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Long-term Expected Returns

Summary

The main driver of financial markets over recent months has been inflation and the related change in monetary policy. Central banks have been obliged to reverse longstanding low interest rate policies. Nearly all major central banks (bar China and Japan) have embarked on a series of rate hikes, in an effort to curb demand and bring down inflation. The threat of economic recession has grown as consumers and industry have reacted not only to higher financing costs, but also to the pressure on budgets from rising prices (particularly of energy).

Estimating long-term expected returns is about looking beyond the current economic environment and thus about the ability of central banks to stabilize inflation around their target and estimating long-term economic growth. Regarding inflation, we expect a peak later this year and a gradual move lower towards the long-term target of 2% over 202324. We do not expect inflation to fall again below 2% as we think that the global economy is undergoing a regime shift. Inflation is broad-based, with more than half the basket showing inflation rates that are at least double the central bank targets in both the eurozone and UK. Another reason for this regime shift is the solid trend in wage growth, which is already visible in the US, and is expected to materialize in the eurozone over the coming quarters. Inflation uncertainty is probably here to stay and should justify a premium between short and long-term term rates as has been the case previously. Economic growth in the pre-COVID period has been mainly constrained by demand especially in Europe.

Over the last two years, demand has been stimulated by government expenditures. But at the same time supply chain and more recently labour market constraints have limited global supply. For the coming years, supply constraints should gradually ease while demand will be supported by the massive public and private investments to fight climate change and improve energy independency. Economic growth and earnings should thus be higher than in the previous decade. We use a higher growth rate for our estimation of long-term expected returns compared with recent years. Bond markets returns are revised up due to the recent market revisions in long-term central bank rates and higher inflation uncertainty. Fixed income assets were down sharply this year.

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

	Estimates 2022	Revision	Estimates 2021	Volatility (10-year Historical)
Euro cash	0,75%	0,75%	0,00%	-
USD cash	1,75%	0,75%	1,00%	-
Government bonds Eurozone	2,00%	1,75%	0,25%	4,90
Government bonds U.S.	3,00%	1,50%	1,50%	4,10
Corporate High Grade Europe	2,50%	1,75%	0,75%	4,50
Corporate High Grade U.S.	3,50%	1,50%	2,00%	6,30
High Yield Bonds Europe	5,00%	1,50%	3,50%	7,00
High Yield Bonds United-States	5,75%	1,50%	4,25%	7,40
Emerging Hard Currency bonds	5,25%	1,25%	4,00%	9,20
Equities Eurozone	6,75%	1,25%	5,50%	15,00
Equities U.S.	6,50%	1,00%	5,50%	14,60
Equities U.K.	7,00%	1,25%	5,75%	13,20
Equities Japan	5,75%	1,00%	4,75%	17,50
Equities Emerging Markets	8,25%	1,00%	7,25%	18,50
UCITs	4,00%	0,75%	3,25%	4,60
Listed real Estate	6,50%	0,75%	5,75%	15,20
Private Equity	9,25%	0,75%	8,50%	-
Infrastructure	8,75%			-
Commodities	4,00%	1,50%	2,50%	23,60
Gold	4,00%	1,25%	2,75%	14,50

Source: BNP Paribas WM, Bloomberg

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Equity markets have been witnessing major price corrections and are now trading at lower valuation levels. This is reflected in lower price-to-earnings ratios and higher dividend yields. Combined with the higher long-term economic growth expectations this also leads to higher expected returns for equities. Investors need to be aware that private assets, such as Private Equity and Infrastructure, have a higher expected return but do carry a higher risk in particular liquidity risk. We discuss the estimation of the long-term expected returns in the following sections.

Fixed Income Assets

Government Bonds: The expected return of 10year government bonds can be simply estimated by the average yield to maturity of a Government bond with a 10year 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 (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 2% for the eurozone and 3% for the US. Compared with our estimates last year, this is a +1.75% and +1.50% revision for the eurozone and US respectively.

Investment Grade Corporate Bonds: We use our estimate of the Government bond to which we add an historical risk premium ("credit spread") and make adjustments 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%. Based on these assumptions, we estimate the expected return on Investment Grade Corporate bonds at 2.5% for the eurozone and 3.5% for the US. These are the same upward revisions as for Government bonds.

High Yield (HY) Corporate Bonds: We use a spread over Government bonds. For Corporate High Yield bonds of 500bps, 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. We estimate the expected return on High Yield Corporate bonds at 5% for the eurozone and 5.75% for the US. Compared with our estimates in 2021, this is a 1.50% upward revision for both.

Emerging Market Bonds: The historical long-term spread over US Government bonds for the JP Morgan index (EMBI+ JP Morgan index) is approximately 400bps, which we adjust for the expected default and recovery rate. This is based on the JP Morgan study on "EM Corporate Default Monitor". Using these usual assumptions, we estimate the expected return on Emerging Market bonds in USD at 5.25% (up from 4% last year).

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 rerating effects. Expected returns are than checked in terms of implied Sharpe ratios (using 10year historical volatility). 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 4% 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 Returns	Assumptions
Europe	6.75%	We use a dividend yield of 3.5% and use the assumption of a 1% real long-term earnings growth and 2% long-term inflation as well as a 0.25% re-rating effect. This leads to a total of 6.75%.
US	6.5%	Same approach except that we use a dividend yield of 2.5% and use the assumption of a 2% real long-term earnings growth and 2% long-term inflation. No re-rating effect given current valuation levels. This leads to a total of 6.5%.
UK	7%	Same approach except that we use a dividend yield of 3.75% and use the assumption of a 1% real long-term earnings growth, 2% long-term inflation as well as a 0.25% re-rating effect. This leads to a total of 7%.
Japan	5.75%	Same approach except that we use a dividend yield of 2.5% and use the assumption of a 1% real long-term earnings growth, 2% long-term inflation as well as a 0.25% re-rating effect. This leads to a total of 5.75%.
Emerging Markets	8.25%	Same approach except that we use a dividend yield of 3.25% and use the assumption of a 3% real long-term earnings growth, 2% long-term inflation. No re-rating effect. This leads to a total of 8.25%.

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 (1.25%). We thus estimate the average expected return on alternative UCITs at 4%.

For listed real estate, we use a similar approach as the one used for equities. We use a dividend yield of 4%, a real growth rate of the dividend of 0.5% and 2% inflation. The expected return is thus 6.5%.

Commodities

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

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 2.5%. The expected return on Private Equity is thus 9.25%. Private Equity investments are less liquid, justifying an additional risk premium.

Infrastructure

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 19902015, 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%. That would lead to 8.75% for Infrastructure investments. Infrastructure investments are less liquid, 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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