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Amundi
ASSET MANAGEMENT

Asset Class Return Forecasts

Quarterly Update

Medium and Long-Term Return Forecasts | Q4 - 2021

Finalised in October 2021

As we enter the tail end of the Covid-19 recovery boost, authorities in developed markets are seeking to implement fiscal packages of varying degrees to control the eventual economic cool down. Much of the narrative has now shifted to the surging inflation worldwide, where over the past months the theme has evolved from “transitory” to “persistent” indicating possible signs of the global economy overheating. The drivers behind the surge are locked in a vicious self-feeding cycle: supply disruptions, release of pent-up global demand, all the more amplified by a significant rise in energy and food price with the impending cold weather season. As the phenomenon is of a global nature, the ball now lays in the court of the various monetary authorities, as they juggle the interplay between waning economic growth and possible run-away inflation.

The question of when to initiate rate hikes is undoubtedly on the minds of the CBs, as we see each taking different approaches to such conundrum. The most hawkish tone continues to be that of BoE despite its most recent communications, indicating a possible initial rate hike in the short term followed by further raises up to 2023 in an attempt to spread the pain proactively staving off any possibility of inflation running amok. All eyes are next set on possible actions to be undertaken by Fed having just announced the gradual scaling back of its asset purchase program, with latest indications pointing to patience while maintaining a watchful eye on inflation and labor market. On the opposite spectrum, lies ECB and BoJ, with rate hikes pushed off to the medium term given the historically subdued inflation dynamics and lingering uncertainties regarding the respective economies. The yield curve is expected to follow suit, resulting in a steeper normalization path for US and UK in contrast to steadier rates for the Japan and EU. For the time being, we continue to expect steady credit spreads in the short to medium term, as the phasing out of the various asset purchase programs is to be countered by the fiscal packages to come online and some normalization afterwards. Equity expected returns are confirmed almost stable in the medium to long term horizon. Even if equity price implies high valuation in absolute term, they have been mitigated by the recent sell-off. Equity valuations continue to be less stretched if compared with the fixed income assets.

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	1.5%	3.9%	6.3%	4.3%	4.7%	6.5%
UK Bond	0.5%	6.0%	10.7%	5.4%	6.1%	8.6%
Japan Bond	0.3%	3.6%	7.6%	1.6%	2.1%	4.8%
EMU Bond All Maturity	0.2%	4.2%	7.7%	4.6%	4.0%	5.8%
Credit Investment Grade						
Euro Corporate IG	0.6%	3.1%	5.2%	4.3%	3.6%	7.2%
US Corporate IG	2.4%	5.3%	7.8%	5.8%	5.7%	16.1%
Credit High Yield & EMBI						
Euro Corporate HY	1.8%	8.9%	22.3%	7.2%	11.0%	37.7%
US Corporate HY	3.2%	9.2%	20.8%	7.6%	9.3%	33.2%
EM Hard Currency Debt*	4.6%	10.4%	28.7%	8.1%	8.6%	21.8%
Equities						
US Equity	6.3%	16.9%	39.0%	8.1%	14.9%	51.1%
Euro zone Equity	6.5%	20.2%	47.9%	3.5%	17.9%	56.2%
UK Equity	6.7%	15.5%	32.9%	4.7%	13.8%	40.3%
Japan Equity	5.6%	20.0%	40.8%	3.6%	17.7%	57.4%
Pacific ex-Japan Equity	7.0%	14.2%	44.3%	7.6%	13.9%	49.6%
Emerging Markets Equity	7.6%	19.0%	49.9%	10.8%	16.7%	51.9%
Real and Alternatives*						
EU Real Estate	5.0%	9.6%	21.8%	7.7%	3.1%	10.7%
EU Private Equity	8.5%	25.8%	60.8%	6.3%	26.7%	77.1%
US Real Estate	6.1%	11.4%	25.8%	8.2%	4.6%	23.9%
US Private Equity	8.8%	28.7%	67.5%	5.3%	29.8%	77.3%
Global Infrastructure	6.2%	11.5%	21.6%	14.3%	11.8%	13.8%
Global Private Debt (Direct Lending)	4.9%	9.7%	23.2%	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 Research Teams, Bloomberg. Data as of 25 October 2021. Macro figures as of last release. Data updated as of 30 September 2021. 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.**

1 For professional investors only.

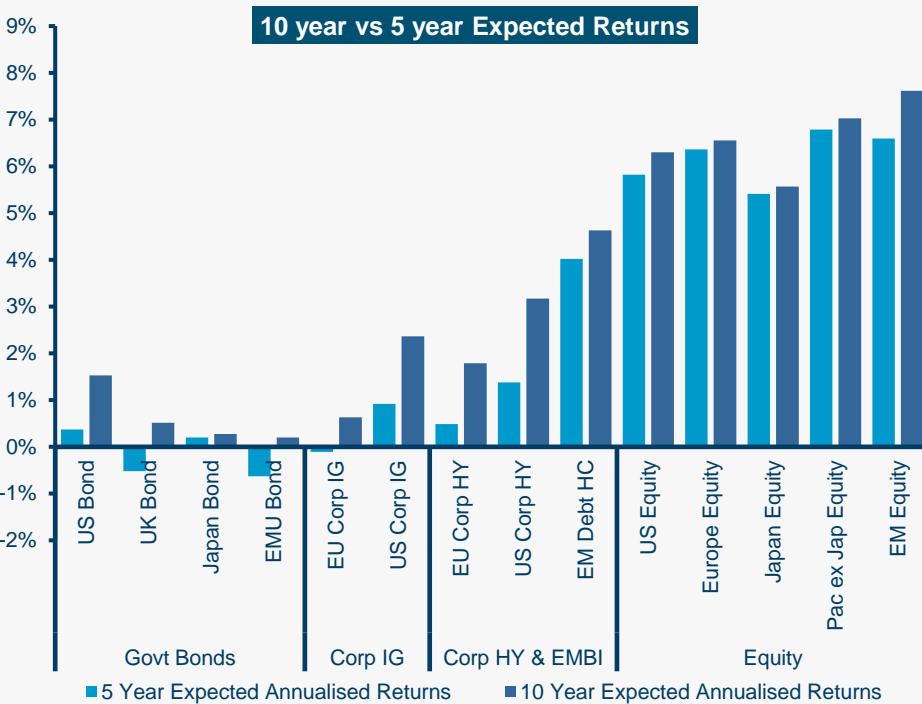
Asset Class Return Forecasts



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

Fixed income assets are centred on **low 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.

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**.



Looking at fixed income assets, **differences between medium term (5 yr) and longer term (10 yr) expectations** became more **pronounced**, with the medium term expected returns depressed by **the curve shift**, while 10 yr returns benefiting for **the higher carry**.

On credit we also factor in a **downward trend in default rates**, almost offset on the negative side by the lower carry (spreads and yield). **The normalization of the tight valuations will weight on medium term returns**.

Improving valuations for equity across the universe and moving to a **long-term perspective**, as an evolution towards a more **neutral stance** is predominant.

Over the long-term, we confirm the low trend observed for all macro and financial variables. Despite some temporary pick-up, we are outlining a convergence to a weak growth potential, slightly lower when compared to the past, while inflation is more sustained but remaining under control around central bank targets.

Source: Amundi Asset Management CASM Model, Amundi Asset Management Quant Solutions and Research Teams, Bloomberg. Data as of 25 October 2021. Macro figures as of last release. **Data updated as of 30 September 2021.** Equity returns based on MSCI indices. Reference duration are average figures. Local Currency. Returns on credit asset are comprehensive of default losses.

Forecast and fair values up to 3 years 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.

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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).

Assets in local currency	Reference Index	Duration	Average Annualised Expected Returns		2001-2021 Historical Returns (annualised)	2001-2021 Volatility (annualised)
			5 year Expected Returns	10 year Expected Returns		
Cash						
Euro Cash	JPCAUEU3M index	0.3	-0.4%	0.1%	1.5%	0.5%
US Cash	JPCAUS3M index	0.2	0.9%	1.7%	1.9%	0.5%
Government Bonds						
US Bond	JPMTUS Index	6.6	0.4%	1.5%	4.3%	4.7%
UK Bond	JPMTUK Index	11.9	-0.5%	0.5%	5.4%	6.1%
Japan Bond	JPMTJP index	10.1	0.2%	0.3%	1.6%	2.1%
Emu Bond - Core	JPMTWG index	7.8	-1.3%	-0.4%	4.1%	4.0%
Emu Bond - Semi Core (France)	JPMTFR index	8.3	-0.7%	0.1%	4.4%	4.3%
Italy Bond	JPMTIT index	7.0	-0.2%	0.7%	5.2%	5.8%
Spain Bond	JPMTSP index	7.4	-0.4%	0.5%	5.0%	5.2%
EMU Bond All Maturity	JPMGEMUI Index	7.7	-0.6%	0.2%	4.6%	4.0%
Barclays Global Treasury	BTSYTRUU Index	8.1	0.2%	0.9%	4.6%	6.5%
Credit Investment Grade						
Euro Corporate IG	ER00 index	5.2	-0.1%	0.6%	4.3%	3.6%
US Corporate IG	C0A0 index	7.1	0.9%	2.4%	5.8%	5.7%
Barclays Euro Aggregate	LBEATREU Index	6.9	-0.5%	0.3%	4.3%	3.4%
Barclays US Aggregate	LBUSTRUU Index	5.9	0.6%	1.9%	4.6%	3.4%
Barclays Global Aggregate	LEGATRUU Index	7.0	0.4%	1.4%	4.7%	5.5%
Credit High Yield						
Euro Corporate HY	HE00 index	3.6	0.5%	1.8%	7.2%	11.0%
US Corporate HY	H0A0 index	4.0	1.4%	3.2%	7.6%	9.3%
Emerging Market Debt						
EM Hard Currency Debt*	JPGCCOMP Index	6.9	4.0%	4.6%	8.1%	8.6%
EM-Global Diversified**	JGENVUUG Index	5.2	5.2%	5.6%	6.3%	11.8%
Convertible Bond						
Europe Index (Eur Hedged)	UCBIFX20 Index		2.3%	3.1%	4.7%	8.7%
Equities						
US Equity	NDDLUS Index		5.8%	6.3%	8.1%	14.9%
Europe Equity	NDDLE15 index		6.4%	6.6%	4.5%	15.1%
Euro zone Equity	NDDLEMU Index		6.5%	6.5%	3.5%	17.9%
UK Equity	NDDLUK Index		6.0%	6.7%	4.7%	13.8%
Japan Equity	NDDLJN Index		5.4%	5.6%	3.6%	17.7%
Pacific ex-Japan Equity	NDDLXJ Index		6.8%	7.0%	7.6%	13.9%
Emerging Markets Equity	NDLEEGF index		6.6%	7.6%	10.8%	16.7%
World Equity	NDDLWI index		5.9%	6.3%	6.6%	14.2%
AC World Equity	NDLEACWF Index		6.0%	6.5%	6.8%	14.1%

EM sovereign index are EMBI Global Diversified and EM-GBI Global diversified: * Hard Currency USD, ** USD Unhedged, including the USD currency expectation towards EM currencies. EM Local starting date is 31/12/2002.

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Forecast and fair values up to 3 years 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.

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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 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 and slope 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, 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 and price earnings, as a determinant of capital gains and dividend yields, to represent the income effect; these variables are analysed together with the macroeconomic pillars of the model (the economic and inflation cycle).

Our medium/long-term model, known as CASM, is updated on a quarterly basis 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.

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.

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Date of first use 05/11/2021

Document issued by Amundi Asset Management, "société par actions simplifiée" - SAS with a capital of €1,086,262,605 - Portfolio manager regulated by the AMF under number GP04000036 - Head office: 90 boulevard Pasteur - 75015 Paris - France - 437 574 452 RCS Paris - www.amundi.com

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