Investment Insights

Capital market assumptions Q1 2019
Euro (EUR)

Invesco Global Solutions develops capital market assumptions (CMAs) that provide longterm estimates for the behaviour 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 summarises quarterly changes in our long-term asset class expectations.

Executive Summary

- The Q4-2018 surge in market volatility drove home an inconvenient but inescapable truth: there is no hiding from global economic challenges – cyclical slowdown, exacerbated by geopolitical and protectionist threats to trend growth – anywhere, including previously insulated US markets.
- Near-term prospects look better, as the US Federal Reserve (Fed), the European Central Bank (ECB) and the People's Bank of China (PBoC) ease their policy stances, which should help support cyclical global growth and support global financial markets.
- But the long-term outlook remains challenging: underlying domestic and geopolitical frictions are unlikely to be settled soon, if at all – even if trade deals are struck to avoid further tariff escalation.
- Global fixed-income return prospects remain low against equities or alternatives, suppressed by low growth, inflation and quantitative easing – capital gains have been brought forward, leaving a dearth of interest income and the risk of capital losses as recovery breeds rising rates.
- That said, the rise in volatility that is to be expected as monetary policy normalises stands to be exacerbated by the uncertainties bred by internal and international political risks.
- Idiosyncratic challenges in each major economy – US domestic political gridlock; Eurozone challenges with low growth, inflation and integration; Brexit; domestic rebalancing and international tensions in China – all argue for cross-asset class and cross-country diversification.
- Based on our macroeconmic view, Eurozone bond and equity risk-adjusted returns are poised to be lower than in other markets. We believe the ECB is poised to taper QE but seems unlikely to raise rates any time soon given continued growth and inflation weakness. The ECB may offset the impact of continued negative rates on banks by providing term funding to banks. The net effect is likely to be continued low returns from bonds and somewhat higher returns from riskier assets in the Eurozone – notably high yield and equities where valuations have been hit hard by political risk and economic underperformance.

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Global Overview

Q4-2018 brought a difficult close to a challenging year. A surge in volatility hit US assets after months during which the US economy and markets had seemed insulated from slowdown and volatility that had persisted in other major economies throughout 2018. Q4 also demonstrates that even the United States, despite being the world's largest, least open economy (trade ratio to GDP), even with its unprecedented mid-/late-cycle fiscal stimulus, cannot fully escape global growth woes.

Financial conditions tightened severely enough that major central banks are reacting. The Fed opened the door to pausing rate hikes and limiting balance sheet tapering; the ECB to long term refinancing for banks. China is shifting from cuts in policy rates, reserve requirements and taxes to targeted stimulus, including credit for local government investment, and direct PBoC injection into bank balance sheets.

We expect the shifting policy stance of major central banks to ease financial conditions, support global growth and boost markets in the near term. But persistent underlying domestic and geopolitical challenges will likely keep weighing on confidence, consumption and investment. A US-China trade deal may well avert further tariff escalation, but US fears about technological or outright geopolitical rivalry are unlikely to ease. Policy differences also persist despite shared values and geopolitical alliances among the US, Europe and Japan, between the UK and EU and within the Eurozone.

These tensions are likely to provoke further rounds of volatility – with few places to hide in the hope of high excess returns. Hence, lower conviction and a wider range of possibilities than normal should apply to capital markets assumptions, which represent a central case based on normal historical relationships.

Eurozone

Our CMAs point to relatively low returns in government bonds and considerably higher returns in high-yield credit and equities, which have suffered from the Eurozone's growth and inflation challenges.

The hope that the Eurozone decelerated in 2018 because of one-offs – bad weather in Q1, trade friction in Q2 and reduced car production on emission rule changes in Q3 – and would re-accelerate looks forlorn. Above-trend growth in 2017 probably reflected payback from the double-dip recession following the Eurozone Financial Crisis, since when internal and international challenges held back domestic demand and net trade: the Taper Tantrum in 2013-14; fear of a crisis in China in 2015-16; and US-EU and US-China trade frictions in 2017-18. Constraints on internal demand owe to political risk in major member-states, like Italy's fiscal confrontation with the EU and France's popular protests against economic reform.

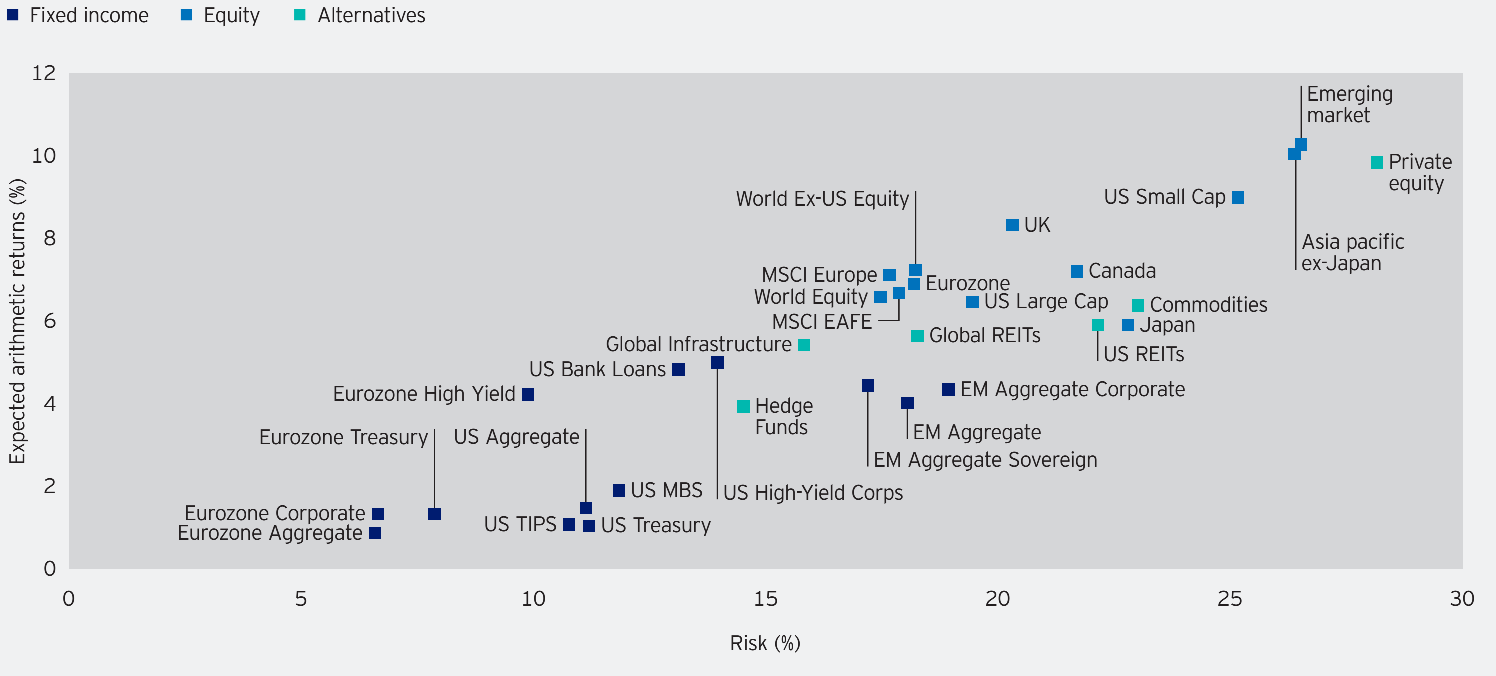
Looking ahead, growth may well slow toward or even below trend and inflation remain below target in 2019-20 given weak leading indicators, continuing internal, regional and global tensions including resistance to reform, Brexit and world trade friction. Even so, budgetary easing is limited by EU or national fiscal rules. The ECB may be constrained because policy rates remain deeply negative and a return to quantitative easing may be limited by limits on national government bond purchases.

Hence, the ECB is shifting gears given weakness in growth and inflation: without stepping back from tapering QE, it has opened the door to renewed long-term refinancing operations for Eurozone (EZ) banks. Though not quite either conventional or unconventional monetary easing, it would encourage monetary expansion: EZ banks would receive term funding even as the ECB winds down QE, inducing them to step in as the ECB tapers its QE. We believe bonds yields should remain low and financial conditions ease, encouraging bank credit and market-based funding for corporates.

Weak growth, low inflation and limited fiscal easing point to eventual ECB easing rather than significant tightening. In our view, this combination in turn should keep a lid on bond yields and support Eurozone credit, high yield and equities. There are of course important risks – namely that Brexit, global trade negotiations or internal politics go badly, further dragging down growth or even precipitating recession, which in turn would undermine regional riskier assets relative to high grade bonds.

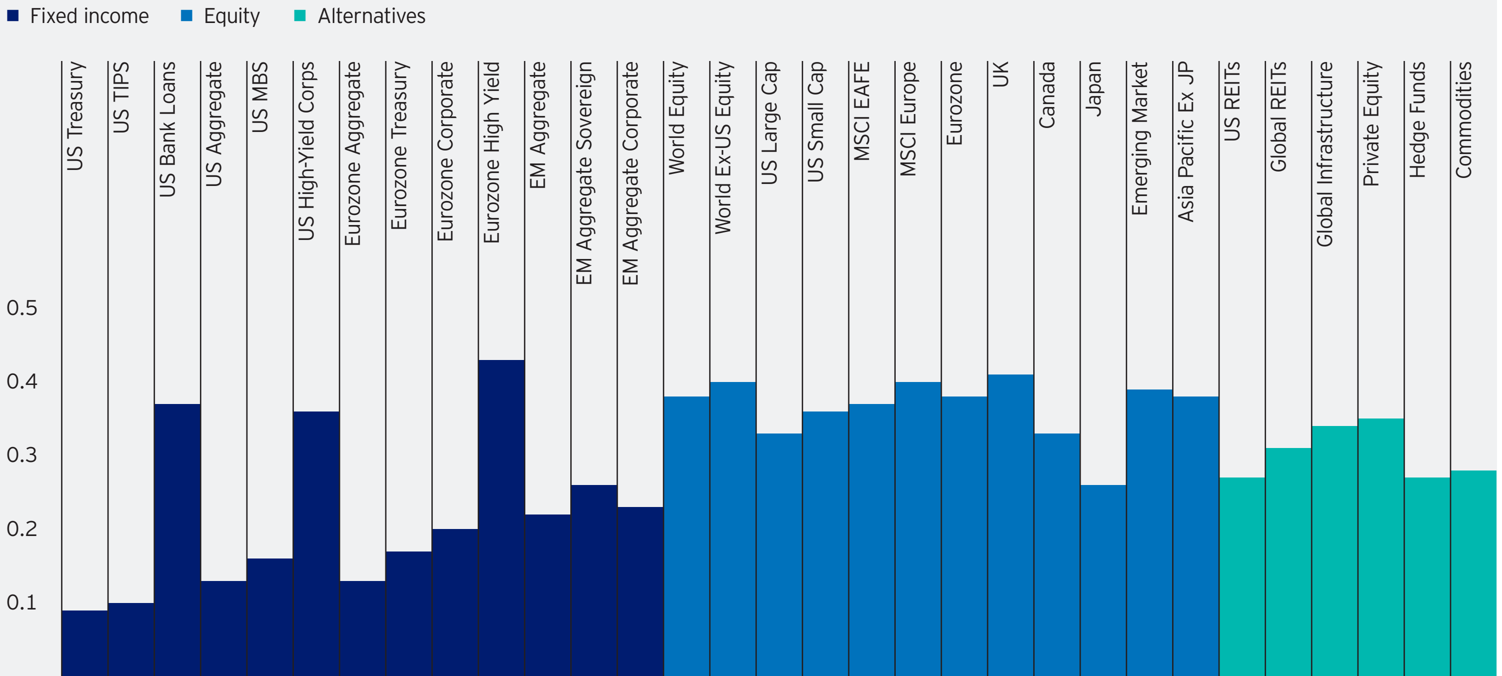
Overview

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



Source: Invesco, estimates as of Dec. 31, 2018. Proxies listed in figure 7. These estimates are forward looking, are not guarantees, and they involve risks, uncertainties, and assumptions. Please see page 6 for information about our CMA methodology. These estimates reflect the views of Invesco Global 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 (EUR)



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Fixed income

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

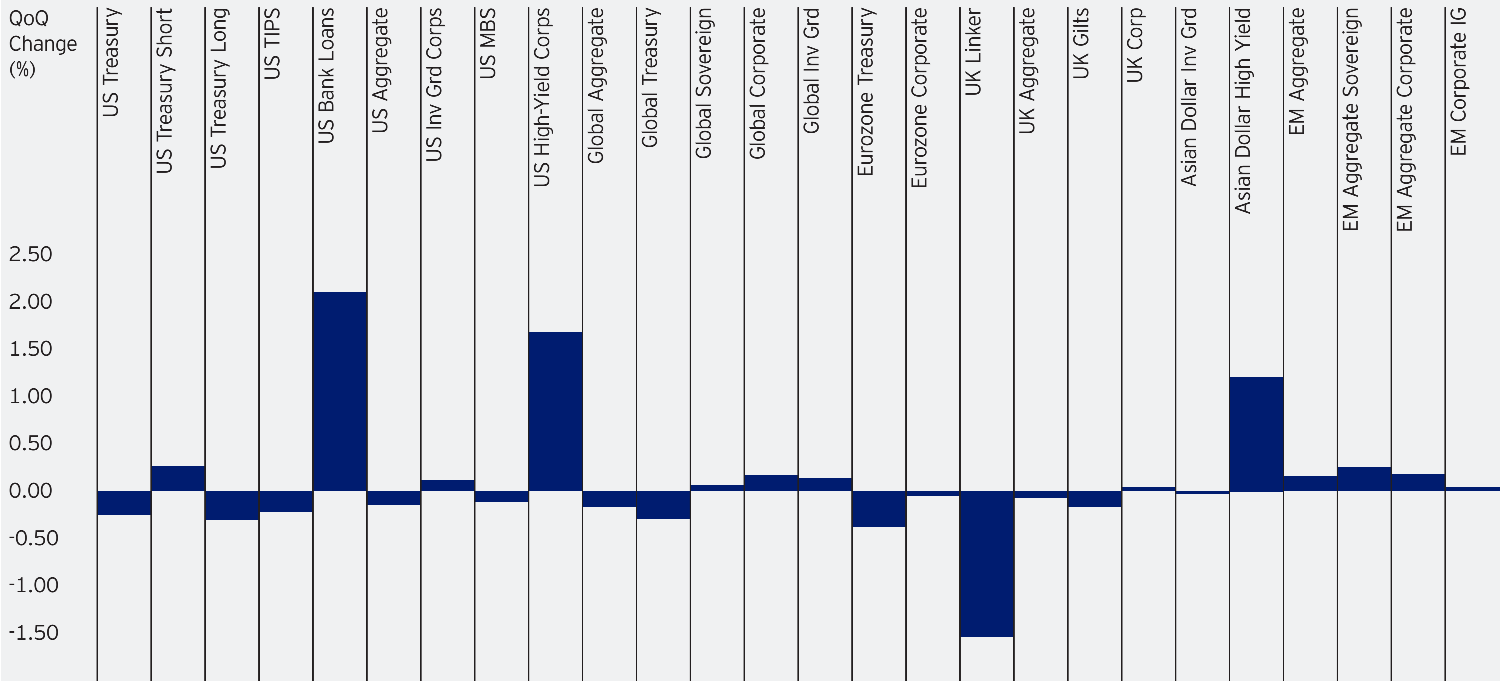

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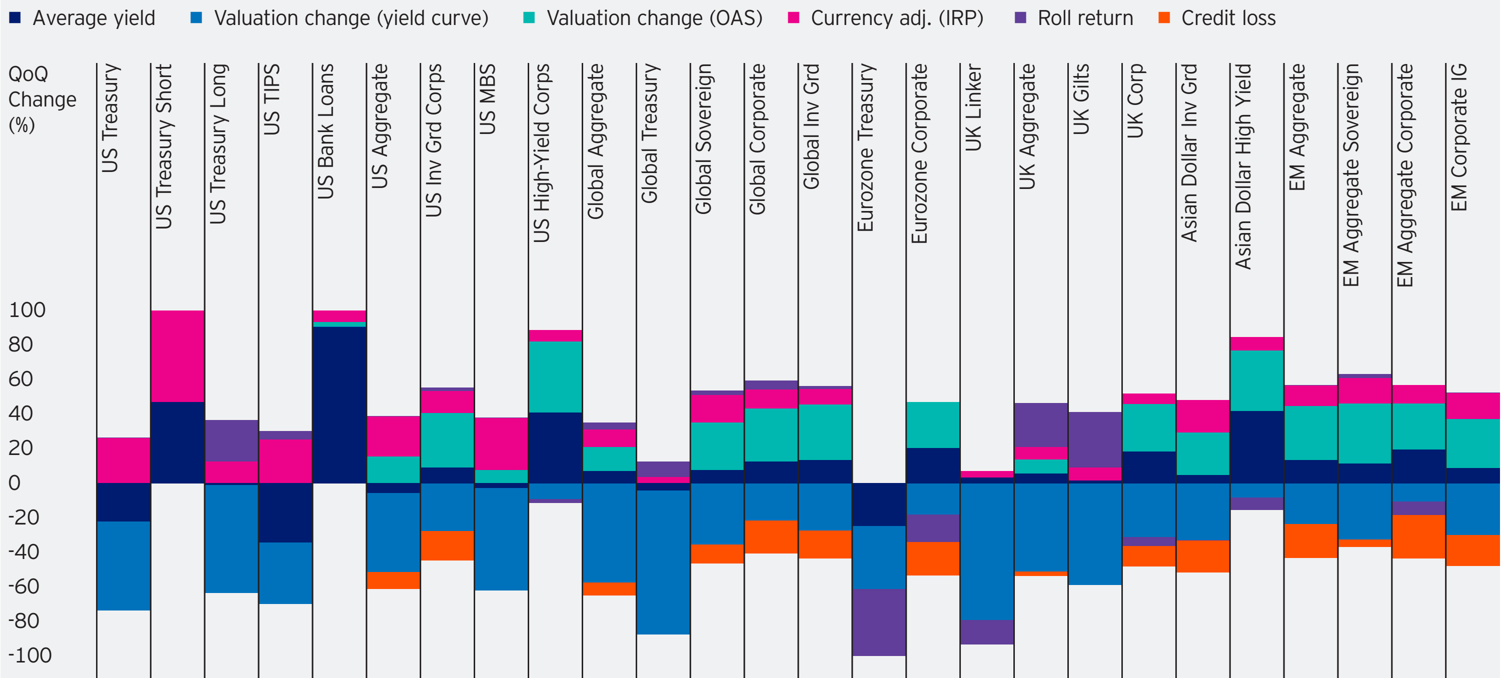
Figure 4: Attribution of QoQ change in 10-year return expectations (EUR)



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Equity

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

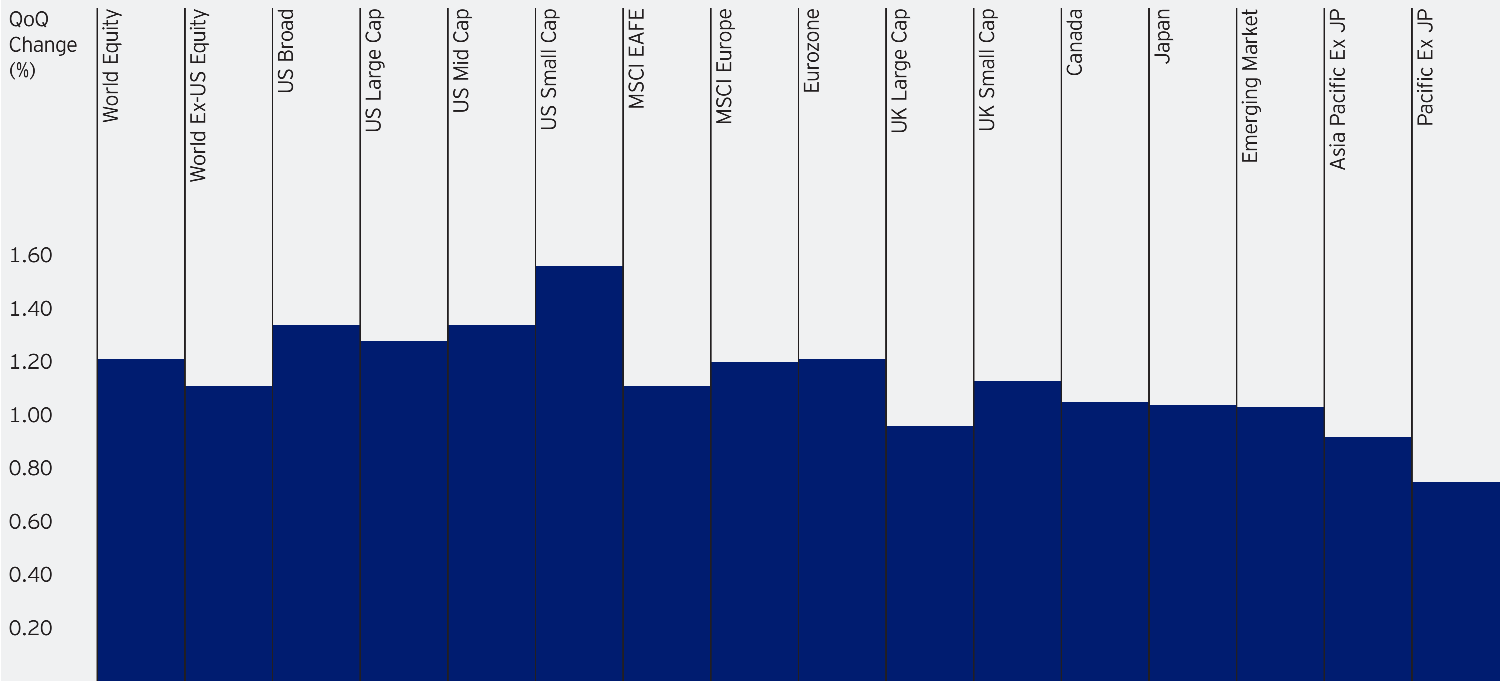

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Figure 6: Attribution of QoQ change in 10-year return expectations (EUR)

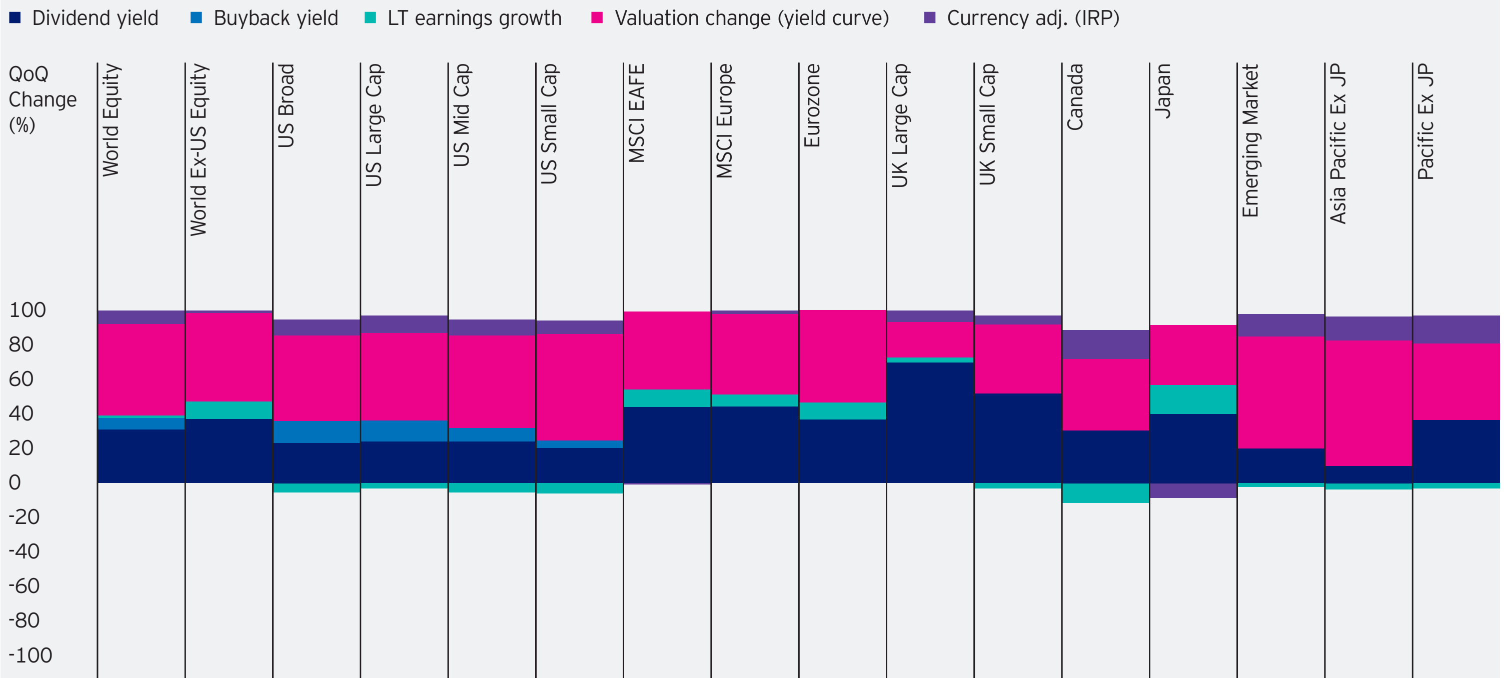

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Figure 7: 10-year asset class expected returns and volatility (EUR)

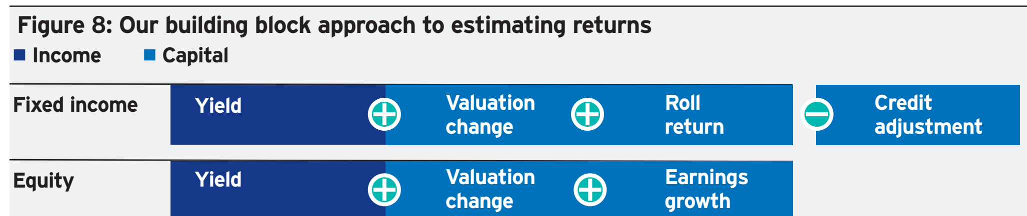
	Asset class	Index	Expected geometric return (%)	Expected arithmetic return (%)	Risk (%)
Fixed income	US Treasury Short	Bloomberg Barclays US Treasury Short	0.3	0.9	10.8
	US Treasury Intermediate	Bloomberg Barclays US Treasury Intermediate	0.3	0.9	10.8
	US Treasury Long	Bloomberg Barclays US Treasury Long	-0.3	0.8	14.6
	US TIPS	Bloomberg Barclays US TIPS	0.5	1.1	10.8
	US Bank Loans	CSFB Leverage Loan Index	4.0	4.8	13.1
	US Aggregate	Bloomberg Barclays US Aggregate	0.9	1.5	11.1
	US Inv Grd Corps	Bloomberg Barclays US Investment Grade	1.2	1.9	11.6
	US MBS	Bloomberg Barclays US MBS	1.2	1.9	11.8
	US Preferred Stocks	BOA ML Fixed Rate Pref Securities	2.5	3.4	13.7
	US High-Yield Corps	Bloomberg Barclays US High Yield	4.1	5.0	14.0
	UK Linker	BofA Merrill Lynch UK Inflation-Linked Gilt	-2.2	-1.6	11.2
	UK Gilts	Bloomberg Barclays Sterling Aggregate Gilts	-0.4	0.1	10.1
	UK Corp	Bloomberg Barclays Sterling Aggregate Non-Gilts - Corporate	1.6	2.3	12.2
	Global Aggregate	Bloomberg Barclays Global Aggregate	0.7	1.0	8.1
	Global Aggregate-Ex US	Bloomberg Barclays Global Aggregate- Ex US	0.5	0.7	6.4
	Global Treasury	Bloomberg Barclays Global Treasuries	0.6	0.9	8.4
	Global Sovereign	Bloomberg Barclays Global Sovereign	0.7	1.1	8.8
	Global Corporate	Bloomberg Barclays Global Corporate	1.3	1.6	8.1
	Global Inv Grd	Bloomberg Barclays Global Corporate Inv Grd	1.2	1.5	8.3
	Eurozone Corporate	Bloomberg Barclays Euro Aggregate Credit - Corporate	1.1	1.3	6.7
	Eurozone Treasury	Bloomberg Barclays Euro Aggregate Government - Treasury	1.0	1.3	7.9
	Asian Dollar Inv Grd	BOA Merrill Lynch ACIG	1.5	2.5	14.8
	EM Aggregate	Bloomberg Barclays EM Aggregate	2.5	4.0	18.1
	EM Aggregate Sovereign	Bloomberg Barclays EM Sovereign	3.1	4.5	17.2
	EM Aggregate Corporate	Bloomberg Barclays EM Corporate	2.7	4.3	18.9
	EM Corporate IG	Bloomberg Barclays Emerging Markets USD Aggregate - Corporate -IG	1.6	2.5	14.3
Equities	World Equity	MSCI ACWI	5.2	6.6	17.5
	World Ex-US Equity	MSCI ACWI Ex-US	5.7	7.3	18.2
	US Broad	Russell 3000	5.0	6.8	20.1
	US Large Cap	S&P 500	4.7	6.5	19.5
	US Mid Cap	Russell Midcap	5.6	7.7	21.7
	US Small Cap	Russell 2000	6.2	9.0	25.2
	MSCI EAFE	MSCI EAFE	5.2	6.7	17.9
	MSCI Europe	MSCI Europe	5.7	7.1	17.7
	Eurozone	MSCI Euro X UK	5.4	6.9	18.2
	UK Large Cap	FTSE 100	6.3	8.1	20.1
	UK Small Cap	FTSE Small Cap UK	7.3	10.2	26.2
	Canada	S&P TSX	5.1	7.2	21.7
	Japan	MSCI JP	3.5	5.9	22.8
	Emerging Market	MSCI EM	7.2	10.3	26.5
	Asia Pacific Ex JP	MSCI APXJ	7.0	10.0	26.4
	Pacific Ex JP	MSCI Pacific X JP	6.2	9.2	26.2
Alternatives	US REITs	FTSE NAREIT Equity	3.7	5.9	22.2
	Global REITs	FTSE EPRA/NAREIT Developed Index	4.1	5.7	18.3
	Global Infrastructure	S&P Global Infrastructure Index	4.3	5.4	15.8
	Private Equity	DJ Private Equity Total Return Index	6.4	9.8	28.2
	Hedge Funds	HFRI HF Index	2.9	3.9	14.5
	Commodities	S&P GSCI	4.0	6.4	23.0
	Agriculture	S&P GSCI Agriculture	-0.6	1.9	22.8
	Energy	S&P GSCI Energy	6.3	11.3	34.8
	Industrial Metals	S&P GSCI Industrial Metals	3.9	6.4	23.5
	Precious Metals	S&P GSCI Precious Metals	1.6	3.1	18.1

Source: Invesco, estimates as of Dec. 31, 2018. 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 6 for information about our CMA methodology. These estimates reflect the views of Invesco Global 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 normalise 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 optimisation 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 optimisation 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 Global Solutions

Invesco Global 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 behaviour 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 Global Solutions team consists of more than 40 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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