Capital Market Assumptions



# 10-year expected returns: the reordering of asset class profiles

Under our updated central macro scenario, the next decade could see fundamentals slightly improving compared to last year's assumptions. In detail:

- Procrastination around the implementation of climate policies is leading to a less volatile short- to medium-term inflation path, but with long-term inflation levels in some cases remaining slightly above central banks (CBs) targets. CBs will also have to manage higher levels of debt, while trying to maintain manageable long-term yields for markets to fund large public and private sector financing requirements, with implications regarding equilibrium rate levels.
- On the growth side, developed markets could initially benefit from milder transition risks in the medium term and Artificial Intelligence (AI)-induced productivity gains. However, regions like the EU and Japan are still expected to show growth rates below historical norms due to the negative effects of secular trends, such as the ageing population.
- EM countries will be challenged by the transition, so our estimates for long-term growth and inflation levels have been revised down. However, due to every EM economy's uniqueness, it is of paramount importance to be granular in this space. Hence, in our equity forecasts, we assess China and India equity separately and we have also introduced a new equity aggregate, EM ex China, to gauge the potential of this region beyond the structural slowdown that is affecting the Chinese economy.

Overall, despite some improvement in fundamentals, our new 10-year expected returns are, on average, slightly lower than last year's forecasts (see chart on the next page), as our models also take starting valuations into account, which are now more stretched compared to last year.

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### Source: Amundi CASM, data as of 29 December 2023. Analysis show the valuation contribution to the 10-year expected by asset class.



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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. Red arrows down indicate lower expected returns vs last year's forecasts, green arrows up indicate higher expected returns. EM Debt HC, Global Infrastructure and Hedge Funds are in USD, all other indices are in local currency.

# Fixed Income: the outlook remains positive, particularly for EM debt and IG credit

Across Developed Markets, spot government yield curves remain inverted. However, we expect them to steepen in the medium term amid monetary policy normalisation. More expensive valuations should cause reductions in bond indices' expected returns and term premiums (particularly in core Europe), while they have slightly improved in Japan, however, where expected returns remain at the low end of the return spectrum.

Looking at credit, spreads are significantly narrower than their longterm levels, except for Euro Investment Grade which is more fairly valued. We expect widening spreads in the medium-to-long term, associated with a normalisation of the risks priced into the credit market. This leads to a general decrease in expected returns on credit versus last year, due to lower carry and less attractive valuations.

Overall, the outlook for fixed income assets remains positive, particularly relative to the other asset classes and notably for the high grade segment and EM bonds. With regards to High Yield, although return expectations are greater than for Investment Grade, this relative advantage does not compensate for the higher intrinsic risks, particularly in the US market.

On the risk front, we anticipate that volatility in government yields may remain elevated in the future and may also return in the credit space. Fixed income remains a key portfolio engine for the next decade with Emerging Market bonds and Investment Grade credit in focus.

# Equity: Lower returns overall - Europe, India and EM ex China favoured

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In equities, we downgraded US market return expectations on the assumption that, although the US could continue generating solid EPS growth, the market has almost entirely priced in growth expectations, particularly in certain parts of the market (Mega Caps). Hence, investors will have to look deeper within markets in the search for the most appealing opportunities.

Slightly higher EPS and dividend yields, and more attractive valuations, benefit Pacific ex-Japan and European equities. With regards to Japan equity, although new corporate governance rules are supportive, the Japanese market maintains lower growth potential compared to other DM.

We maintain a slight preference for emerging over developed market equities. In a risk-return context, however, the EM returns advantage fades amid its higher risk profile.

Within the EM basket, we anticipate a shift in preferences, as potential growth will be driven by countries other than China. In particular, India and EM ex-China may offer returns greater than 7%, ranking them higher in the spectrum of asset class returns. With regards to China equity, we expect a 6.8% annual return. We remain cautious about Chinese fundamental and macro assumptions (reflecting the most recent update on the long-term inflation environment). While acknowledging China's elevated uncertainty, we assume extreme valuations can provide a partial tailwind, particularly for the onshore market.

Finally, the energy transition and other secular trends will cause more uncertainty in the financial system and equity volatility should normalise, trending higher towards long-term historical levels.

However, it is important to note that this assessment solely focuses on asset class expectations in local currencies, without considering foreign exchange (FX). This can significantly alter investor preferences as pointed out in the table below showing the expected returns for local government bonds and equity indices expressed in G4 currencies unhedged. The returns are reported in excess of cash to identify the premium attached to the asset class. For example, Japan Equity is the most attractive asset class in every currency, benefitting from the exposure to JPY. EM and EM ex China show promising return premiums, while US equity appears less favourable.

Tight valuations lead to lower expected returns, notwithstanding the positive effect from AI productivity gains.

Foreign exchange dynamics are highly relevant given the compressed nature of expected returns, and significant FX deviations from their longterm fair value.

# Equity Expected Premium at 10-year horizon by Currency

		USD	EUR	GBP	JPY							
Cash Return		3.1%	2.2%	3.0%	0.7%							
10-year Expected Premium vs Cash												
Local Government		0.6%	0.7%	0.7%	0.1%							
US Equity		2.4%	2.5%	1.3%	2.2%							
Europe Equity		4.3%	4.3%	3.2%	4.1%							
Japan Equity		5.1%	5.1%	3.9%	4.8%							
Emerging Markets Equity		4.7%	4.7%	3.5%	4.4%							
China Equity		3.7%	3.7%	2.5%	3.5%							
EM ex China Equity		4.7%	4.7%	3.5%	4.4%							
Average Equity Expected Premium												
Global Equity		3.1%	3.3%	2.0%	3.1%							
AC Global Equity		3.3%	2.8%	1.5%	3.2%							

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.

# **Real and Alternative Assets remain attractive**

Our 2024 CMA outlines the general attractiveness of real and alternative assets compared to listed assets and confirms good opportunities in terms of risk/return profiles. The attractiveness of these assets is linked to the remuneration for the liquidity risk exposure (see article on page 32).

Hedge Funds maintain their role of diversifier in the portfolio showing interesting returns associated with moderate risk. Infrastructure is mainly supported by public equity returns and inflation trends. Private Debt could benefit from its floating rate profile showing a superior risk-return trade-off. Private Equity is confirmed as the asset to look at in the search for more appealing returns even if higher yields could limit return prospects. Real Estate could suffer due to expensive valuations and physical risks, even if the expected asset income and rental growth are in line with historical averages.

# Capital market line: a downwards shift versus last year

Compared to last year, the 2024 capital market line (based on our full asset class coverage including real and alternative assets and EM equity regional markets) has shifted downwards on average and slightly flattened.

Cash and government assets remain a stable anchor to the risk-return trade-off, with Investment Grade credit assets (mostly in the United States), Hedge Funds, Emerging Market Bonds (EMBI) and Global Private Debt offering attractive returns with a commensurate risk profile. Expectations for High Yield (HY) assets are less favourable from a risk-return perspective versus Investment Grade (IG) assets as well as Real Estate.

Equities cover a very broad space in the scatter plot, spanning from DM equities, with expected volatility near 18%, to India and China equity with volatility above 25%. Within risky assets, Global Private Equity, EM equity and EM ex China equity stand out as the ones with the most appealing risk-return profile. Whereas, China and Japan equity appear less appealing on a risk-return basis as they lie below the market line. We also note that a diversified approach to EM (or EM ex China) investing is preferable rather than investing in a single country where volatility is much higher.



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.

# Inter-percentile range of expected returns in local currency



The chart reports the difference between the 5th and 95th percentile of the 10-year annualised return distribution for some assets (the interpercentile range). This represents a measure of the dispersion of expected outcomes around the central scenario. Source: Amundi CASM Model Data as of 29 December 2023. Arithmetic returns. 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.

# **Asset Classes' Return Distribution**

We believe it is crucial for investors to consider a distribution around our expected returns for every asset class. The width of the distribution goes hand in hand with the asset risk profile.

Fixed-income assets typically exhibit a narrower distribution range in comparison to riskier assets such as equities and alternatives. When analysing equities, we can register a difference when comparing developed markets (DM) and emerging markets (EM). In addition, dispersion increases notably when comparing single EM countries such as India and China versus EM aggregates.

It is key for investors to understand that for some equity and alternative assets, there is a 5% chance of experiencing negative returns over the next decade. On the real and alternative spectrum, Hedge Funds and Private Debt tend to have a moderate dispersion range, greater than fixed income but less than other equity alternatives. Infrastructure and Private Equity assets, on the other hand, demonstrate a wide dispersion range, with the lower end nearing zero.

# 10-year versus 30-year Expected Returns

Looking at very long-term expected returns (30-years) versus 10-years provides valuable insights into the relationship of asset returns with different factors such as macro trends, reversion to long-term equilibrium levels and specific climate factors (transition and physical risk).

Equities and alternatives have a 5% probability of negative returns over the next decade. In fact, over a longer horizon, the repricing effect of valuations converging towards equilibrium is diluted, allowing for a better assessment of these long-term trends.

Comparing the 30-year versus the 10-year expected returns, some asset classes offer higher returns, indicating that in the long-term the impacts of negative repricing dissipate and macroeconomic drivers, such as AI productivity gains, represent a tailwind.

This is observed for US equity, Real Estate, Private Equity and for Japan bonds and US High Yield in the fixed income space. Conversely, some equity markets will see a deterioration of return expectations over a 30-year horizon. This is the case for Japan, China, India and, to a lesser extent, Emerging Markets and Europe. For these areas, macro headwinds (demographics, lower growth, lower inflation) and higher physical risks due to the delays in the energy transition will drive lower long-term return potential.



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.

# MAIN ASSUMPTIONS AND LIMITATIONS OF OUR LONG-TERM APPROACH

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We assume a 'business-as-usual' case for macro-financial dynamics over a 1-3-year horizon, with more aggressive climate policy action starting from 2027 onwards.

We maintain our modular approach, providing a cascade architecture that insulates the numerous models and focuses on the connection between the various elements of the narrative. This methodology may somewhat limit our field of vision, as the outlook for the granular variables becomes more blurred moving into the long term.

The macro scenarios we simulated are coherent with different active climate policies. These will define the patterns for macro fundamentals (therefore incorporating climate transition), and will eventually be used to derive expected returns.

Our analysis largely relies on first-order effects. Second-order effects and potential tipping points are complex to estimate and are excluded from this analysis. Future innovations are not visible currently and could also alter the results we describe in this report.

# **Capital Market Assumptions**

		Average Ar Duration GEOME		Annualised IETRIC	Average Annualised ARITHMETIC	10-year SIMULATE D Volatility	2003-2023 Historical Ann. Returns	2003-2023 Historical Ann. Volatility			
Assets in local currency Referenc		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	NDLWI index		6.7%	5.8%	6.9%	16.8%	8.0%	15.2%			
AC World Equity	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

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# 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

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# CASM model

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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, semicore 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 inhouse 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.

\*A.D. Wilkie. (1984), A stochastic investment model for actuarial use [with discussion]. Transaction of the Faculty of Actuaries, 341-403 Dempster, M., Germano, M., Medova, F., Murphy, J., Ryan, D., & Sandrini, F. (2009), Risk Profiling Defined Benefit Pension Schemes. Journal of Portfolio Management, Summer (2009)

# **Amundi Investment Institute**

In an increasing 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 across economic, financial, geopolitical, societal and environmental dimensions. To help meet this need, Amundi has created the Amundi Institute. This independent research platform brings together Amundi's research, market strategy, investment themes and asset allocation advisory activities under one umbrella; the Amundi 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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