FLASH: 19 NOVEMBER 2021

Long-term Expected Returns

Summary

The economic recovery has been stronger-than-expected and the massive stimulus programs should generate growth levels above long-term averages in the coming quarters and years. The recent rise in inflation should be reversed over the course of next year and have no major impact on the average inflation over the forecast period (10 years).

We do not expect Central banks to hike rates before Q4 2022 in the US and possibly Q4 2023 in the Eurozone. The path should however be very gradual. In the US, we have revised up our estimate for the long-term expected return on cash and on government as well as corporate and emerging market bonds. Average bond spreads are assumed to be in line with historical averages. The long-term expected return for government bonds has not been revised in the Eurozone as the monetary policy should remain very accommodative. We revised the estimate for European high yield bonds slightly down as spreads are very tight.

The accommodative monetary policy and low bond yields should remain favorable for assets with higher risk levels. We have upgraded somewhat our expected returns for equities as we now expect a higher growth rate for earnings for the coming quarters. The impact on the average growth rate over the next 10 years is however quite moderate.

Alternative assets, for which we calculate the expected returns based on a premium over cash, have now a moderately higher expected return as we upgraded the expected return for USD cash.

We discuss the estimation of the long-term expected returns in the following sections. The technical details and assumptions are summarized in the appendix.

Long-term Expected Returns (10-years)

		WM2021	WM 2020	Volatility (10-year Historical)
Fixed Income	Euro cash	0,00%	0,00%	-
	USD cash	1,00%	0,75%	-
	Government bonds Eurozone	0,25%	0,25%	4,20
	Government bonds U.S.	1,50%	1,00%	3,50
	Corporate High Grade Europe	0,75%	0,75%	3,90
	Corporate High Grade U.S.	2,00%	1,50%	5,10
	High Yield Bonds Europe	3,50%	3,75%	7,30
	High Yield Bonds United-States	4,25%	4,00%	6,70
	Emerging Hard Currency bonds	4,00%	3,50%	8,00
Equities	Equities Eurozone	5,50%	5,00%	13,10
	Equities U.S.	5,50%	5,00%	13,20
	Equities U.K.	5.75%	5,00%	12,10
	Equities Japan	4,75%	4,75%	16,60
	Equities Emerging Markets	7,25%	7,00%	16,90
Alternatives	UCITs	3,25%	3,00%	4,10
	Real Estate	5,75%	5,50%	14,90
	Private Equity	8,50%	8,00%	-
	Commodities	2,50%	2,00%	21,40
	Gold	2,75%	2,25%	15,20

Source: BNP Paribas WM, Bloomberg

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Fixed Income Assets

Government Bonds: The expected return of 10-year government bonds can be simply estimated by the average yield to maturity of a government bond with a 10-year maturity, the risk being that such measure can fluctuate quite a bit in the short term and can be subject to short-term speculations or hedging strategies.

For the Eurozone, we use an average yield to maturity of a government bond index including most member countries (with an average maturity close to 10 years).

We estimate the expected return for government bonds to be 0.25% for the Eurozone and 1.5% for the US. Compared with our estimates last year, this is a +0.5% revision for the US. No change for the Eurozone.

Investment Grade Corporate Bonds: Based on our usual assumptions, we estimate the expected return on Investment grade corporate bonds at 0.75% for the Eurozone and 2% for the US (up from 1.5%). As we revised up our expected return for US government bonds while keeping our other assumptions unchanged, we also needed to revise the expected return for US IG corporate bonds up.

High Yield (HY) Corporate Bonds: We use our estimate of the government bond to which we add a historical risk premium and adjust for the expected effects of some companies defaulting during the period under review (including recovery rates). We estimate the expected return on High Yield Corporate bonds at 3.5% for the Eurozone and 4.25% for the US. We do only increase the expected return for US by +0.25% despite the +0.5% increase in US govies return estimate because of the record low level of US HY spreads. This also the reason why we reduce the expected return for the Eurozone by 0.25%.

Emerging Market Bonds: For Emerging Market bonds, we use a similar approach as for corporate bonds. Using our usual assumptions regarding the spread and correcting for default and recovery rates. Given our +0.50% upward revision in the expected return of US government bonds, we estimate the expected return on Emerging Market bonds in USD at 4% (up from 3.50%).

Equities

We use the Gordon-Shapiro model (constant growth form of the dividend discount model) which links the expected return for stocks (or stock index) to the dividend yield and the expected growth rate of the dividend. We also take into account potential re-rating effects. Expected returns are than checked in terms of implied Sharpe ratios (using 10-year historical volatility).

Long-term Expected Returns for Equities

	Expected Return	Assumptions
Europe	5.5%	We use the assumption of a 2.5% dividend yield and a 1% real growth of dividends and a no re-rating effect. This suggests a 'real' expected return of 3.5%. Using the assumption of 2% long-term inflation, we achieve 5.5%.
US	5.5%	Same approach except that we assume a 1.75% dividend yield, 1,75% real growth of dividends and no re-rating effect. This suggests a 'real' expected return of 3.5%. Using the assumption of 2% long-term inflation, we get to 5.5%.
UK	5.75%	A 2.75% dividend yield, 1% real growth of dividends, no re-rating effect and 2% long-term inflation.
Japan	4.75%	A 2.25% dividend yield, 1% real growth of dividends, no re-rating effect and 1.5% long-term inflation.
Emerging Markets	7.25%	A 2.25% dividend yield, 3% real growth of dividends, no re-rating effect and 2% long-term inflation.

Another way to approach these calculations is to use our expected returns on government bonds and add the long-term historic average risk premium. This risk premium varies from country to country and was on average around 4% for the period 1900-2020 (see Elroy Dimson, Paul Marsh, Mike Staunton, 2021). This would lead to expected returns close to or somewhat below our estimates for most equity markets.

Alternative UCITs and Real Estate

Given the diversity and complexity of strategies, we use academic research papers based on historical data that take into account measurement biases, to estimate expected returns. The main reference is Ibbotson, Chen and Zhu (2011). Based on this article, we use the assumption of an excess return on cash of 2.75%. This premium is added to the expected average return on cash in euros and US dollars (0.5%). We thus estimate the average expected return on alternative UCITs at 3.25%.

For real estate, we use a similar approach compared to equities and assume a dividend yield of approximately 2.75% with the assumption of a 1% real (excluding inflation) growth rate for dividends. Adding the 2% expected inflation, leads to an expected return of 5.75%.

Commodities

Estimating an expected return on commodities and in particular gold is quite difficult as there is no future income that can be discounted. We use historical data to estimate an excess return over cash. We also need to take into account the expected return relative to risk (historical volatility).

We use the assumption of 1.5% excess return over cash in USD. We thus get 2,5% as the expected return on USD cash is 1%. This is also calibrated to have an excess return that partially compensates for the historical risk (volatility). We use a similar approach for Gold. We use an excess return assumption over cash of 1,75%. This leads to an expected return of 2,75%.

Private Equity

Based on R. Harris, T. Jenkinson and S. Kaplan (2014), we target an additional 3% return above the expected average return on public equity markets (5.5% in the US and the Eurozone). We thus estimate the expected return on private equity at 8.5%.

See appendix for more details.

Appendix

All returns are calculated using a 10-year horizon. We assume that all currency effects tend to cancel each out on average over that period. We thus use expected returns in local currency.

Government bonds: We use current Yield-to-maturity of government bond benchmarks and adjust for maturity differences compared to 10-year bonds.

Investment Grade corporate bonds: we use our estimate of the government bond to which we add an historical risk premium ("credit spread") and adjust for the expected effects of some companies defaulting over the time period. K. Giesecke, F. Longstaff, S. Schaefer, and I Strebulaev (2010) find an average credit spread for IG corporate bonds of about 0.80% over govies. The average default rate over the period was 0.9% with a recovery rate of 50%.

Corporate High Yield bonds: We use a spread over government bonds. for Corporate High Yield bonds of 500bp, an expected default rate of 3.3% in the US and 1.9% in Europe, and a recovery rate of 40%. These figures are based on an article by F. Reilly, D. Wright and J. Gentry (2009) and on the "2016 Annual Global Corporate Default Study" by S&P.

Emerging Market Bonds: The historical long-term spread over US government bonds for the JP Morgan index (EMBI+ JP Morgan index) is approximately 400bp, which we adjust for the expected default and recovery rate. This is based on the JP Morgan study on "EM Corporate Default Monitor".

Equities: Based on the 'Gordon-Shapiro' Model, the present value of equities is equal to the discounted value of expected income (dividend) of the company. In the basic version of the dividend discount model, dividends are assumed to grow at a constant annual rate. If one assumes no valuation change (constant price-to-earnings ratio), the long-term 'real' (before inflation) return on equities should be equal to the sum of the dividend yield and the 'real' growth rate dividend. We simply need to add expected inflation to get the nominal expected return. For more details, see Ilmanen, Antti. (2011).

Commodities: Estimating an expected return on commodities and in particular gold is quite difficult as there is no future income that can be discounted. We use historical data to estimate a return in excess of cash. Hong and Yogo (2010) show that "the mean excess return of an aggregate commodity futures portfolio between 1965 and 2008 was 7% per year, roughly half of which came from spot price growth and half from roll gains". Assuming that expected roll gains are zero on average, this would suggest an excess return of approximately 3.5%. However, this still seems excessive today and we prefer to use the assumption of 1.5% excess return over cash in USD.

Private equity: R. Harris, T. Jenkinson and S. Kaplan (2014) find that for private equity, "the outperformance versus the S&P 500 averages 20% to 27% over the total life of the fund and more than 3% per year". We thus target an additional 3% return above the expected average return on public equity markets (5.5% in the US and Eurozone). Illmanen, Chandra and McQuinn (2019) find very similar results. We thus estimate the expected return on private equity at 8.5%

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