Asset Class Return Forecasts

Quarterly Update

Confidence must be earned

Amundi ASSET MANAGEMENT

Medium and Long-Term Return Forecasts | Q2 - 2022 *Finalised in April 2022*

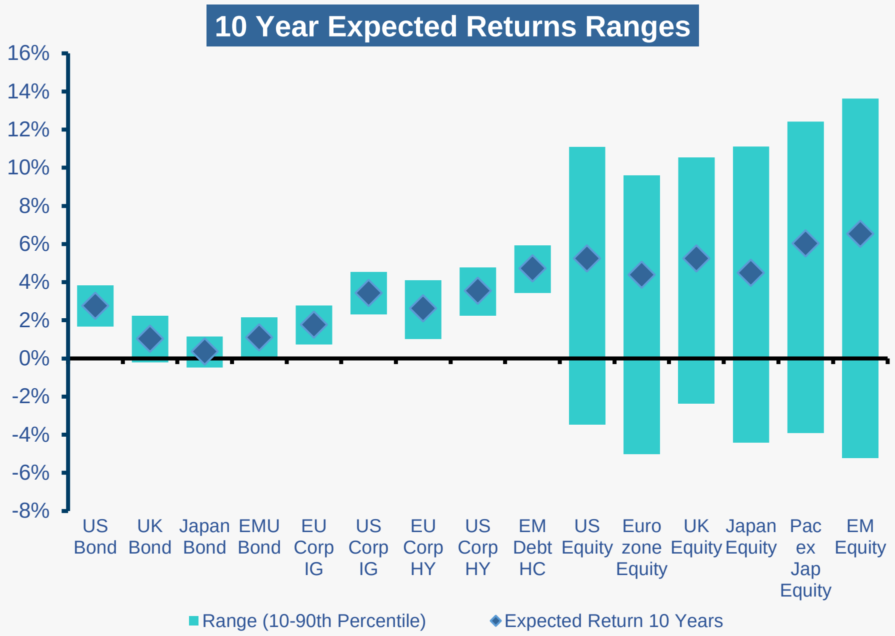
The continuing **surging inflation** due to the supply shocks and the Ukrainian conflict have dominated headlines compounding to the possible repercussions surrounding climate change, further affecting economic and financial indicators in the medium term and beyond. We had previously detailed the likely systemic shifts in the macro and market landscape resulting **from the transition towards a greener world**: increased inflation, yields and spread risks translating into increased long-term volatility across our investment universe, and dragging down both EPS and valuations. With the EU and US inflation (resp. 8% and 6% YoY) at a multi-decade high, authorities across the world are now compelled to risk recession in the medium term to regain control of the inflation narrative on all available fronts. As in the past, the Fed and BoE have been the most proactive sides in an attempt to regain credibility with normalization expected to be fully underway within the medium term. On the other hand, ECB has been willing to remain behind the curve awaiting for further developments to the Ukrainian conflict and the ongoing energy crisis.
Will the **Central Banks** succeed in threading the middle road between **the risk of persistently high inflation and the risk of recession**? During 2022Q1, Treasuries has realized the lowest returns since the infamous 70s and markets are bracing for an increasingly volatile market for at least the medium term. With a higher starting level, US bondholders can hold to the silver lining of higher carry returns in the medium term and beyond, while EU counterparts will likely have to endure lower total returns resulting from the lower rates and delayed normalization. As a consequence of the transition and the current backdrop, the situation for credit spreads will likewise deteriorate in the medium term before stabilizing. Tighter financing conditions and aftershocks of structural shifts in the energy sector will most likely result in higher default rates and wider rates across the spectrum. In such situations, high-yield corporate bonds are likely to undergo significant widening with consequent higher volatility and uncertainty.
Continuing supply-side and material constraints together with higher borrowing rates will put all equities under severe constraints. Medium-term focus will be on the reshuffling of innovative, profitable companies with higher prospective growth able to absorb the impending fiscal push in defence and energy sectors versus weaker and non-productive names, ultimately resulting in higher volatility and lower expected returns with respect to figures not incorporating climate change.

In the table below we present the simulated forward-looking statistics over the 10-year horizon (expected returns, volatility, and CVaR) compared with historical statistics calculated on 20-year sample. Here CVaR and max drawdown represent the expected and historical shortfall respectively.

Assets in local currency	10 yr Simulated Expected Returns	10 yr Simulated Volatility	10 yr Simulated CVaR 95%	2000-2020 Historical Returns (annualised)	2000-2020 Volatility (annualised)	2000-2020 Max Drawdown
Government Bonds						
US Bond	2.8%	5.2%	8.7%	3.8%	4.7%	9.5%
UK Bond	1.0%	7.0%	13.1%	4.8%	6.3%	13.5%
Japan Bond	0.4%	3.5%	7.2%	1.5%	2.1%	5.3%
EMU Bond All Maturity	1.1%	4.5%	8.1%	4.1%	4.1%	8.5%
Credit Investment Grade						
Euro Corporate IG	1.8%	4.2%	7.0%	3.8%	3.7%	7.2%
US Corporate IG	3.4%	5.8%	8.1%	5.1%	5.7%	16.1%
Credit High Yield & EMBI						
Euro Corporate HY	2.6%	12.0%	28.6%	7.3%	10.2%	37.7%
US Corporate HY	3.6%	10.4%	23.2%	7.3%	9.1%	33.2%
EM Hard Currency Debt*	4.7%	8.2%	18.9%	7.1%	8.7%	21.8%
Equities						
US Equity	5.2%	16.1%	39.8%	8.7%	14.9%	51.1%
Euro zone Equity	4.4%	19.6%	45.7%	3.8%	17.5%	56.2%
UK Equity	5.2%	15.3%	34.7%	5.4%	13.7%	40.3%
Japan Equity	4.5%	20.2%	42.1%	4.7%	17.4%	57.4%
Pacific ex-Japan Equity	6.0%	13.4%	39.9%	7.6%	13.5%	49.6%
Emerging Markets Equity	6.5%	16.1%	46.4%	9.2%	16.1%	51.9%
Real and Alternatives *						
EU Real Estate	5.3%	10.6%	24.3%	7.9%	3.2%	10.7%
EU Private Equity	7.6%	26.2%	55.9%	7.2%	26.0%	77.1%
US Real Estate	5.4%	11.4%	26.2%	8.6%	4.7%	23.9%
US Private Equity	8.9%	28.0%	67.9%	6.2%	28.7%	77.3%
Global Infrastructure	6.6%	13.2%	28.0%	14.2%	11.8%	13.8%
Global Private Debt (Direct Lending)	5.1%	9.6%	20.7%	na	na	na

*Historical figures on real and alternatives calculated on a quarterly sample, raw data. Our models refer to un-smoothed data if necessary.
Source: Amundi Asset Management CASM Model, Amundi Asset Management Quant Solutions and Amundi Institute Teams, Bloomberg. Data as of 22 April 2022. Macro figures as of last release. Starting date is 31 March 2022. Figures shown are in local currency. Returns on credit asset are comprehensive of default losses. Regarding real assets, the table represents the modelling of core (moderate risk) real estate and direct lending on the private debt side. **The expected returns do not consider the potential alpha, generated by portfolio management that can be significant above all for real and alternative assets.**
Forecasts for annualised returns are based upon estimates and reflect subjective judgments and assumptions. These results were achieved by means of a mathematical formula and do not reflect the effect of unforeseen economic and market factors on decision making. **The forecast returns are not necessarily indicative of future performance, which could differ substantially.**

Asset Class Return Forecasts



In the chart, we represent the ranges for the expected returns where we excluded the tail scenarios.

Fixed income assets are centred on **normalized positive average returns:** low carry and/or high duration implies negative returns in the left side of the distribution for government assets. Credit returns are supported by the **spread component** even if enlarging the uncertainly for the low quality ranges.

On the equity side, the upside potential is double digits for most of the asset classes, but **left tail extends into the negative returns as the time can only partially diversify equity risk**.

Expected returns are calculated on Amundi central scenario assumptions, which include climate transition.

For more detailed info: Keeping Up with Climate Change

Government yields have recently increased across the universe. As a result, fixed income assets could deliver **higher** returns than what we registered previously, as significant upside adjustments on yields have been already factor in. **Differences** between **medium-term** (5-yr) and longer-term (10-yr) expectations have become **more pronounced**, with the longer term horizon benefiting the most from the higher carry.

On credit, the normalisation of **tight valuations will primarily drag down medium-term returns**.

Mixed signals on equity, where improved valuations are cancelled by the **worsening** of the current macro and financial **backdrop** and the **cost of the transition** that will weight from medium to long term.

Source: Amundi Asset Management CASM Model, Amundi Asset Management Quant Solutions and Amundi Institute Teams, Bloomberg. Data as of 22 April 2022. Macro figures as of last release. Starting date is 31 March 2022. Figures shown are in local currency. Returns on credit asset are comprehensive of default losses. Regarding real assets, the table represents the modelling of core (moderate risk) real estate and direct lending on the private debt side. **The expected returns do not consider the potential alpha, generated by portfolio management that can be significant above all for real and alternative assets.**
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Asset Class Return Forecasts

In the following table, we present our annualised return forecasts across different asset classes, calculated as the average of simulated returns, on different forward-looking horizons (at 5 and 10 years). We also report historical figures for annualised returns and volatility calculated on the last 20 years, a sample including the two big crises (GFC and Covid -19).

			Average Annualised Expected Returns		2002-2022 Historical Returns (annualised)	2002-2022 Volatility (annualised)
Assets in local currency	**Reference Index**	**Duration**	**5 year Expected Returns**	**10 year Expected Returns**		
Cash						
Euro Cash	JPCAEU3M Index	**0.3**	**0.4%**	**0.6%**	1.4%	0.5%
US Cash	JPCAUS3M Index	**0.2**	**2.4%**	**2.6%**	1.8%	0.5%
Government Bonds						
US Bond	JPMTUS Index	**6.6**	**2.1%**	**2.8%**	3.8%	4.7%
UK Bond	JPMTUK Index	**12.1**	**0.4%**	**1.0%**	4.8%	6.3%
Japan Bond	JPMTJPN Index	**10.2**	**0.7%**	**0.4%**	1.5%	2.1%
Emu Bond - Core	JPMTWG index	**7.8**	**-0.3%**	**0.5%**	3.7%	4.1%
Emu Bond - Semi Core -France	JPMTFR Index	**8.4**	**0.3%**	**1.0%**	4.0%	4.4%
Italy Bond	JPMTIT index	**7.0**	**1.4%**	**1.6%**	4.7%	5.8%
Spain Bond	JPMTSP Index	**7.5**	**1.0%**	**1.4%**	4.5%	5.3%
EMU Bond All Maturity	JPMGEMUI Index	**7.8**	**0.5%**	**1.1%**	4.1%	4.1%
Barclays Global Treasury	BTSYTRUU Index	**8.1**	**1.1%**	**1.4%**	4.1%	6.5%
Credit Investment Grade						
Euro Corporate IG	ER00 index	**5.3**	**1.5%**	**1.8%**	3.8%	3.7%
US Corporate IG	C0A0 index	**7.1**	**2.6%**	**3.4%**	5.1%	5.7%
Barclays Euro Aggregate	LBEATREU Index	**7.0**	**0.7%**	**1.2%**	3.8%	3.5%
Barclays US Aggregate	LBUSTRUU Index	**6.0**	**2.3%**	**3.0%**	4.0%	3.5%
Barclays Global Aggregate	LEGATRUU Index	**7.1**	**1.5%**	**2.0%**	4.1%	5.5%
Credit High Yield						
Euro Corporate HY	HE00 index	**3.8**	**2.0%**	**2.6%**	7.3%	10.2%
US Corporate HY	H0A0 index	**4.0**	**2.5%**	**3.6%**	7.3%	9.1%
Emerging Market Debt						
EM Hard Currency Debt*	JPEIDIVR Index	**7.4**	**4.5%**	**4.7%**	7.1%	8.7%
GBI-EM China LOC	JGENCNTL Index	**5.4**	**2.5%**	**3.3%**	na	na
Convertible Bond						
Europe Index (Eur Hedged)	UCBIFX20 Index		**3.2%**	**3.0%**	4.1%	8.8%
Equities						
US Equity	NDDLUS Index		**5.2%**	**5.2%**	8.7%	14.9%
Europe Equity	NDDLE15 index		**6.0%**	**4.7%**	4.9%	14.8%
Euro zone Equity	NDDLEMU Index		**5.6%**	**4.4%**	3.8%	17.5%
UK Equity	NDDLUK Index		**6.7%**	**5.2%**	5.4%	13.7%
Japan Equity	NDDLJN Index		**5.0%**	**4.5%**	4.7%	17.4%
Pacific ex-Japan Equity	NDDLPXJ Index		**6.0%**	**6.0%**	7.6%	13.5%
Emerging Markets Equity	NDLEEGF index		**7.4%**	**6.5%**	9.2%	16.1%
China Equity	NDELCHF Index		**5.7%**	**6.2%**	10.4%	24.2%
World Equity	NDDLWI index		**5.3%**	**5.1%**	7.2%	14.0%
AC World Equity	NDLEACWF Index		**5.5%**	**5.3%**	7.2%	13.9%

* Hard Currency USD, China Bond starting date is beginning of 2019.

Source: Amundi Asset Management CASM Model, Amundi Asset Management Quant Solutions and Amundi Institute Teams, Bloomberg. Data as of 22 April 2022. Macro figures as of last release. Starting date is 31 March 2022. Equity returns based on MSCI indices. Reference duration are average figures. Local Currency. Returns on credit asset are comprehensive of default losses**. Expected returns are calculated on Amundi central scenario assumptions, which include climate transition.**

Forecast and fair values up to 3-year horizon provided by Research team (macro, yields, spread and equity). Forecasts for annualised returns are based upon estimates and reflect subjective judgments and assumptions. These results were achieved by means of a mathematical formula and do not reflect the effect of unforeseen economic and market factors on decision making.

The forecast returns are not necessarily indicative of future performance, which could differ substantially.

Cascade Asset Simulation Model (CASM)

This medium- and long-term return forecast report is intended to provide **some guidance for investor expectations**. The **time horizon** under consideration is **10 years**, a timeframe deemed to be appropriate and during which long-term trend factors and issues can reasonably be expected to play out, and therefore, market returns should accurately reflect this information. We use a **Monte Carlo methodology** in order to generate possible changes in different risk factors for the time horizon considered, representing the future states of these factors under objective measures. The model is then used to price the instruments in line with these factor scenarios.

In order to determine possible interest rate scenarios, we analysed the changes in the major economic **DM regions, China and EM aggregate**. We used **a cascade-style modelling** technique to simulate the different term structures, using risk factors such as the GDP cycle, inflation, real rates, debt pattern and CB guidance for each of the economic regions in question.

Moving into spread-related assets (EM bonds and corporate bonds), we focused on implied volatility, quality, default and recovery rates, together with economic cycles, yields, commodity prices, EPS and private investments (both specific for credit spreads), to estimate a forward-looking path for EM bonds (hard currency), EU corporate (IG and HY) and US corporate (IG and HY).

Our framework on equity focuses on earnings growth, economic growth variables, interest rate and inflation, as determinants of capital gains and dividend yields, to represent the income effect. EPS forecast are derived considering both top and bottom line, so including the cost side of the equation.

Our medium/long-term model, known as CASM, is **updated on a quarterly basi**s to incorporate new starting points, the change in our short-term outlook and medium term expectations along with long-term trends, the significance of which is verified on an annual basis. **Amundi assumptions include our central scenario on climate transition which impacts expected returns via macro and financial variables**.

Our CASM model focuses on key factors, which drive this change over the medium to long-term; the **resulting forecasts look at the comparison between current and medium to long-term readings for the key factors included in the model**.

Note that these are simulated figures only and may not represent actual asset class returns. Actual returns are based on many factors, and may vary substantially from modelled ones.

Important information

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