10-year Expected Returns

Towards a reordering of asset class profiles

Annual edition 2024

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Amundi
ASSET MANAGEMENT

A disorderly transition with winners and losers

Climate change, the energy transition and geopolitics will likely drive countries towards different growth paths. New winners may emerge, while central banks will have to manage a delicate equilibrium, maintaining price stability and affordable debt servicing costs to finance the transition.

MONICA DEFEND
HEAD OF AMUNDI
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Towards a reordering of asset class profiles over the next decade

The next decade should see a change in the relative attractiveness of different asset classes. Bonds are the anchor for investors and their renewed appeal extends to Emerging Markets. EM equities should be favoured, in particular India. European equities should also regain some appeal.

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Time to revisit strategic asset allocation and broaden diversification

A turning point in central bank policy, future valuation resets in Developed Market equities and fragmented growth in Emerging Markets could offer opportunities for rethinking strategic asset allocation and enhancing diversification with real and alternative assets.

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KEY INSIGHTS

Key highlights on scenarios and return forecasts for the next decade

Climate delays, Artificial Intelligence gains and valuations will drive a reordering of asset class profiles

Delays in climate policy, rising geopolitical tension and the adoption of Artificial Intelligence (AI) are reshaping the long-term economic pathway. The evolution of these trends and the impact of high valuations in some areas will determine future expected returns. Bonds as a portfolio engine are back, while equity will see a reversal with the renewed appeal of global and Emerging Market equities. Emerging Market bonds, Hedge Funds and Private Debt will also become more attractive thanks to their diversification benefits.

1

A disorderly transition, helped partially by Artificial Intelligence

Delays in climate policy and rising geopolitical tension point towards a disorderly transition. The higher costs of the transition will be deferred to later years. The overall transition path is getting riskier as delays increase physical risks. Productivity gains from AI may help to marginally offset some of the economic impact of the transition. We expect AI adoption to be gradual as social and energy costs will also need to be assessed.

2

Central banks' efforts to balance price stability with low yields for investors

We continue to see sustained inflation in the short term, converging towards central bank targets in the medium term. Central banks will have to reconcile their price stability and balance sheet reduction objectives with maintaining relatively low yields for markets to fund the transition's financing requirements.

3

A challenging net zero road for many emerging markets, with some winners

The road to net zero looks more challenging for many emerging markets, and differences across countries will become more pronounced. However, countries that are rich in minerals which are critical for the energy transition could benefit the most.

2.3%	-2.3%	>7%	~50%	~20%
Average GDP growth gap in favour of Emerging Markets vs Developed Markets in 2024-2033.	Average annual 10-year expected return loss for a 60% Equity- 40% Bond US allocation* compared to the past 10 years.	Private Equity, Indian Equity and Emerging Markets ex China 10-year expected returns are above 7%.	Between 45% and 55% is the optimal allocation to Global Aggregate bonds for moderate risk profile investors.	Recommended allocation to a basket of real and alternative assets.

Source: Amundi 2024 Capital Market Assumptions. *60% MSCI USA TR USD, 40% US Aggregate Bond.

4 A carbon tax will need to be assessed in a fair transition framework

A carbon tax would have a significant impact on growth and inflation, with Emerging Markets particularly affected. A fair transition is at the heart of the case for carbon taxation.

5 Expect lower returns and higher volatility, particularly for equities

On average, 10-year expected returns are slightly lower compared to last year's forecasts, particularly for Developed Market equities. A traditional 60% equity-40% bonds US allocation could see much lower returns compared to the past 10 years (from 7.5% to 5.2% Ann. Ret.).

6 Bonds are back as a portfolio engine, with quality in focus

From an asset allocation perspective, and following last year's strong comeback, we continue to see fixed income as a key engine for portfolio returns, particularly high-quality assets.

7 In search for diversification consider EM Debt, Hedge Funds and Private Debt

In a challenging risk-return backdrop for risky assets, investors should consider enhancing diversification by adding Emerging Market Debt, Hedge Funds and Private Debt. These assets may offer an appealing risk-return payoff with low correlations to bonds and equities.

8 In equities, India and EM ex China offer the most appealing returns. The US (overall market) should lag. An equal-weight approach will be favoured in the US

US equity may see lower returns compared to the past, amid some areas of tight valuations. An equal-weight approach within the US market, as well as a global approach, may deliver higher returns. India and EM ex China should offer the highest expected returns in equities.

9 Sector opportunities will help enhance return potential

Long-term trends such as the rise of net zero investing and Artificial Intelligence will likely drive sector opportunities. Healthcare, IT and Communications Services are expected to be the global winners, together with Financials benefitting from higher rates.

10 Real and alternative assets deserve a place in Strategic Asset Allocation

In the real and alternative space, Hedge Funds and Private Debt continue to have an attractive profile, Infrastructure is a good diversifier, while Real Estate is more challenged. Private Equity remains a key growth engine for investors with a higher risk and illiquidity tolerance.
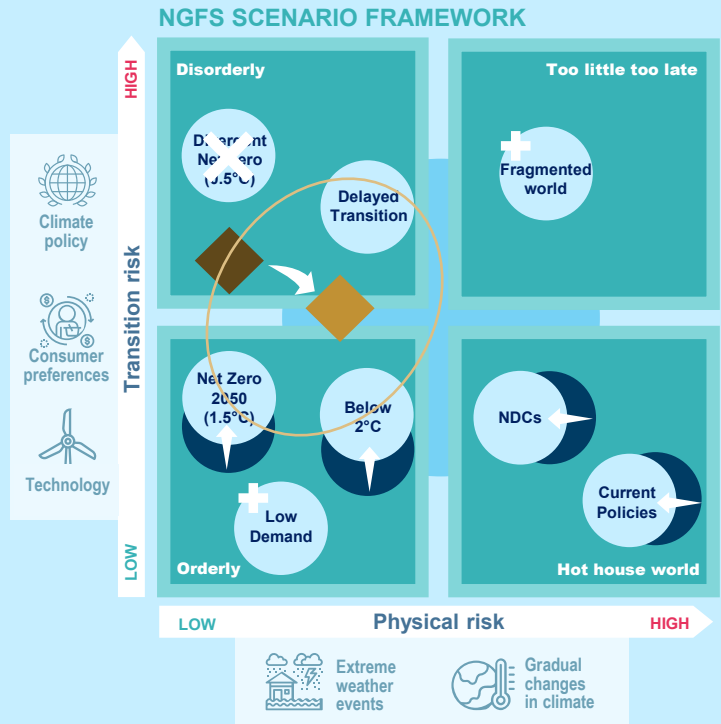
The traditional 60:40 allocation will be challenged by lower equity prospects for developed markets. Go global, embrace illiquid asset and seek sectoral opportunities to navigate a lower expected return backdrop.

A transition with higher risks

AMUNDI INVESTMENT INSTITUTE
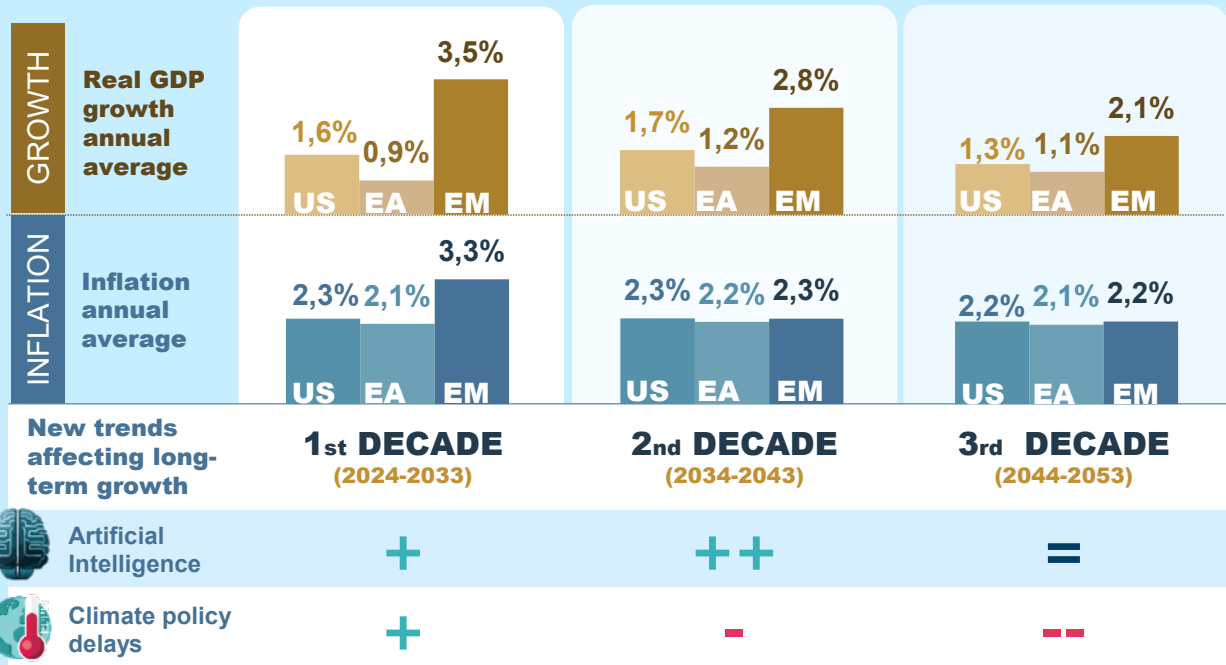### CENTRAL SCENARIO 2024

High probability of limiting global warming below 2°C with increasing physical risks compared to our 2023 central scenario.

Orderly

Net zero 2050 and below 2°C scenarios assume climate policies are introduced early and gradually become more stringent. Both physical and transition risks are relatively subdued.

+

Disorderly

Delayed transition explores higher transition risks due to policies being delayed or divergent across countries and sectors.
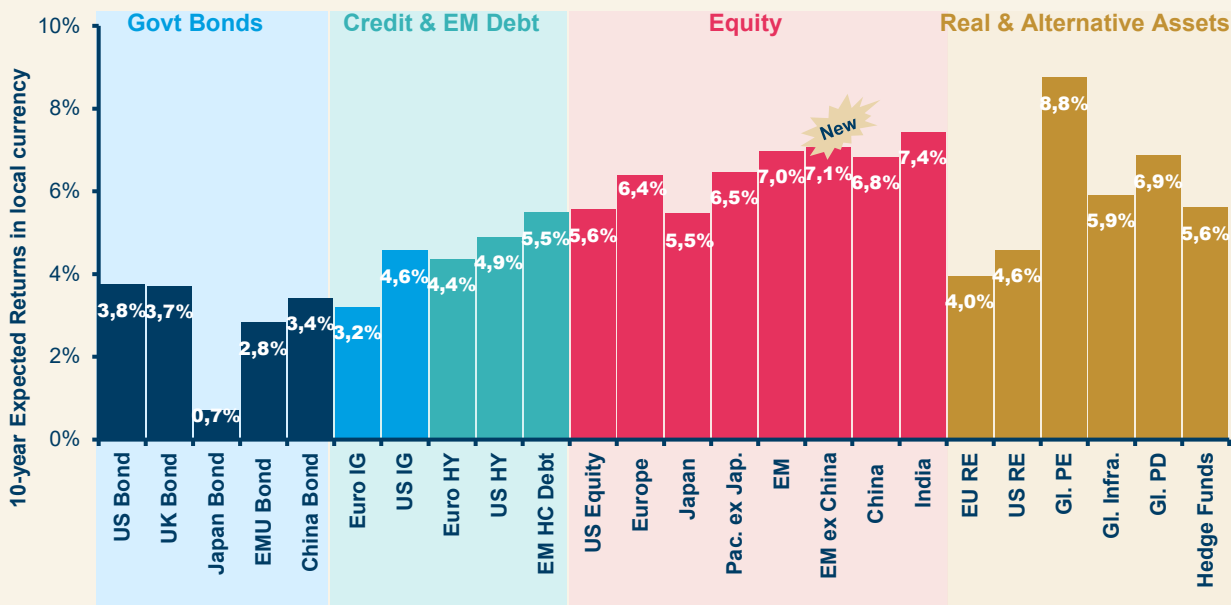
NGFS SCENARIO FRAMEWORK

HIGH

Disorderly

Divergent Net Zero (1.5°C)

Delayed Transition

Too little too late

Fragmented world

Climate policy

Consumer preferences

Technology

Transition risk

Net Zero 2050 (1.5°C)

Below 2°C

NDCs

Current Policies

LOW

Orderly

Hot house world

LOW — Physical risk — HIGH

Extreme weather events

Gradual changes in climate

◆ Amundi Central Scenario 2023 ◆ Amundi Central Scenario 2024

Growth and inflation paths

GROWTH

Real GDP growth annual average

	1st DECADE	2nd DECADE	3rd DECADE
US	1,6%	1,7%	1,3%
EA	0,9%	1,2%	1,1%
EM	3,5%	2,8%	2,1%

INFLATION

Inflation annual average

	1st DECADE	2nd DECADE	3rd DECADE
US	2,3%	2,3%	2,2%
EA	2,1%	2,2%	2,1%
EM	3,3%	2,3%	2,2%

New trends affecting long-term growth

	1st DECADE (2024-2033)	**2nd DECADE** (2034-2043)	**3rd DECADE** (2044-2053)
Artificial Intelligence	+	++	=
Climate policy delays	+	-	--

Source: Amundi Investment Institute, NGFS. Data as of 31 December 2023. Qualitative assessment of each trend's impact on GDP growth in each decade. From ++ (most positive impact on the growth and inflation mix) to -- (most negative impact). NGFS is The Network of Central Banks and Supervisors for Greening the Financial System. US= United States, EA=Euro Area, EM= Emerging Markets.

10-year expected returns

Chart: 10-year Expected Returns in local currency

Govt Bonds
- US Bond: 3,8%
- UK Bond: 3,7%
- Japan Bond: 0,7%
- EMU Bond: 2,8%
- China Bond: 3,4%

Credit & EM Debt
- Euro IG: 3,2%
- US IG: 4,6%
- Euro HY: 4,4%
- US HY: 4,9%
- EM HC Debt: 5,5%

Equity
- US Equity: 5,6%
- Europe: 6,4%
- Japan: 5,5%
- Pac. ex Jap.: 6,5%
- EM: 7,0%
- EM ex China: 7,1% (New)
- China: 6,8%
- India: 7,4%

Real & Alternative Assets
- EU RE: 4,0%
- US RE: 4,6%
- Gl. PE: 8,8%
- Gl. Infra.: 5,9%
- Gl. PD: 6,9%
- Hedge Funds: 5,6%

Bonds: the return of the conservative portfolio engine

$ US Conservative Allocation in USD
70% US Aggr. Bond – 30% MSCI USA

€ Global Conservative Allocation in EUR
70% Global Aggr. Bond Hedge Eur – 30% MSCI World Eur

Conservative allocation (70% bonds – 30% equities) will see similar performances compared to the past decade thanks to better return potential from bonds which should regain their role as a major performance contributor.
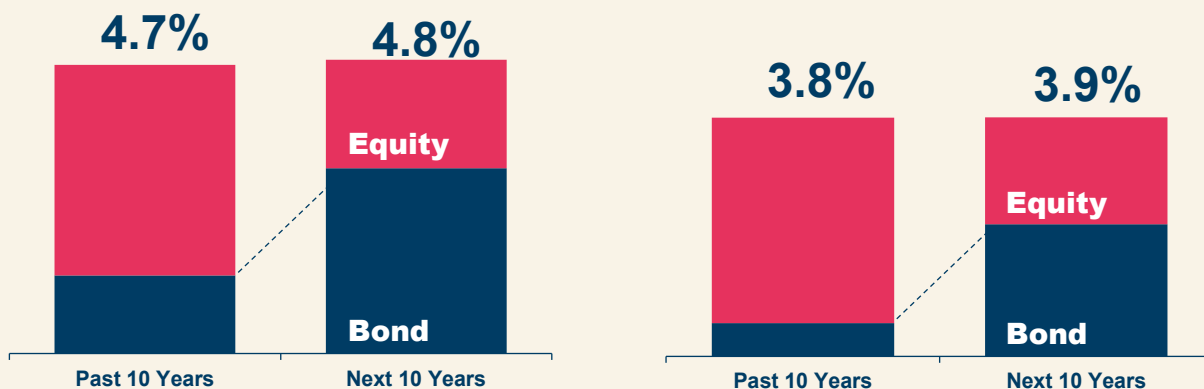
US Conservative Allocation:
- Past 10 Years: 4.7%
- Next 10 Years: 4.8%

Global Conservative Allocation:
- Past 10 Years: 3.8%
- Next 10 Years: 3.9%

(Stacked bars showing Equity and Bond)

Source: Amundi CASM Model. Data as of 29 December 2023. For additional information see 'Sources and Assumptions' section at the end of this document. The forecast returns are not necessarily indicative of future performance, which could differ substantially. IG=Investment Grade, HY=High Yield, RE=Real Estate, PE=Private Equity, PD= Private Debt, Infra.=Infrastructure. EM Debt HC, Global Infrastructure and Hedge Funds are in USD, all other indices are in local currency.
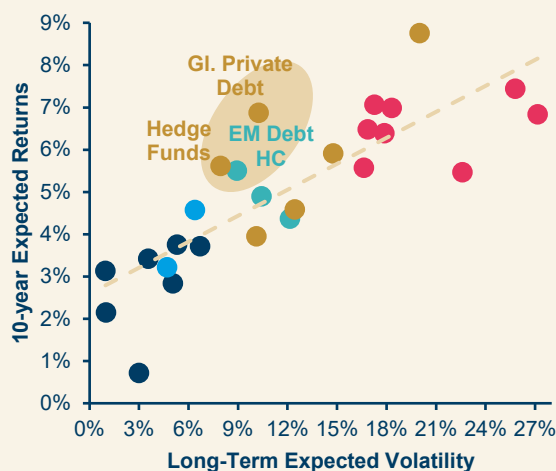
Three insights on the reordering of global equities
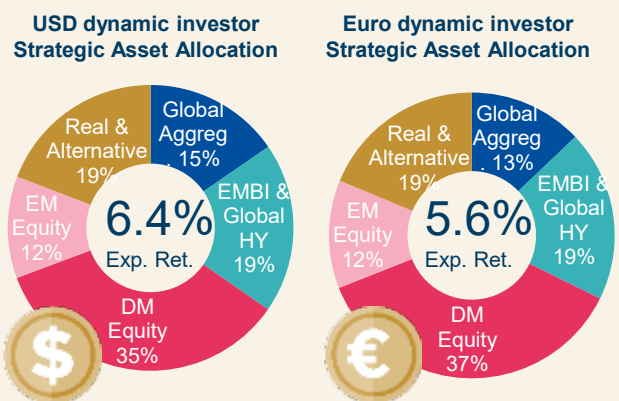## Ranking of past and expected equity returns in local currency

Past 10 years → **Next 10 years**

10-year Latest Ann. Returns | **10-year Ann. Expected Returns**

Past 10 years		Next 10 years	
India	13,2%	India	7,4%
US	11,4%	EM ex China	7,1%
World	9,5%	EM	7,0%
World AC	9,0%	China	6,8%
Japan	8,1%	Pac. ex Jap.	6,5%
Europe	6,3%	Europe	6,4%
Pac. ex Jap.	5,7%	World AC	5,9%
EM	5,2%	World	5,8%
EM ex China	3,9%	US	5,6%
China	1,0%	Japan	5,5%

1 **Expect lower equity returns** (-3.1% for MSCI World AC vs past 10 years)

2 **Reversal in EM vs DM fortunes in favour of EM**

3 **Regional opportunities.** India at the top of the ranking. Europe and Pacific ex Japan favoured in DM.

The top diversifiers: EM Debt, Private Debt and Hedge Funds

Rising star asset classes for their favourable risk-return profile and diversification appeal will be Emerging Market Debt, Hedge Funds and Private Debt.

Scatter plot: 10-year Expected Returns (y-axis, 0%–9%) vs Long-Term Expected Volatility (x-axis, 0%–27%). Highlighted: Gl. Private Debt, Hedge Funds, EM Debt HC.

Strategic Asset Allocation: widen the investment universe

Lower expected equity returns will be a challenge for the traditional 60% equity - 40% bond allocation. Investors will have to add to EM Bonds, EM Equity and Real Assets to seek returns in the 6% range.

USD dynamic investor Strategic Asset Allocation

6.4% Exp. Ret.
- Global Aggreg 15%
- EMBI & Global HY 19%
- DM Equity 35%
- EM Equity 12%
- Real & Alternative 19%

Euro dynamic investor Strategic Asset Allocation

5.6% Exp. Ret.
- Global Aggreg 13%
- EMBI & Global HY 19%
- DM Equity 37%
- EM Equity 12%
- Real & Alternative 19%

Source: Amundi CASM Model. Data as of 29 December 2023. For additional information see 'Sources and Assumptions' section at the end of this document. The forecast returns are not necessarily indicative of future performance, which could differ substantially. EM Debt HC, Global Infrastructure and Hedge Funds are in USD, all other indices are in local currency.

Capital Market Assumptions

Assets in local currency	Reference Index	Duration	Average Annualised GEOMETRIC		Average Annualised ARITHMETIC	10-year SIMULATED Volatility	2003-2023 Historical Ann. Returns	2003-2023 Historical Ann. Volatility
		Av. next 10 years	5-year Expected Returns	10-year Expected Returns	10-year Expected Returns			
Cash								
Euro Cash	JPCAEU3M Index	0.2	2.3%	2.2%	2.2%	1.0%	1.3%	0.9%
US Cash	JPCAUS3M Index	0.2	3.4%	3.1%	3.1%	1.0%	1.9%	0.9%
Government Bonds								
US Bond	JPMTUS Index	6.1	4.0%	3.8%	3.8%	5.3%	2.9%	5.5%
UK Bond	JPMTUK Index	9.6	4.8%	3.7%	3.9%	6.7%	3.3%	7.8%
Japan Bond	JPMTJPN Index	9.2	0.8%	0.7%	0.8%	3.0%	1.2%	2.6%
Emu Bond - Core	JPMTWG index	6.9	2.0%	2.2%	2.2%	4.8%	2.5%	5.2%
Emu Bond - Semi Core France	JPMTFR Index	7.2	2.6%	2.7%	2.8%	5.0%	2.8%	5.4%
Italy Bond	JPMTIT index	6.0	3.2%	3.4%	3.6%	7.1%	3.7%	6.7%
Spain Bond	JPMTSP Index	6.6	3.0%	3.2%	3.3%	6.3%	3.4%	5.8%
EMU Bond All Maturity	JPMGEMUI Index	6.8	2.7%	2.8%	2.9%	5.0%	3.0%	5.2%
Barclays Global Treasury	BTSYTRUH Index	6.9	2.8%	2.7%	2.7%	3.7%	3.3%	3.9%
Credit Investment Grade								
Euro Corporate IG	ER00 index	4.5	3.0%	3.2%	3.3%	4.7%	2.9%	4.7%
US Corporate IG	C0A0 index	6.8	4.7%	4.6%	4.7%	6.4%	4.1%	6.6%
Barclays Euro Aggregate	LBEATREU Index	6.3	2.8%	2.9%	3.0%	4.6%	2.8%	4.6%
Barclays US Aggregate	LBUSTRUU Index	6.3	4.3%	4.1%	4.1%	4.8%	3.2%	4.4%
Barclays Global Aggregate	LEGATRUH Index	6.7	3.5%	3.4%	3.5%	4.1%	3.4%	3.7%
Credit High Yield								
Euro Corporate HY	HE00 index	2.8	3.6%	4.4%	5.0%	12.2%	6.2%	12.7%
US Corporate HY	H0A0 index	3.3	4.4%	4.9%	5.3%	10.4%	6.5%	10.5%
Emerging Market Debt								
EM Hard Currency Debt*	JPEIDIVR Index	6.7	5.3%	5.5%	5.8%	8.9%	5.7%	9.4%
EM-Global Diversified**	JGENVUUG Index	5.0	5.7%	5.7%	6.3%	11.2%	4.7%	11.8%
GBI-EM China LOC	JGENCNTL Index	5.2	2.5%	3.4%	3.4%	3.6%	na	na
Convertible Bond								
Europe Index (Eur Hedged)	UCBIFX20 Index		3.9%	4.3%	5.3%	15.3%	3.7%	10.1%
Equities								
US Equity	NDDLUS Index		6.5%	5.6%	6.7%	16.6%	9.1%	16.1%
Europe Equity	NDDLE15 index		6.9%	6.4%	7.7%	17.9%	6.4%	15.0%
Euro zone Equity	NDDLEMU Index		6.5%	5.9%	7.6%	19.6%	5.8%	17.8%
UK Equity	NDDLUK Index		7.4%	7.2%	8.0%	14.8%	6.6%	13.4%
Japan Equity	NDDLJN Index		7.1%	5.5%	7.7%	22.6%	6.0%	19.4%
Pacific ex Japan Equity	NDDLPXJ Index		7.6%	6.5%	7.6%	16.9%	7.6%	15.1%
Emerging Markets Equity	NDLEEGF index		10.0%	7.0%	8.3%	18.3%	8.1%	16.9%
China Equity	NDELCHF Index		9.6%	6.8%	10.0%	27.2%	6.5%	25.1%
India Equity	NDELSIA index		8.7%	7.4%	10.4%	25.8%	13.8%	23.3%
EM ex China***	M1CXBRV index		10.2%	7.1%	8.2%	17.3%	7.3%	21.1%
World Equity	NDDLWI index		6.7%	5.8%	6.9%	16.8%	8.0%	15.2%
AC World Equity	NDLEACWF Index		7.1%	5.9%	7.1%	16.8%	7.9%	15.1%

* Hard Currency USD, China Bond starting date is beginning of 2019. ** USD Unhedged, including the USD currency expectation towards EM currencies. *** LC for expected returns and simulated volatility, USD unhedged for historical statistics. Amundi CASM Model. Data as of 29 December 2023. For further information see the "Sources and Assumptions" section**.** The forecast returns are not necessarily indicative of future performance, which could differ substantially.

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SOURCES AND ASSUMPTIONS

Sources and assumptions

Sources of CMA: CMA: Amundi Asset Management CASM Model, Amundi Asset Management Quant Solutions and Amundi Investment Institute Teams, Bloomberg. Macro figures as of last release. Starting date as of 29 December 2023. Equity returns based on MSCI indices. Reference duration are average figures. If not otherwise specified, expected returns are geometric annualized average total returns at the specific horizon. EM Debt HC, Global Infrastructure and Hedge Funds are in USD, all other indices are in local currency. Returns on credit assets are comprehensive of default losses. Real estate refer to all property unlevered real estate. The expected returns do not consider the potential alpha, generated by portfolio management that can be significant above all for real and alternative assets. Those returns are gross of fees, except Private equity and Infrastructure returns that are net of fees.

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.

Expected returns are calculated on Amundi central scenario assumptions, which include climate transition. Forecast and fair values up to a 3-year horizon provided by 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, MSCI, Edhec Infra, Cambridge Associates, Global Financial Data.

Sources of sectoral expected returns: The expected returns of sectoral indices consider: 1. long-run earnings growth, 2. expected change in valuation and 3. the income component. Long-run earnings growth: for sectoral indices we consider two distinct periods. The first period (2023-2025) is based on the IBES consensus estimates, which allows us to incorporate bottom-up considerations. The second period (2025-2033) is derived from the long-term trend in earnings growth for a given region in our central scenario with the addition of the buyback component. It is also tilted by a coefficient depending on the growth or value characteristics of the sector. As a final step, the outcome is aggregated to match the long-term earnings per share trend of each region. Expected change in valuation: to assess this repricing component, we look first at the PE ex growth of a given region and adjust it from the repricing of the region, making sure it is consistent with the outcome of the regional equity section, which integrates the climate risk by definition at a regional level. Then from this adjusted regional Target PE, we derive a Target PE for each sector, depending on its long-run earnings growth (as defined previously). Finally, we compare this sectoral Target PE with its average historical PE to get the sector valuation change and we adjust for ESG and climate change flows as well a sector low carbon and NetZero risk premia, as explained on page 31 of this paper. For income, we use the average of 2021-2023 consensus dividend yield of each sector, here again adjusted to be consistent with the regional outcome.

G10 FX Fair Valuation models: The literature is full of theoretical foundations at the basis of currency fair valuation. Our battery of models leverages two main concepts: 1) Purchasing Power Parity equilibria (which in turn expresses FX equilibria as a function of relative price dynamics across countries) and 2) Behavioural Exchange rate equilibria (where we focus on short to long-term fundamental drivers. Purchasing Power Parity models: Standard PPPs rely on CPI differential, we enrich our framework to take into account two additional variations: 1) PPP based on PPI differential (to take into account the differential in costs of production) and 2) a standard PPP but adjusted for productivity (we proxy with CPI-PPI differentials, following the Balassa-Samuelson framework). Both CPI and PPI induce a negative contribution to the FX (i.e. higher inflation means a depreciation in the long run), whilst higher productivity (i.e. higher CPI-PPI differential) empirically translates into stronger FX Behavioural Exchange rate models: We leverage here on the theoretical findings of Clark and McDonald and estimate FX equilibrium based on short to medium- and long-term fundamental drivers. On top of inflation (our longest-term driver, given the empirical convergence rate from spot), we do consider 1) interest rates differentials, 2) terms of trade, 3) fiscal spending, 4) productivity (GDP per capita) and 5) the degree of openness of each G10 economy.

SOURCES AND ASSUMPTIONS

CASM model

We believe capital markets are not always efficient and they deviate from long-term fair values. We follow a disciplined approach to asset allocation that blends quantitative input and qualitative assessment to identify superior asset allocations. Our multivariate approach to modelling assets and liabilities focuses on complex relationships between risk factors over multiple investment horizons. Simulating asset prices that are consistent with our risk factor models allows us to capture complex market dynamics. Macro and financial risk factors explain asset returns and the correlations between assets.

Cascade Asset Simulation Model (CASM) is a platform developed by Amundi in collaboration with Cambridge University*. CASM combines our short-term financial and economic outlooks. It incorporates medium-term dynamics into long-term dynamic trends, to simulate forward-looking returns for different asset classes over multiple horizons. CASM generates asset price scenarios and underlying economic and financial factors that determine Amundi's expected returns. It is a valuable tool for strategic asset allocation and asset-liability management analysis. The flexibility of CASM allows us to provide highly customised solutions to our clients.

We estimate model parameters quarterly to incorporate new market data and our short-term outlook. The process for calibrating models that reflect our view of economic and financial market trends is a close collaborative process between many teams at Amundi.

We reach a consensus for the short-to-medium-term outlooks for macro and financial variables for each region under consideration (US, Eurozone (core, semi-core and periphery), UK, Japan, China, India, EM area). The models are calibrated to be consistent with these outlooks and long-run estimates. At each step in the process, results are analysed against stylised facts and checked for consistency. The estimation process for each region progresses from calibrating macro and financial variables to simulating asset prices, where asset prices are driven by the underlying macro and financial variables.

Price returns are generated using a **Monte Carlo simulation**. Stochastic generation of risk factors and price scenarios allows us to analyse a **wide range of possible outcomes and control the uncertainty surrounding these**. We can change starting assumptions and see the effect on possible future asset prices. The platform allows us to simulate consistent scenarios across any instrument in a multi-asset portfolio, a feature that is particularly relevant for institutional investors with long time horizons.

The CASM platform covers macro and financial variables for major regions, in particular the US, UK, Eurozone, Japan, China, India and Emerging Markets as an aggregate. Models are constructed to capture the main drivers of economic variables that affect asset prices. The definition of the building blocks within the cascade structure **has been enhanced to incorporate the climate policy actions and their implications**.

Cascade Asset Simulation Model (CASM) is a platform developed by Amundi used to simulate forward-looking returns and derive expected returns (see a more detailed description at the end). We distinguish between macro-economic, financial and pricing models as described in the following chart:
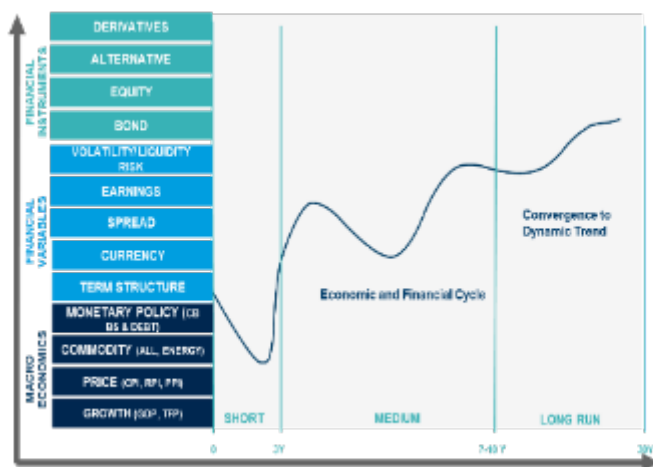
The architecture of CASM can be described in two dimensions. The **first dimension** is a "cascade" of models. Asset and liability price models are made up of market risk factor models. Market risk factor models are made up of macroeconomic models. Initially proposed by Wilkie (1984) and further developed by Dempster et al. (2009), this cascade structure is at the root of the platform's capability to model linear and non-linear relationships between risk factors, asset prices and financial instruments. The **second dimension** is a representation of the future evolution of the aforementioned "cascade" effect. The unique formulation allows us to simulate asset price scenarios that are coherent with the underlying risk factor models. In the short term, CASM blends econometric models and quantitative short-term outlooks from in-house practitioners. In the long term, we assume the market variables are subject to a mean reverting process, defined formally through structural break analysis and general equilibrium models. The short term evolves into a long-run state through the medium-term dynamic driven by business cycle variables.
Source: Amundi Asset Management – CASM model.

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