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Long-term Expected Returns – Update

Summary

Recent trends in bond yields have led us to increase our long-term expected returns for the fixed income asset class. No changes for other assets.

The expected return of 10-year government bonds can be simply estimated by the average yield to maturity of a such a bond with a 10-year maturity. For the other fixed income asset classes an additional risk premium is calculated using long-term history on risk premiums and assumptions on defaults and recovery rates.

Bond yields have risen again substantially over the past few months. The move was mainly driven by higher-than-expected financing needs of the US government and a rise in so-called real bond yields (excluding inflation). We also saw a rise in the risk premium that investors request to invest over longer maturities (term premium). This premium is mainly related to the uncertainty around medium and long-term inflation expectations.

We do assume that bond yields can fall back next year but until then, the current long-term expected returns for bonds will be higher both in the US and the eurozone. This represents a quite unique opportunity for long-term investors to benefit from a particularly high expected return for those levels of risks.

For the eurozone, we use an average yield to maturity (YTM) 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 3% for the eurozone and 4.25% for the US. Compared with our estimates in July, this is a +0.50% revision for the eurozone and +0.75% for the US.

Based on academic studies (see references) we use an average credit spread for IG corporate bonds of about 0.80% over government bonds, an average default rate of 0.9% with a recovery rate of 50%. Based on these assumptions, we estimate the expected return on Investment Grade Corporate bonds at 3.50% for the eurozone and 4.75% for the US. For High Yield (HY) Corporate Bonds, we include a historical spread over Government bonds to estimate the long-term expected return. We include an expected default rate of 3.3% in the US and 1.9% in Europe, and a recovery rate of 40%. Using these assumptions, we estimate the expected return at 5.75% for the eurozone and 6.50% for the US. For Emerging Market Bonds in Hard Currency, the historical long-term spread over US Government bonds is approximately 400bps, which we adjust for the expected default and recovery rate. We use an estimate of 6.25%.

Table 1: Long-term Expected Returns (10-years)

	Estimates Nov-23	Revision	Estimates Juli 2023	Volatility (10-year Historical)
Euro cash	1.50%	0.00%	1.50%	-
USD cash	2.25%	0.00%	2.25%	-
Government bonds Eurozone	3.00%	0.50%	2.50%	5.20
Government bonds U.S.	4.25%	0.75%	3.50%	4.40
Corporate High Grade Europe	3.50%	0.50%	3.00%	4.70
Corporate High Grade U.S.	4.75%	0.75%	4.00%	8.30
High Yield Bonds Europe	5.75%	0.50%	5.25%	8.50
High Yield Bonds United-States	6.50%	0.50%	6.00%	9.00
Emerging Hard Currency bonds	6.25%	0.75%	5.50%	10.60
Equities Eurozone	7.00%	0.00%	7.00%	16.20
Equities U.S.	6.50%	0.00%	6.50%	16.90
Equities U.K.	7.00%	0.00%	7.00%	14.80
Equities Japan	6.00%	0.00%	6.00%	18.60
Equities Emerging Markets	8.25%	0.00%	8.25%	18.20
UCITs	4.25%	0.00%	4.25%	5.20
Listed real Estate	6.75%	0.00%	6.75%	18.80
Private Equity	9.50%	0.00%	9.50%	-
Infrastructure	9.00%	0.00%	9.00%	-
Commodities	4.00%	0.00%	4.00%	23.80
Gold	4.00%	0.00%	4.00%	13.30

Source: BNP Paribas WM, Bloomberg

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Appendix

Equities (no change)

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 (changes in the price-to-earnings ratio). Details can be found in table 2. 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 3.5 to 4.5% for the period 1900-2020 (see Elroy Dimson, Paul Marsh, Mike Staunton, 2021). This would lead to expected returns broadly in line with our estimates for most equity markets.

Table 2. Long-term Expected Returns for Equities

	Expected Return	Assumptions
Europe	7%	We use the assumption of a 3.5% dividend yield and a 1.25% real growth of dividends and a re-rating effect of 0.25%. This suggests a 'real' expected return of 5%. Using the assumption of 2% long-term inflation, we achieve 7%.
US	6.50%	Same approach except that we assume a 2.25% dividend yield, 2.25% real growth of dividends and no re-rating effect. This suggests a 'real' expected return of 4.5%. Using the assumption of 2% long-term inflation, we get to 6.5%.
UK	7%	A 3.75% dividend yield, 1% real growth of dividends, and a re-rating effect of 0.25%. This yields a 5% expected real return and we use a 2% long-term inflation.
Japan	6.00%	We use a 2.5% dividend yield, 1.25% real growth of dividends, a re-rating effect of 0.25% and 2% long-term inflation.
Emerging Markets	8.25%	We use a 3.25% dividend yield, 3% real growth of dividends, no re-rating effect and 2% long-term inflation.

Alternative UCITs and Real Estate (no change)

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 over cash of 2.5%. This premium is added to the expected average return on cash in euros and US dollars (1.75%). We thus estimate the average expected return on alternative UCITs at 4.25%. For listed real estate, we use a similar approach as the one used for equities. We assume a dividend yield of 4.25%, a real growth rate of the dividend of 0.5% and 2% inflation. The expected return is thus 6.75%.

Commodities (no change)

Estimating an expected return on commodities, in particular gold, is quite difficult as no future income can be discounted. Looking at long-term data 1877-2020, Ilmanen, Antti. (2022) argues that "with no statistical evidence of time-varying expected return, the best forward-looking estimate for the long-term future is the historical average premium". He finds that "based on the evidence above, a constant premium of some 3% over cash seems appropriate for a diversified commodity portfolio (though not for single commodities!)". Based on our assumption on the expected return on cash, we apply an expected return for both commodities and gold of 4%.

Private Equity (no change)

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". Forward indicators, such as higher interest rates, a tighter competitive environment and too much capital chasing too few deals point to somewhat lower excess returns in the future. Also see Ilmanen, Antti. (2022) for more details. We thus estimate the forward excess return at 2.75%. The expected return on Private Equity is thus 9.5%. Private Equity investments are less liquid, justifying an additional risk premium.

Infrastructure (no change)

Antti Ilmanen (2011) studied the history of the UBS Global Infrastructure Index, including and excluding utilities (the index dates back to 1990). He argued that "Infrastructure stocks earned an annual total return of 9.3% over 1990–2009". Using the period **1990-2015**, we find a figure closer to 7%. For more recent data, we use the S&P Global Infrastructure index. Over the past 20 years (since April 2002), the annual total return has been close to 9.5%. Based on these studies, we use a risk premium over traditional equity indices of 2.25%. That would lead to 9% for Infrastructure investments. Infrastructure investments are less liquid compared to traditional assets, justifying an additional risk premium.

References

- Ang (2014), "Asset Management: A Systematic Approach to Factor Investing", Oxford University Press.
- Elroy Dimson, Paul Marsh, Mike Staunton (2021), "Credit Suisse Global Investment Returns Year-book 2021" Credit Suisse Global Investment Re-turns, Yearbook 2021.
- K. Giesecke, F. Longstaff, S. Schaefer, and I Strebulaev (2011), "Corporate Bond Default Risk: A 150 year Perspective", Journal of Financial Economics, Vol. 102, issue 2,233-250.
- Gordon, M.J and Eli Shapiro (1956) "Capital Equipment Analysis: The required Rate of Profit", Management Science, 3, (1).
- R. Harris, T. Jenkinson and S. Kaplan (2014), "Private Equity Performance: what do we know?", Journal of Finance, vol 69, issue 5.
- Hofmann and Bogdanova (2012), "Taylor Rules and Monetary Policy: a global great deviation", BIS Quarterly Review, September.
- Ibbotson, Roger G., Peng Chen, and Kevin X. Zhu. (2011). "The ABCs of Hedge Funds: Alphas, Betas, and Costs", Financial Analysts Journal, vol. 67, no. 1 (January/February) p15–25.
- Ilmanen, Antti. (2011), "Expected returns: An In-vestor's guide to harvesting market rewards", Wiley Finance.
- Ilmanen, Antti. (2022), "Investing amid low ex-pected returns", Wiley Finance.
- Ilmanen A., Chandra S. and N. McQuinn (2019), "Demystifying Illiquid Assets: Expected Returns for Private Equity", AQR Whitepaper 1Q19.
- JP Morgan (2019) "EM Corporate Default Monitor", Global Credit Research.
- Reilly F., D. Wright and J. Gentry (2009), "Historic Changes in the High Yield Bond Market', Journal of Applied Corporate Finance, Volume 21 Number 3.
- S&P Global, (2017), "2016 Annual Global Corpo-rate Default Study And Rating Transitions".
- J. Taylor (1998) "An historical analysis of monetary policy rules", NBER working paper N°6768.
- J. Williams (2017) "Three Questions on R-star", Federal Reserve Bank of San Francisco, Economic Letter, 2017-05.

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