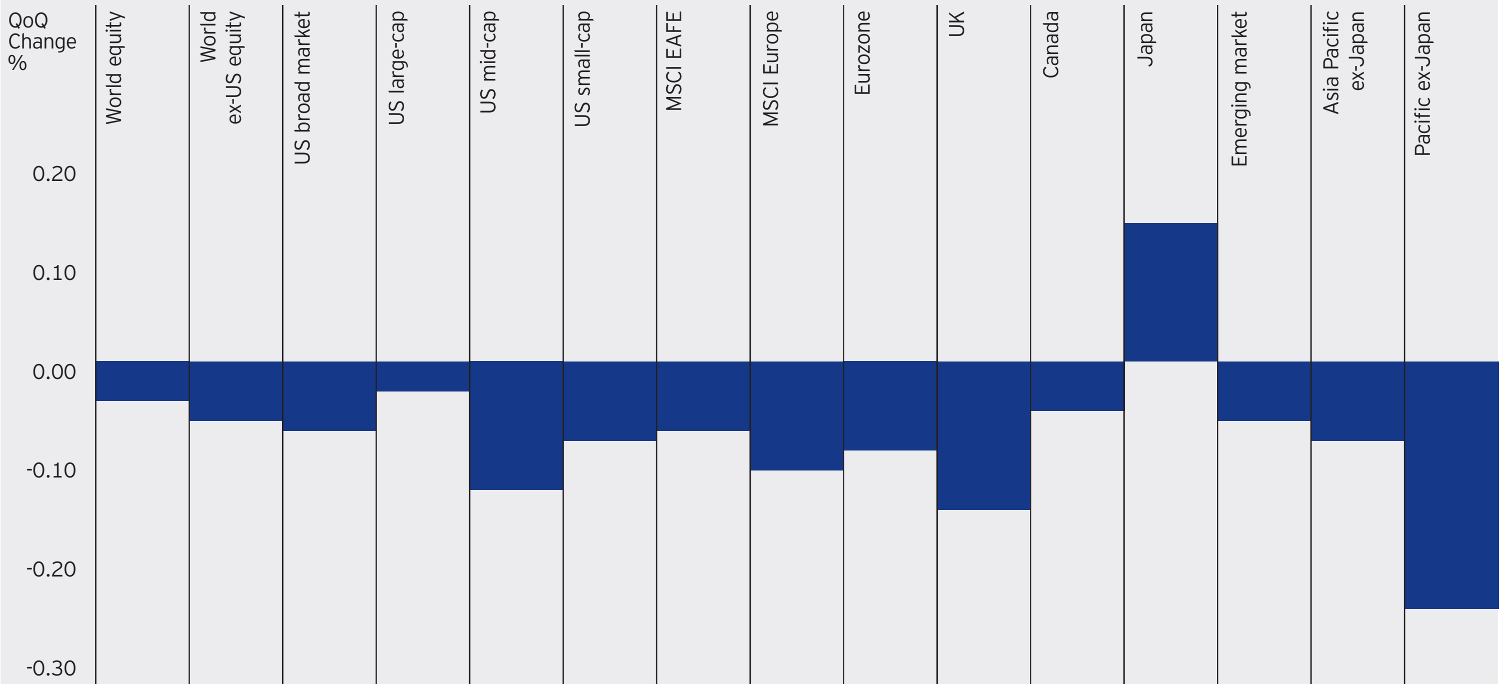

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Figure 6: Attribution of QoQ change in 10-year return expectations (USD)

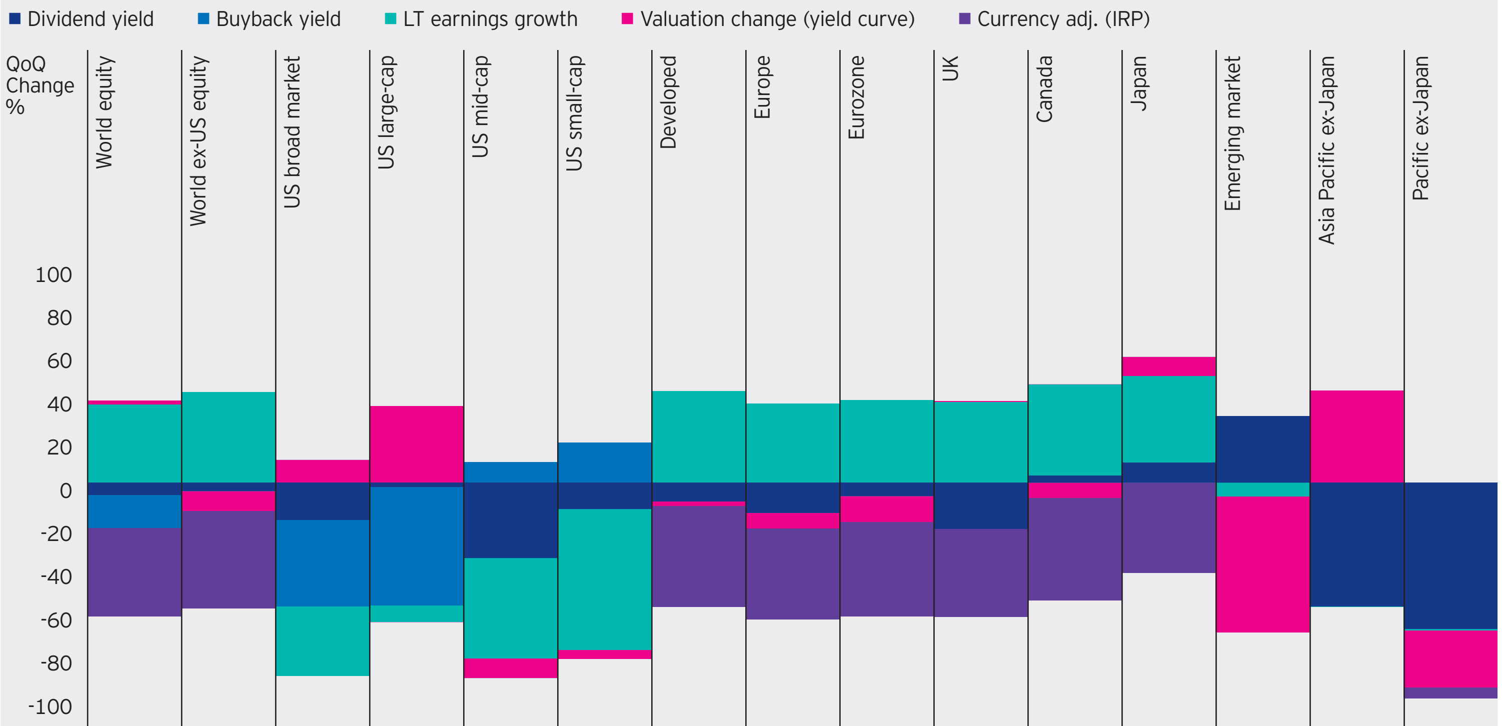

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Figure 7: 10-year asset class expected returns and volatility (USD)

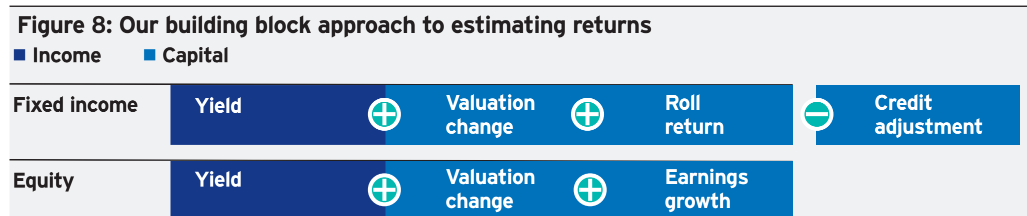
	Asset class	Index	Expected geometric return (%)	Expected arithmetic return (%)	Risk (%)
Fixed income	US Treasury (short)	Bloomberg Barclays US Treasury Short	2.4	2.4	1.6
	US Treasury (intermediate)	Bloomberg Barclays US Treasury Intermediate	2.0	2.1	4.6
	US Treasury (long)	Bloomberg Barclays US Treasury Long	1.6	2.2	11.4
	US TIPS	Bloomberg Barclays US TIPS	2.1	2.2	5.8
	US bank loans	CSFB Leverage Loan Index	5.2	5.6	8.1
	US aggregate	Bloomberg Barclays US Aggregate	2.6	2.8	6.0
	US IG corporates	Bloomberg Barclays US Investment Grade	2.4	2.7	7.6
	US MBS	Bloomberg Barclays US MBS	2.9	3.1	6.7
	US preferred stocks	BOA ML Fixed Rate Pref Securities	3.9	4.7	12.7
	US HY corporates	Bloomberg Barclays US High Yield	4.7	5.2	10.0
	US intermediate municipals	BOA ML US Municipal (3Y-15Y)	2.6	2.8	6.1
	US HY municipals	Bloomberg Barclays Municipal Bond High Yield	2.2	2.6	9.0
	Global aggregate	Bloomberg Barclays Global Aggregate	2.4	2.6	6.9
	Global aggregate ex-US	Bloomberg Barclays Global Aggregate Ex US	2.2	2.8	10.5
	Global Treasury	Bloomberg Barclays Global Treasuries	2.3	2.6	8.7
	Global sovereign	Bloomberg Barclays Global Sovereign	1.9	2.2	6.7
	Global corporate	Bloomberg Barclays Global Corporate	2.6	2.9	7.4
	Global IG	Bloomberg Barclays Global Corporate Inv Grd	2.6	2.9	7.6
	Eurozone corporate	Bloomberg Barclays Euro Aggregate Credit Corporate	2.6	3.5	13.5
	Eurozone Treasury	Bloomberg Barclays Euro Aggregate Government Treasury	2.6	3.4	12.8
	Asian dollar IG	BOA Merrill Lynch ACIG	3.0	3.4	8.8
	Asian dollar HY	BOA Merrill Lynch ACHY	6.4	8.0	18.8
	EM aggregate	Bloomberg Barclays EM Aggregate	3.9	4.7	13.4
	EM aggregate sovereign	Bloomberg Barclays EM Sovereign	4.1	4.8	12.3
	EM aggregate corporate	Bloomberg Barclays EM Corporate	4.0	5.1	14.9
	EM corporate IG	Bloomberg Barclays Emerging Markets USD Aggregate Corporate IG	2.9	3.2	8.3
Equities	World equity	MSCI ACWI	6.5	7.8	16.6
	World ex-US equity	MSCI ACWI ex-US	7.0	8.5	18.6
	US broad market	Russell 3000	6.2	7.6	17.2
	US large-cap	S&P 500	6.1	7.4	16.5
	US mid-cap	Russell Midcap	6.5	8.1	19.0
	US small-cap	Russell 2000	7.1	9.3	22.2
	Developed	MSCI EAFE	6.5	8.0	18.5
	Europe	MSCI Europe	6.8	8.3	18.5
	Eurozone	MSCI Euro ex-UK	6.4	8.1	19.5
	UK large-cap	FTSE 100	7.3	9.1	19.8
	UK small-cap	FTSE Small Cap UK	8.7	11.4	25.1
	Canada	S&P/TSX Composite	6.2	8.0	19.9
	Japan	MSCI Japan	5.2	7.6	22.7
	Emerging market	MSCI EM	8.4	11.2	25.2
	Asia Pacific ex-Japan	MSCI AC Asia Pacific ex-Japan	8.4	11.2	25.6
	Pacific ex-Japan	MSCI Pacific ex-Japan	7.3	10.0	24.9
Alternatives	US REITs	FTSE NAREIT Equity	5.0	6.6	18.8
	Global REITs	FTSE EPRA/NAREIT Developed	5.4	6.8	17.3
	Global infrastructure	Dow Jones Brookfield Global Infrastructure Composite	6.0	7.0	14.5
	Private equity	DJ Private Equity Total Return	7.2	10.2	26.1
	Hedge funds	HFRI HF	4.3	4.6	8.5
	Commodities	S&P GSCI	5.9	8.2	22.7
	Agriculture	S&P GSCI Agriculture	1.2	3.4	21.6
	Energy	S&P GSCI Energy	8.4	13.4	34.9
	Industrial metals	S&P GSCI Industrial Metals	5.5	8.1	24.3
	Precious metals	S&P GSCI Precious Metals	3.5	5.2	18.8

Source: Invesco, estimates as of June 30, 2019. All total returns data is annual. These estimates are based on our capital market assumptions which are forward looking, are not guarantees, and they involve risks, uncertainties and assumptions. Please see page 8 for information about our CMA methodology. Please see page 10 for the complete CMA disclosure. These estimates reflect the views of Invesco Investment Solutions, the views of other investment teams at Invesco may differ from those presented here.

About our capital market assumptions methodology

We employ a fundamentally based "building block" approach to estimating asset class returns. Estimates for income and capital gain components of returns for each asset class are informed by fundamental and historical data. Components are then combined to establish estimated returns (Figure 8). Here we provide a summary of key elements of the methodology used to produce our long-term (10-year) estimates. Five-year assumptions are also available upon request. Please see Invesco's capital market assumption methodology whitepaper for more detail.

Figure 8: Our building block approach to estimating returns



Fixed income returns are composed of:

- **Average yield:** The average of the starting (initial) yield and the expected yield for bonds.
- **Valuation change (yield curve):** Estimated changes in valuation given changes in the Treasury yield curve.
- **Roll return:** Reflects the impact on the price of bonds that are held over time. Given a positively sloped yield curve, a bond's price will be positively impacted as interest payments remain fixed but time to maturity decreases.
- **Credit adjustment:** Estimated potential impact on returns from credit rating downgrades and defaults.

Equity returns are composed of:

- **Dividend yield:** Dividend per share divided by price per share.
- **Buyback yield:** Percentage change in shares outstanding resulting from companies buying back or issuing shares.
- **Valuation change:** The expected change in value given the current Price/Earnings (P/E) ratio and the assumption of reversion to the long-term average P/E ratio.
- **Long-term (LT) earnings growth:** The estimated rate in the growth of earning based on the long-term average real GDP per capita and inflation.

Currency adjustments are based on the theory of Interest Rate Parity (IRP) which suggests a strong relationship between interest rates and the spot and forward exchange rates between two given currencies. Interest rate parity theory assumes that no arbitrage opportunities exist in foreign exchange markets. It is based on the notion that, over the long term, investors will be indifferent between varying rate of returns on deposits in different currencies because any excess return on deposits will be offset by changes in the relative value of currencies.

Volatility estimates for the different asset classes, we use rolling historical quarterly returns of various market benchmarks. Given that benchmarks have differing histories within and across asset classes, we normalize the volatility estimates of shorter-lived benchmarks to ensure that all series are measured over similar time periods.

Correlation estimates are calculated using trailing 20 years of monthly returns. Given that recent asset class correlations could have a more meaningful effect on future observations, we place greater weight on more recent observations by applying a 10-year half-life to the time series in our calculation.

Arithmetic versus geometric returns. Our building block methodology produces estimates of geometric (compound) asset class returns. However, standard mean-variance portfolio optimization requires return inputs to be provided in arithmetic rather than in geometric terms. This is because the arithmetic mean of a weighted sum (e.g., a portfolio) is the weighted sum of the arithmetic means (of portfolio constituents). This does not hold for geometric returns. Accordingly, we translate geometric estimates into arithmetic terms. We provide both arithmetic returns and geometric returns given that the former informs the optimization process regarding expected outcomes, while the latter informs the investor about the rate at which asset classes might be expected to grow wealth over the long run.

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About Invesco Investment Solutions

Invesco Investment Solutions is an experienced multi-asset team that seeks to deliver desired client outcomes using Invesco's global capabilities, scale and infrastructure. We partner with you to fully understand your goals and harness strategies across Invesco's global spectrum of active, passive, factor and alternative investments that address your unique needs. From robust research and analysis to bespoke investment solutions, our team brings insight and innovation to your portfolio construction process. Our approach starts with a complete understanding of your needs:

- We help support better investment outcomes by delivering insightful and thorough analytics.
- By putting analytics into practice, we develop investment approaches specific to your needs.
- We work as an extension of your team to engage across functions and implement solutions.

The foundation of the team's process is the development of capital market assumptions – long-term estimates for the behavior of different asset classes. Our estimates for returns, volatility, and correlation serve as guidelines for long-term, strategic asset allocation decisions.

Assisting clients in Europe, North America and Asia, the Invesco Investment Solutions team consists of more than 50 professionals, with 20+ years of experience across the leadership team. The team benefits from Invesco's on-the-ground presence in more than 20 countries worldwide, with over 150 professionals to support investment selection and ongoing monitoring.

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Investment risks

The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and investors may not get back the full amount invested.

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Further information is available using the contact details shown overleaf.

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