

Capital Market Assumptions

Themes at a glance | July 2025

Asset class returns forecasts

Improved growth/inflation mix: Our long-term model assumptions anticipate a fragmented and even more delayed energy transition, incorporating secular trends and uncertainties that impact price dynamics and volatility. Compared to last year, the growth/inflation outlook appears less penalised by a restrictive regulatory framework around the energy transition, but the uncertainty around inflation has increased. This heightened inflation uncertainty is likely to influence asset class behaviour, particularly increasing bond market volatility – our <u>annual</u> publication describes the macroeconomic outlook in more detail.

Update on valuations: Despite the heightened noise from the new era of tariffs and recent strong market movements, current market sentiment has shifted to a cautious 'wait and see' stance. There is unanimous agreement that uncertainty going forward has increased. Returns should be driven by moderate earnings growth alongside declining valuation multiples. Valuations have only marginally adjusted: the US has improved in relative terms, while Europe and Pacific ex-Japan have weakened, reducing the expected advantage over the US. Emerging markets' aggregate returns have shifted lower, with China being the primary driver. US government yields have converged downwards to our estimated equilibrium levels, implying lower expectations for the US fixed income return. Conversely, other core developed markets bond yields edged higher. Credit spreads remain expensive, reducing any potential gain generated by government yield movements.

Risk-return trade-off: The slope of the capital market line (CML) has decreased slightly due to lower expected returns for risky assets, remaining relatively flat compared to historical norms. Alternatives continue to be an attractive allocation option for generating higher returns, while fixed income remains a fundamental building block in multi-asset portfolios.

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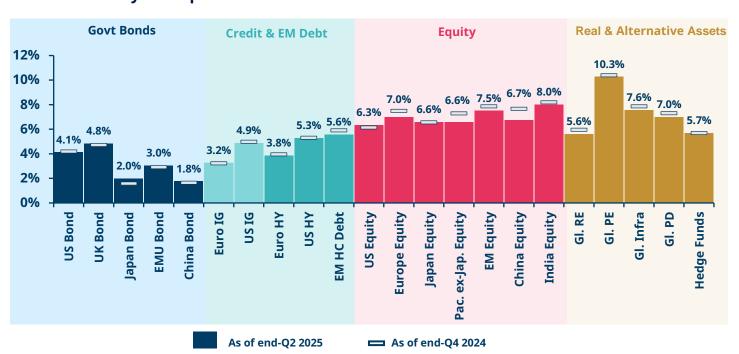
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FIGURE 1: Ten-year expected returns



Source: Amundi Asset Management CASM Model, Quant Solutions and Amundi Investment Institute teams. Full source on page 6.

Adding the risk dimension

Figure 2 shows the 5th and 95th percentile range for our simulated tenyear annualised geometric returns.

These returns measure the dispersion of expected outcomes around the distribution average – namely, our central scenario. The dispersion increases with the riskiness of the asset class. Equities (both public and private) top the list in terms of distribution width.

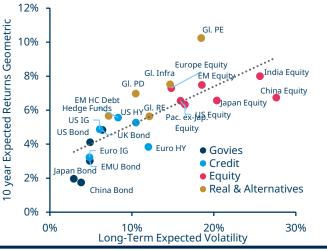
Bonds display a much narrower distribution due to their lower volatility and the carry component, which provides stability to the forward-looking return owing to the assumption of mean reversion.

FIGURE 2: Ten-year expected returns and their distributions



Source: Amundi Asset Management CASM Model, Quant Solutions and Amundi Investment Institute teams. Full source on page 6.

FIGURE 3: Risk-return landscape in local currency



Source: Amundi Asset Management CASM Model, Quant Solutions and Amundi Investment Institute teams. Full source on page 6.

UK and US bonds lead expected returns in the sovereign bond universe, where the UK bond index return is associated with higher duration. Japanese and Chinese bonds lag behind. High grade credit return forecasts confirm an average premium relative to government bonds, albeit compressed. Euro IG returns align with government bonds in the region due to tight corporate spreads and high sovereign government index risk. The appeal of high-yield credit is limited by high risks when compared to low excess returns.

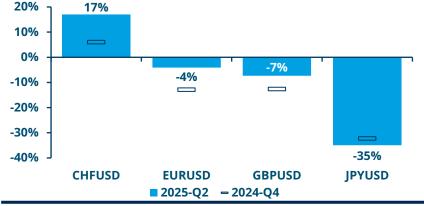
Equity expected returns over ten years are moderating to 6-8%, with Europe, India and EM aggregate at above 7%. Hedge funds continue to serve as effective portfolio diversifiers. Global private debt offers attractive riskadjusted returns, presenting a compelling alternative to liquid credit. Private equity is expected to deliver double-digit returns, though slower capital distributions pose challenges. Real estate expectations are tempered by the valuation component, particularly in US.

FX Valuations

Since December 2024, our long-term FX fair values have remained almost unchanged. Changes in expected FX returns are driven mainly by fluctuations in spot prices since our last update. The Swiss franc remains the most overvalued currency in the G10, while the Japanese yen is undervalued by more than 30%. The euro and the British pound show similar undervaluation, though less pronounced than in December.

Yet, it remains crucial to consider FX returns when evaluating foreign assets, as FX deviations can impact relative asset preferences.

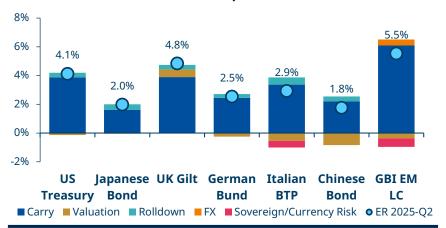
FIGURE 4: DM FX over-/under-valuation vs long-term fair value



Source: Amundi Asset Management CASM Model, Quant Solutions and Amundi Investment Institute teams. Full source on page 6.

Asset class return attribution

FIGURE 5: Government bonds expected returns attribution

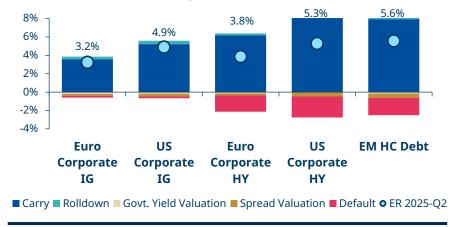


Source: Amundi Asset Management CASM Model, Quant Solutions and Amundi Investment Institute teams. Full source on page 6.

The outlook for government bonds is muted. However, the starting yields have changed: JGBs and Bunds attribution show valuations incrementally aligning with equilibrium levels as yields have risen by 20 to 40 bps. In peripheral euro markets, spreads have compensated for the increase in core rates, resulting in minor changes. In the United States, lower starting yields almost entirely offset the contribution coming from higher interest rates going forward. EM local currency bonds' expected returns are mainly driven by attractive carry, albeit dampened by slightly expensive valuations.

As spreads are almost unchanged, the muted revision in expectations for US credit bonds primarily stems from a combination of less favourable valuations in government yields and higher rolldown and carry going forward. We do not foresee any change in the expectations for Euro corporates, as assumptions are confirmed. The most substantial change occurred in emerging markets hard currency (EM HC) debt, where expected returns decreased by approximately 40 bps, driven by lower base yields not compensated by other components. This asset class still tops the spread-related asset space with returns above 5.5%.

FIGURE 6: Credit bonds expected returns attribution



Source: Amundi Asset Management CASM Model, Quant Solutions and Amundi Investment Institute teams. Full source on page 6.

FIGURE 7: Equity expected returns attribution



Source: Amundi Asset Management CASM Model, Quant Solutions and Amundi Investment Institute teams. Full source on page 6.

Equity returns have been generally revised down following a worsening of the valuations gap amid the strong rally seen since the beginning of the year. In China, EM, Pacific ex-Japan and Europe, less appealing valuations were partially compensated by slightly higher EPS growth expectations. US equity returns expectations marginally increased as the negative valuation component trimmed. For Japan and India, changes are negligible. The latter still represents the most attractive EM market from a return perspective. Within the DM space, the Europe aggregate tops with expected returns at 7%.

Fixed income asset expected return is broken down into: Carry: proxied by the par government or credit yield; Rolldown, the effect on bond price generated by the passage of time; Valuation: the effect on bond prices generated by government yields and spread moving; Default: assumption on the loss from a credit event. Others can include residual factors due to non-linear components and simulation effects. Sovereign/Currency Risk: impact for being exposed to sovereign and currency risk; FX: performance associated with the FX exposure versus the USD. Equity asset expected return is broken down into: Dividend Yield; EPS Growth: includes net dilution (provision for share repurchase programmes and the effect of new share issuance); and Valuations: the effect of price multiples converging to equilibrium.

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 over different forward-looking horizons (five- and ten-years). We also report historical figures for annualised returns and volatility, calculated over the past 20 years – a period that includes two major crises (the GFC and Covid-19).

	Reference Index	Duration Average next 10 years	Average Annualised GEOMETRIC		Average Annualised ARITHMETIC	10-year SIMULATED		2005-2025 Historical Returns	2005-2025 Historical Volatility
Assets in local currency									
			5-year Expected Returns	10-year Expected Returns	10-year Expected Returns	Volatility	CVaR 99%	(annualised)	(annualised)
Cash									
Euro Cash	JPCAEU3M Index	0.2	1.7%	2.0%	2.0%	1.0%	1.5%	1.4%	0.9%
US Cash	JPCAUS3M Index	0.2	3.3%	3.2%	3.2%	0.8%	0.5%	2.2%	1.0%
Government Bonds									
US Bond	JPMTUS Index	5.6	4.2%	4.1%	4.2%	4.9%	10.1%	2.7%	5.5%
UK Bond	JPMTUK Index	8.9	5.7%	4.8%	5.0%	6.4%	14.1%	2.7%	7.8%
Japan Bond	JPMTJPN Index	8.7	2.1%	2.0%	2.0%	2.9%	6.3%	0.8%	2.8%
Emu Bond - Core	JPMTWG index	6.8	2.4%	2.5%	2.6%	4.5%	9.8%	1.9%	5.1%
Emu Bond - Semi Core (France)	JPMTEUFR Index	6.9	3.3%	3.3%	3.4%	4.7%	9.5%	2.2%	5.4%
Italy Bond	JPMTIT index	6.0	2.5%	2.9%	3.2%	6.9%	14.0%	3.4%	6.7%
Spain Bond	JPMTSP Index	6.5	3.0%	3.2%	3.3%	6.4%	13.4%	3.0%	5.8%
EMU Bond All Maturity	JPMGEMUI Index	6.6	2.9%	3.0%	3.1%	4.9%	10.0%	2.4%	5.2%
Barclays Global Treasury	BTSYTRUH Index	6.4	3.2%	3.3%	3.3%	3.6%	7.0%	3.1%	3.9%
Credit Investment Grade									
Euro Corporate IG	ER00 index	4.5	2.8%	3.2%	3.3%	4.8%	7.8%	2.7%	4.6%
US Corporate IG	C0A0 index	6.3	4.6%	4.9%	5.0%	6.1%	10.8%	4.1%	6.6%
Barclays Euro Aggregate	LBEATREU Index	6.2	2.9%	3.1%	3.2%	4.5%	9.0%	2.4%	4.6%
Barclays US Aggregate	LBUSTRUU Index	5.9	4.3%	4.4%	4.5%	4.5%	8.9%	3.1%	4.5%
Barclays Global Aggregate	LEGATRUH Index	6.2	3.7%	3.7%	3.8%	3.8%	7.2%	3.3%	3.7%
Credit High Yield									
Euro Corporate HY	HE00 index	2.8	3.0%	3.8%	4.5%	12.0%	20.6%	5.9%	12.7%
US Corporate HY	H0A0 index	2.8	4.4%	5.3%	5.7%	10.5%	18.0%	6.5%	10.4%
Emerging Market Debt									
EM Hard Currency Debt*	JPEIDIVR Index	6.2	4.9%	5.6%	5.8%	8.3%	18.8%	5.5%	9.1%
EM-Global Diversified**	JGENVUUG Index	5.3	5.7%	5.5%	6.1%	10.6%	22.8%	4.0%	11.7%
GBI-EM China LOC	JGENCNTL Index	5.8	0.9%	1.8%	1.9%	3.8%	8.0%	na	na
GBI-EM India LOC	JGENINTL index	6.5	6.5%	6.5%	6.7%	6.2%	10.1%	na	na
Convertible Bond	,								
Europe Index (Eur Hedged)	UCBIFX20 Index		4.7%	5.1%	5.6%	11.1%	22.4%	4.3%	10.2%
Equities									
US Equity	NDDLUS Index		6.9%	6.3%	7.4%	16.5%	40.4%	10.2%	16.2%
Europe Equity	NDDLE15 index		7.7%	7.0%	8.2%	17.9%	41.9%	6.2%	15.0%
Euro zone Equity	NDDLEMU Index		7.4%	6.7%	8.3%	19.7%	45.4%	5.8%	17.9%
UK Equity	NDDLUKIndex		8.2%	7.3%	8.1%	14.8%	34.7%	6.5%	13.4%
Japan Equity	NDDLJN Index		7.7%	6.6%	8.3%	20.4%	44.7%	6.5%	19.7%
Pacific ex Japan Equity	NDDLPX Index		7.8%	6.6%	7.5%	15.9%	35.6%	7.1%	15.2%
Emerging Markets Equity	NDLEEGFindex		9.9%	7.5%	8.8%	18.5%	39.4%	8.1%	16.8%
China Equity	NDELCHF Index		7.9%	6.7%	9.9%	27.6%	53.9%	8.0%	25.6%
India Equity	NDELSIA index		9.2%	8.0%	10.9%	25.6%	60.4%	13.7%	22.8%
EM ex China Equity	M1CXBRV Index		9.2% 8.5%	7.8%	8.9%	17.4%	41.1%	6.6%	22.8%
World Equity	NDDLWI index		7.1%	6.5%	7.6%	16.3%	39.9%	8.6%	15.4%
AC World Equity	NDLEACWFIndex		7.1%	6.7%	7.7%	16.2%	39.4%	8.4%	15.4%
Real and Alternative assets***	NDELACMETHICEX		7.470	0.770	7.770	10.270	37.470	0.470	13,270
Global Real Estate				E 60/	6.30/	12.40/	41.50/		
				5.6%	6.3%	12.1%	41.6%		
Global Private Equity				10.3%	11.4%	18.4%	47.3%		
Global Infrastructure				7.6%	8.4%	14.7%	35.4%		
Global Private Debt				7.0%	7.4%	10.5%	31.2%		
Hedge Funds				5.7%	5.8%	7.2%	19.2%		

^{*} Hard currency USD, China bond starting date is the beginning of 2019. ** USD unhedged, including the USD currency expectation towards EM currencies. ***Historical figures on real and alternatives are not available, as our models refer to un-smoothed data if necessary.

Source: Amundi Asset Management CASM Model, Quant Solutions and Amundi Investment Institute teams. Full source on page 6.

Cascade Asset Simulation Model (CASM)

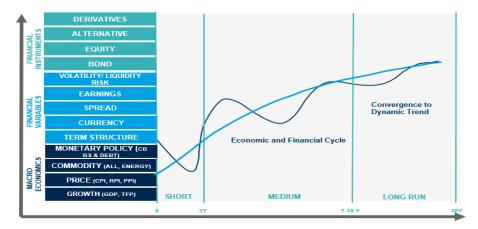
The medium- to long-term return forecast report is intended to guide investor expectations. The ten-year time-horizon is deemed to be appropriate for long-term trend factors to reasonably play out, and therefore for market returns to reflect this information accurately.

Cascade Asset Simulation Model (CASM) is a platform developed by Amundi in collaboration with Cambridge University. CASM combines our short-term macro-financial outlook with medium-term dynamics, extending into a long-term equilibrium. It aims to simulate forward-looking returns for different asset classes over multiple horizons.

CASM generates asset price scenarios and the underlying economic and financial factors that determine Amundi's expected returns over preferred time horizons. It is a valuable tool for strategic asset allocation and asset-liability management analysis. We estimate model parameters regularly to incorporate new market data and updates to our short-term outlook. The calibration process, which ensures that the models reflect our view of economic and financial market trends, is a collaborative process between several teams at Amundi.

We reach a consensus for the short- to medium-term outlooks for macro and financial variables for each region under consideration (the United States, Eurozone Core and Periphery, UK, Japan, China, India and EM). The models are calibrated to align with these outlooks and long-run estimates. At each stage of the process, results are analysed against stylised facts and checked for consistency.

Asset class returns are generated using Monte Carlo simulation. The stochastic generation of risk factors and price scenarios allows us to analyse a wide range of possible outcomes and check the uncertainty surrounding them. We can adjust the starting assumptions and observe the impact on possible future asset prices. The CASM platform covers macro and financial variables for major regions, namely the US, the United Kingdom, the Eurozone, Japan, China, India and Emerging Markets as an aggregate.



The CASM architecture can be described along two dimensions. The first dimension is a 'cascade' of models: asset and liability price models are composed of market risk factor models, which in turn are built from macroeconomic models. Initially proposed by Wilkie (1984) and further developed by Dempster et al. (2009), this cascade structure underpins the platform's ability to model linear and non-linear relationships between risk factors, asset prices, and financial instruments.

The second dimension represents the future evolution of the 'cascade' structure. This formulation allows us to simulate asset price scenarios that are consistent with the underlying risk factor models.

In the short-term, CASM blends econometric models and the quantitative short-term outlooks provided by Amundi analysts. In the long-term, we assume that market variables move towards dynamic long-term levels. The short-term projections evolve into this long-run state through the medium-term dynamic, which are driven by business cycle variables.

Sources of CMA: Amundi Asset Management CASM Model, Amundi Asset Management Quant Solutions and Amundi Investment Institute Teams. Macro figures as of the last release. The starting simulation date is 30 June 2025. Equity returns based on MSCI indices. Reference durations are average figures. Returns on credit assets are comprehensive of default losses. If not otherwise specified, expected returns are geometric annualised average total returns at the specific horizon. EM debt HC, EM-GBI, global infrastructure and hedge funds are in USD, all other indices are in local currency. Returns are nominal and gross of fees, except private equity which are net of single manager fees. Real estate refers to all property unlevered real estate. Hedge fund returns represent the expectations for a diversified aggregate of Funds of Hedged Funds are gross of Fund of Funds fees. The expected returns consider the market beta and the alternative assets risk premium. The alpha return component generated by portfolio management, strategy selection or specific value creation programs, which can be significant above all for real and alternative assets, is not considered in any form. The arithmetic average returns are derived using the price generated by our simulation engine. By definition, the arithmetic mean is always greater than or equal to the geometric mean. In particular, higher volatility of returns and higher frequency of returns and/or a longer time horizon will increase the difference between the two measures. Simulated volatilities are calculated on simulated prices over a 10-year horizon. Simulated volatility for alternative assets is derived from unsmoothed return series. Hence, this measure of volatility will be different from the one obtained from realised IRR. Expected returns are calculated using Amundi central scenario assumptions, which include climate transition. Forecast and fair values up to a 3-year horizon are provided by the Amundi Investment Institute 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. Data sources: Bloomberg, Cambridge Associates, Global Financial Data. Edhec Infra, MSCI and MSCI Burgiss.



Trust must be earned

Amundi Investment Institute

In an increasingly complex and changing world, investors need to better understand their environment and the evolution of investment practices in order to define their asset allocation and help construct their portfolios.

This environment spans economic, financial, geopolitical, societal and environmental dimensions. To help meet this need, Amundi has created the Amundi Investment Institute. This independent research platform brings together Amundi's research, market strategy, investment themes and asset allocation advisory activities under one umbrella; the Amundi Investment Institute. Its aim is to produce and disseminate research and Thought Leadership publications which anticipate and innovate for the benefit of investment teams and clients alike.



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