#17 / April 2023

PENSION FUNDS LETTER

Confidence must be earned

Amundi ASSET MANAGEMENT

Building together smart solutions to face a challenging environment

Francesca CICERI
Global Head of Institutional Coverage

Sandrine ROUGERON
Global Head of Corporates and Corporate Pension Funds Clients

Natalie BENDELOW
Editor

EXECUTIVE SUMMARY

Whatever may come next, take time to sharpen your axe

In early March, a number of Amundi's experts gathered in Paris to present their views to clients on some of the current concerns facing pension funds. Moments after they spoke about the multiple challenges of inflation, of geopolitical instability and of the impact the climate crisis will have on investment returns, shares in Silicon Valley Bank began to slide. The sudden return to market panic acts as a timely reminder that you can never be too prepared for the next crisis and the predominant concern remains uncertainty.

Our view is that the current markets appear to be driven mostly by rising fears of recession, following an excessively complacent start to the year. The issue markets face is one of a confidence shock and not a credit shock. While negative sentiment can have a powerful impact, it is important to bear in mind that little has changed in terms of fundamentals over the last few weeks.

This edition of Amundi's Pension Funds Letter revisits some of the wider global trends and events and the implications these will have on the pensions sector in particular.

Net zero has become a buzzword widely established in vocabulary beyond the finance industry, but what are the practical implications for pension funds as investors and how can your actions help convert the multitude of net zero pledges into concrete measures? To help investors navigate the net zero investment environment, several key ideas are discussed.

Geopolitical events spill over into markets with ever increasing frequency and little evidence that this trend will reverse any time soon. The challenge for investors will be to identify and predict the events that will trouble the markets and thus portfolios the most. Amid continued war in Europe, tensions in the Far East and pressures in the transatlantic relationship (and others), we attempt to pinpoint where the stakes are the highest this year.

Turning to longer term shifts, high inflation and concerns over energy supply sustainability and cost has added a sense of urgency to the net zero movement, but it is also increasing the likelihood of diverging national policies and a disorderly transition. Amundi's latest capital market assumptions publication looks at the implications this will have on long-term asset class forecasts and strategic allocation and what this could mean for pension funding ratios in the longer run.

Finally, we conclude with our regular look at the markets and the recent evolution in funding ratios. We also look at the events in the swap market in 2022 and what the dislocation in swap spreads in the Eurozone has meant for LDI management.

Théophile TIXIER
Responsible Investment Specialist

Tom DENEKE
Business Solutions & Innovations

Transformation to Net Zero: Implications for Pension Funds

Net zero has started to become a term widely used across society, with this widespread uptake having subsequently several practical implications for pension funds as investors. Net zero refers to achieving a global state by 2050 where the amount of greenhouse gas emissions produced and the amount removed are equal, with the ultimate goal of limiting global warming. In the global push towards net zero, investors can use several common guiding principles, which can be applied throughout the asset owner's value chain.

Key idea 1: Exclusion-based investing as an initial approach to integrating net zero

One starting point for investors in the push towards net zero would be to progressively develop exclusion policies for companies with emission pathways incompatible with the transition towards carbon neutrality. Many institutional investors have already set up exclusion policies on activities that are not compatible with a net zero economy, such as coal mining and coal power generation. Going forward, **investors should consider expanding exclusion policies** to all corporates whose strategies are at odds with a net zero world and that are ultimately detrimental to climate change mitigation. However, it is important to keep in mind that **pure exclusion-based strategies are not an entirely adequate means** of integrating decarbonisation concerns: there is a clear case to be made in favour of **engaging with companies** in the net zero transition to **encourage transition,** rather than direct exclusion or divestment. Nevertheless, exclusion is needed for companies that do not sufficiently alter their emissions trajectory or for activities that are not compatible with the path towards net zero emissions by 2050.

Key idea 2: Combining historical carbon metrics with forward-looking metrics

In our view, a net zero investment strategy should feature several elements. First, **a core focus should be to seek carbon reductions in the real-world.** Setting a carbon reduction pathway that is aligned with global net zero objectives is a suitable approach to orientate financing towards corporates that decarbonise. However, investors need to make sure that this reduction translates to the real economy meaning they cannot simply decarbonize portfolios by divesting from high climate impact sectors. One key aspect to keep in mind in this context is the need for flexibility: as long as GHG emissions continue to rise, carbon reduction objectives will likely become more stringent, affecting required corporate decarbonisation pathways.

Secondly, **investors need to consider trends and forward-looking indicators.** In a decarbonisation context, looking at trends on a relative basis as well as carbon intensity measures can be more insightful than focusing on absolute, purely emissions-based metrics. Investors and asset managers alike need to use new metrics within their investment approaches to measure issuer expected contributions to net zero objectives. The focus should lie on the selection of indicators and metrics allowing investors to select issuers that are on track with their sectoral decarbonisation pathway. **Transitional aspects are especially essential** when evaluating issuers in hard-to-abate sectors, where absolute emissions might not be currently compatible with a net-zero economy. Certain forward-looking metrics are already available or being developed, such as Science-Based-Targets (SBTs) and temperature scores to standardize corporate decarbonisation strategies against global net zero goals. As there is no one-size-fits-all metric for such a complex issue, the use of both analyst views and appropriate intensity metrics (MJ for the fossil fuel sector, MWh for utilities and other sector-specific metrics) is critical to fine-tune and adjust net zero assessments by sector.

On the contribution aspect, **CAPEX plans** can serve as a forward-looking indicator of active corporate investments into the transition towards a more climate-friendly business model. For example, data regarding the **Green Share in CAPEX** can offer insights. Additionally, a useful measure relates to the low-carbon development ambition, especially the so-called **NZE Fair Share Contribution Index developed by Amundi,** evaluating green CAPEX in relation to the required investments needed to reach global decarbonization targets.

Key idea 3: Active engagement with investees is crucial to translate ambitions into concrete action

Investors should also assess whether their engagement and voting policies are suitable for contributing to net zero goals. **Engagement with corporates is crucial** across time horizons and can serve as a key component of a net zero strategy. At Amundi, for example, the engagement process on the energy transition is a key building block of our overall ESG strategy and will be extended to **more than 1000 issuers by 2025.** In particular, Amundi focuses on issuers that are typically not engaged with by the rest of the industry. Aside from being **a tool to put pressure on corporates to act,** engagement also serves to solidify investor and asset manager credibility regarding their respective net zero committments. Defining a comprehensive and balanced ex-ante net zero engagement strategy is a significant task, as it must embody the specific needs of all sectors. Sector and company-level engagement strategies can serve as a key customisation factor in a comprehensive net zero policy, taking into account sector-level and company-level idiosyncrasies, as well as being a concrete way of contributing to net zero objectives.

Another angle that can be taken in the context of decarbonization is the **divergence of portfolio emissions compared to the real economy.** Keeping minimum exposure to these hard-to-abate sectors through a transitionary point of view can ensure emissions convergence with the real economy while leaving the door open to engage with issuers that might fall short in terms of decarbonisation.

Key idea 4: Innovation as a driver of financing the transition

Net zero financing challenges remain high as net zero scenarios depend on the deployment of capital-intensive technologies. By 2030, **global clean energy investments of $4 trillion are needed** to avert a catastrophic climate disaster[1]. It is crucial to consider where capital is and where it will be needed in net zero scenarios. Investors can keep in mind several ideas when incorporating net zero considerations:

- **Adapting targets to geographies.** Carbon footprints and trajectories are scattered across geographies and issuer-level capacities for short-term emission reductions can be regionally diverse. Segmenting net zero targets by geography can help incorporate differences in short-term decarbonisation capabilities as well as direct funding towards regions where financing challenges are most pronounced. To illustrate, annual clean energy investment in emerging & developing economies should reach $1 trillion in order to put the world on track to reach net zero emissions by 2050[2], while financing availability is limited.
- Another way in which innovation can support decarbonisation efforts is by **decreasing financing barriers.** Strategies such as public-private collaborations can lower funding costs for essential projects while allowing institutional investors to deploy capital beyond their usual boundaries and stay within their risk frameworks. In emerging markets in particular, these allow emerging market risk premia to be combined with financing of the transition in areas in need of capital.
- Lastly, one innovative investment approach consists of **considering new or unexplored asset classes.** Investors can focus on non-traditional investments such as green private financing to support innovation and renewable energy infrastructure. Another unconventional approach to financing the transition towards net zero can be found in **project finance.** Leveraging solely on their own balance sheets, corporates may face difficulties in financing the required green project pipeline to align with a net zero scenario. **Off-balance sheet financing such as project finance can therefore work as a key lever to achieving net zero ambitions.** Finally, realizing net zero goals relies on speeding up the development of low-carbon technologies that are not yet fully operational. Investors can help develop these crucial technologies through **supporting R&D projects or through venture capital.** For investors, there is plenty of room for innovation in the context of financing the transition to net zero.

Key idea 5: Revise traditional strategic Asset Allocation approaches

Research suggests that Strategic Asset Allocation (SAA) decisions drive approximately 90% of the variations in portfolio returns over time[3]. While the findings of this research have been nuanced by subsequent studies[4], Asset Allocation (AA) remains a key driver of returns and a key component of the portfolio management process. Whereas AA is a long-term and top-down exercise, **net zero considerations are often treated as a bottom-up affair.** In addition, standard AA approaches typically rely on historical information, whereas much of the investment risk surrounding climate change requires more qualitative and forward-looking inputs. **These fundamental mismatches in approach require investors to rethink** their traditional AA decision process in the context of net zero scenarios.

1.International Energy Agency, Net Zero by 2050, 2021
2. International Energy Agency, Financing Clean Energy Transitions in Emerging & Developing Economies, 2021
3. Brinson, G., Hood, L.R. and Beebower, G.L. (1986) "Determinants of Portfolio Performance", Financial Analysts Journal
4. Ibbotson, R. and Kaplan, P. (2000) "Does Asset Allocation Policy Explain 40, 90, or 100 Percent of Performance?", Financial Analysts Journal

There are two key benefits of integrating net zero considerations into AA decisions. Primarily, **adopting net zero in AA makes sense from a risk-return perspective**. A future net zero economy will likely be structurally different from the economy we know today, experiencing both inter- and intra-industry transformations. As a result, investing in funds with net zero targets can have an impact on tracking errors. While it is impossible to predict whether net zero portfolios will outperform business-as-usual portfolios in the long term, integrating net zero considerations allows investors to anticipate these shifts at the AA level and to be better positioned in a carbon neutral economy.

In addition, **integrating net zero in AA makes sense from an impact perspective.** Long-term investors such as pension funds aiming to integrate net zero considerations in their portfolios must eventually consider all asset classes, so taking a comprehensive allocation approach is needed. Furthermore, net zero objectives encompass several sub-objectives, such as investing in both low-carbon, transition-proof companies as well as corporates providing solutions needed for the transition. Consequently, integrating net zero considerations at the AA level is a way of targeting several sub-objectives required to reach net zero goals.

Focus: Net Zero Integration in Fixed Income

Integrating net zero objectives in fixed income is a primary objective for asset owners willing to align their portfolio with climate goals while contributing to the decarbonisation of the real economy. Allocations of institutional investors are skewed towards fixed income, **making the asset class a cornerstone for integrating net zero in portfolios.** Climate change has become a material and systemic financial risk: increased fragility of fundamentals is expected to cause increased default losses and volatility, especially for issuers most exposed to high-carbon industries, emphasizing the need for net zero integration[5]. Fixed income will also play a substantial role in financing the energy transition: the required annual capital expenditures are expected to be primarily financed through debt instruments[6].

At the strategy level, a variety of methodologies are cohabitating with the common objective of decarbonising the real economy, from **transition-focused strategies** such as gradual reinvestment approach with a tilt toward low carbon issuers, passive Paris-Aligned Benchmark or Climate Transition Benchmark (PAB/CTB) tracking and ESG-improvers strategies to **contribution and solution approaches** such as green bonds.

Alongside climate risk integration approaches, fixed income-based climate contribution strategies also play a key role in decarbonizing the real economy. The primary market for fixed income is typically more active than for listed equities, and the sustainable bond market offers investors the opportunity to actively contribute to net zero goals and have an impact beyond climate risk integration. For instance, **green bonds are a key tool** that intend to provide capital to green projects and can be considered impact investments[7]. In fact, green bond issuance has grown at an annual rate of 70% in the five years preceding 2022, significantly outpacing the broader fixed income primary market[8]. Furthermore, corporate green bond issuance is expected to grow by 30% in 2023[9].

Fixed income needs to play a core role in global decarbonisation efforts. From the investor perspective, the asset class lends itself to both climate risk integration considerations as well as contribution and additionality aspects. With a robust net zero framework in place, investors are in a unique position to aid the global push to net zero while benefiting from climate risk integration approaches.

With contributions from
SOFIA SANTARSIERO,
Business Solutions & Innovations.

5. Amundi, Asset Classes Views – Keeping up with Climate Change, March 2022
6 .McKinsey Sustainability, The net zero transition: What would it cost, what it would bring, January 2022.
7. GIIN, Sizing the Impact Investing Market, 2022
8. Banque de France, Green Bonds: is their growth sustainable?, 2022
9. S&P, Global Green Bond Issuance poised for a Rebound in 2023 amid Policy Push, 2023

Anna Rosenberg
Head of Geopolitics Amundi Institute

The biggest geopolitical risk for 2023? China sending 'lethal aid' to Russia

The first few months of 2023 have got off to a busy start, highlighting that geopolitical risk is now firmly embedded as a concern for investors. Over the past couple of years, geopolitical events have become increasingly important for markets. The election of former US president Donald Trump, the Brexit referendum in the UK, the COVID pandemic, and now the Russia/Ukraine war are largely responsible for this development.

Alongside the war, this year has so far been overshadowed by rising tensions between the US and China. However, these are not the only concerns for investors: the possible expansion of the war beyond Ukraine's borders, **tensions between Israel and Iran, strained EU-US relations** over the US' Inflation Reduction Act, anxieties over the **US debt ceiling,** as well as **doubts about the energy supply for Europe in 2024** are also pressing concerns.

In regards to the Russia/Ukraine war, our analysis outlines three central scenarios of similar likelihood:

1. a long war (30%),
2. a ceasefire at the earliest in the latter part of H2 2023 (30%)
3. and an escalation leading to a direct confrontation between Russia and the West (25%).

We have three additional scenarios, which we consider low in likelihood at 5%: these are a victory of Ukraine, a Russian victory and a power shift in Russia that could lead to an end of the war.

A couple of weeks ago, China-US relations were relatively insulated from the developments in the Russia/Ukraine war. They are no longer. **What China decides to do** in regards to war **will be the key determinating factor for geopolitics, and arguably macroeconomics, in 2023:** The critical question is, **what happens if China does provide Russia with 'lethal aid'?**

It is important to stress that we do not think it is in China's interest to send weapons to Russia over the next couple of months as China's key priority remains economic growth. Sending weapons to Russia would undermine that goal as it would likely lead to a rupture with the EU and bring about more sanctions.

However, there are at least two scenarios under which China could decide to send 'lethal aid' to Russia:

- Relations with the US deteriorate further and a return to diplomacy seems increasingly unlikely; the EU, pressured by the US, turns its back on China;
- It increasingly looks like Russia *will* lose the war. *A defeated*, not weakened, Russia is not in China's interest as Russia is China's key ally against the US.

There are then (at least) two ways for how China could decide to support Russia with weapons:

- **Scenario 1: Outright, without hiding its intentions**. This scenario would, of course, be much more consequential for the global economy and would merit a significant revision of many current economic and geopolitical assumptions.
- **Scenario 2: Through the backdoor (more likely).** This scenario would be more blurred than what is described above. Allegedly, China is already taking advantage of some backdoor channels to support Russia militarily. This could be stepped up with more 'lethal aid' (e.g. drones) being sent disguised as 'dual use goods'. Arguably, scenario two would likely be the preferred option for Xi Jinping given it would be a lower risk approach to achieving the same goal (avoiding Russia's defeat).

In the table below, we outline the implications of China sending ‘lethal aid’ to Russia:

	Scenario 1 Outright, without hiding its intentions	**Scenario 2** Through the backdoor
On relations with the West	Relations with the EU would break down rapidly; sanctions stepped up against Chinese banks, SOEs.	A fallout would be more gradual; sanctions less severe at first; more targeted at individual firms.
On the Russia/Ukraine war	Increased odds of a Russian victory; a direct escalation with the West; a long war.	The blurred approach would make heavy weapons more difficult to send; meaning the impact on the war would be lower than under scenario 1. Most likely, it would increase the odds of a long war.
On China/Taiwan escalation scenarios	Somewhat increased odds of an invasion of the islands (currently 10% for 2023) as China could decide to strike while the US is being ‘militarily bled’ in Ukraine and while the military build-up in the region is not yet that advanced (e.g. Japan approved an increase in defence spending of 26.3% last December).	A fallout would be more gradual; sanctions less severe at first; more targeted at individual firms.
On relations with the global South	Likely some countries would be alienated by China’s military involvement, but given its advantage over much of the global South, the impact would likely be marginal.	Unchanged from status quo.

Irrespective of China sending or not sending ‘lethal aid’, geopolitics will remain volatile in 2023. To be a successful investor in this environment requires agility, diversification and monitoring developments closely to be able to react just at the right point in time to take advantage of opportunities materialising in this environment.

Monica DEFEND
Head of Amundi Institute

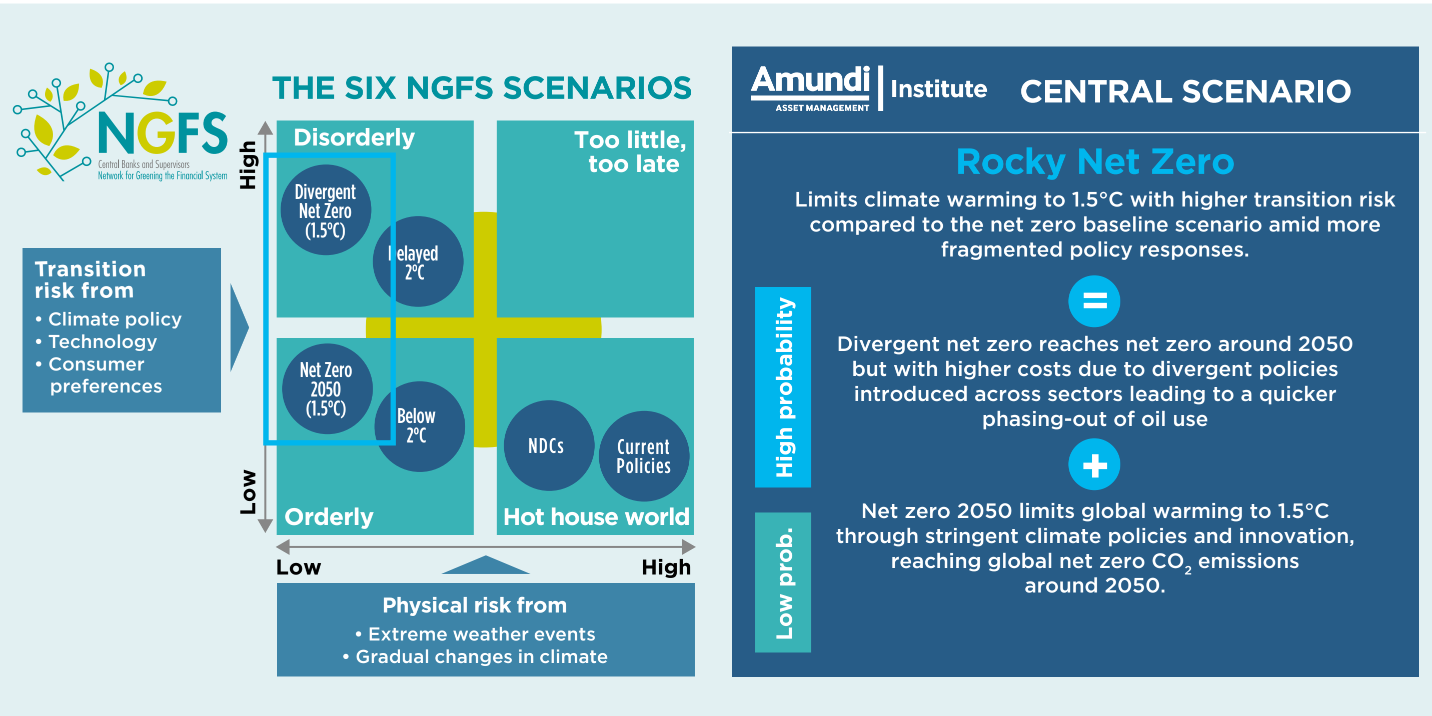
Viviana GISIMUNDO
Head of Quant Solutions OCIO Solutions

A rocky net zero transition pathway

Key highlights on long-term scenarios and return forecasts

In 2022, the war in Ukraine impacted the energy supply outlook, with implications also for the net zero path. Security, affordability (in volumes and prices) and sustainability of energy supply have been challenged, driving the need to diversify the energy supply mix. While this has somewhat accelerated the shift towards greener energy sources, it has also led to more uncoordinated responses, as each country moved to secure its own needs. These developments come on top of still high inflation, which originally stemmed from the Covid induced supply bottlenecks.

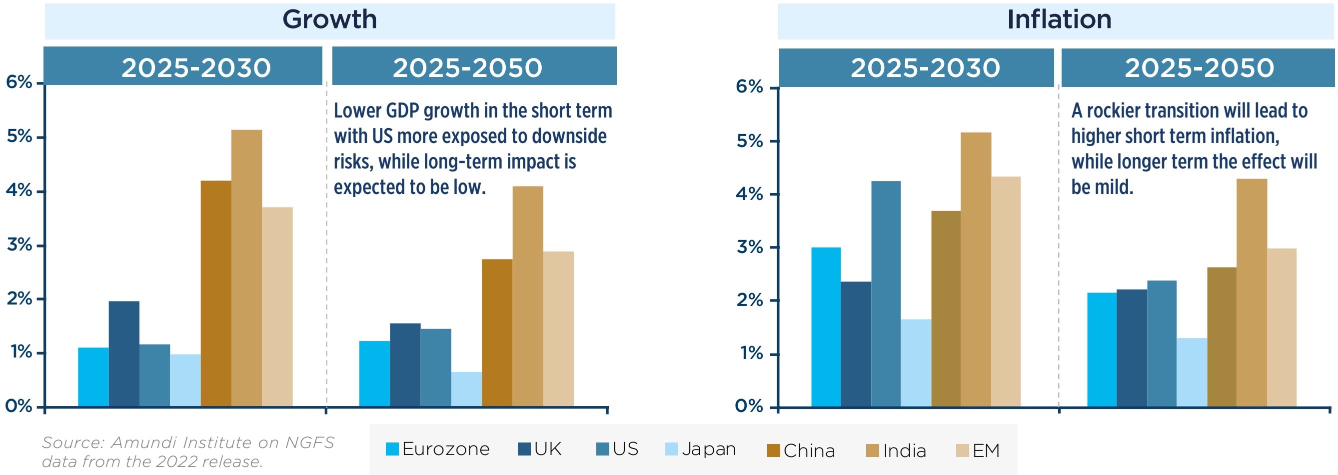
Taking a long-term view of these disruptive trends and their implications on long-term asset class forecasts and strategic allocation, we are pleased to share with you the key highlights of our annual capital market assumptions update.



Source: Amundi Institute on NGFS data from the 2022 release. The positioning of scenarios in the top right charts are approximate, based on an assessment of physical and transition risks out to 2100. NDCs= Nationally Determined Contributions (includes all pledged targets).

Amundi Central Scenario Growth Projections

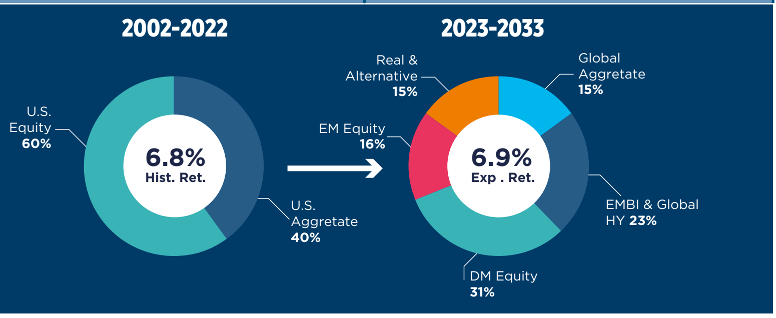
Amundi Central Scenario Inflation Projections



Source: Amundi Institute on NGFS data from the 2022 release.

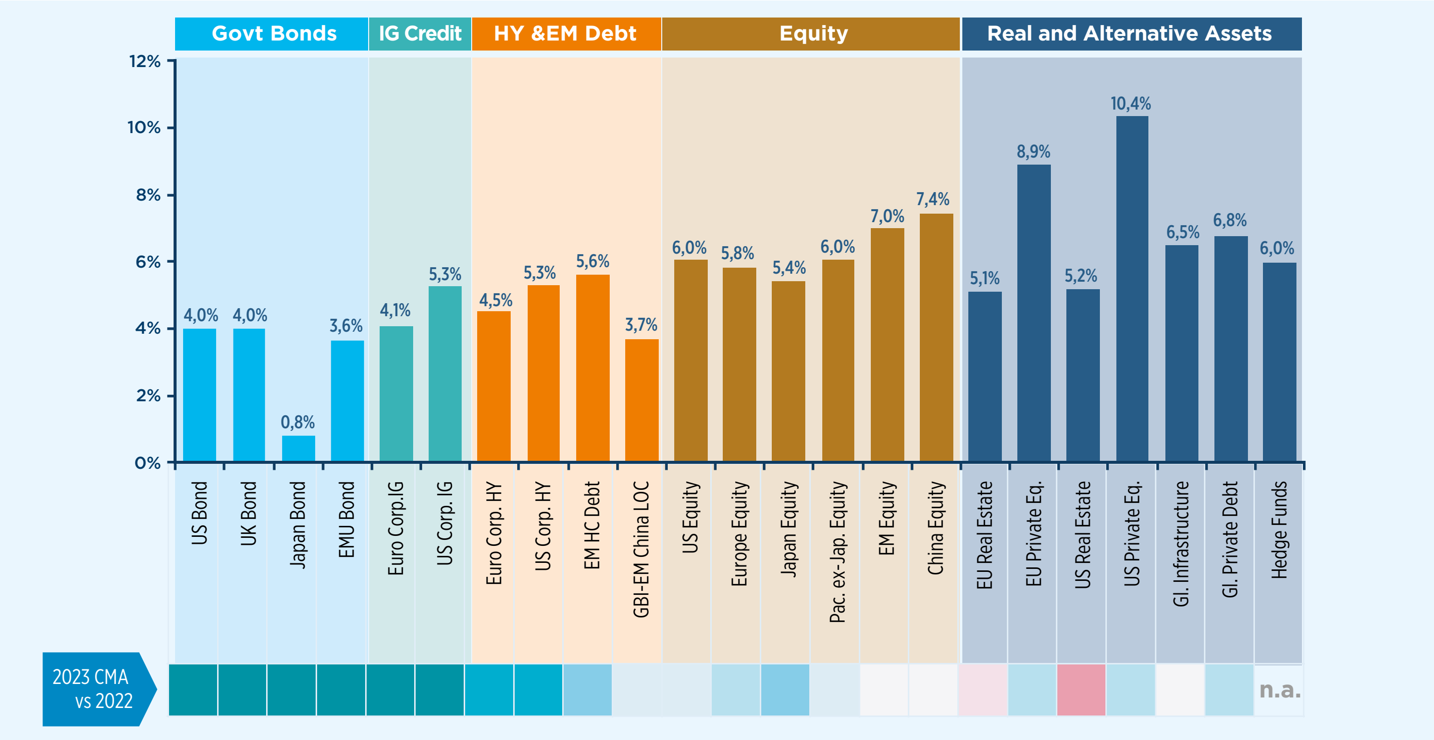
Asset class & portfolio views for the next decade

		↑ UP	↓ DOWN
Bonds	**Bonds are back as a key portfolio engine, with a focus on quality**	• US and Euro aggregate space will be favoured, but expect higher volatility. • In the search for higher yields, EM bonds will be favoured.	• Japanese govies will still offer lower returns with higher volatility. • High yield will be challenged by higher expected defaults.
Equity	**A key tool to enhance portfolio risk-adjusted returns.**	• Chinese and EM equity will help boost returns. • US remains favoured in the developed world. • Value sectors + IT + green transition leaders.	• Expect higher volatility. • Lower returns vs history for DM. • Japanese equity is the laggard. • Defensive sectors.
Real & Alternatives	**A key tool to enhance portfolio risk-adjusted returns.**	• All asset classes are valuable diversifiers, particularly infrastructure. • Hedge funds are favoured in the medium-volatility space, private equity in the high-volatility space	• Real estate and infrastructure return expectations have been downgraded to incorporate physical risks. • Liquidity and shortfall risk are factors to monitor
The new 60-40	**Go global and add real assets to target returns similar to a 60-40.**	see chart below	



Source: Amundi, data as of 31 December 2022. For illustrative purposes. Source Bloomberg for historical data and Amundi Quant Solutions Team portfolio optimization on CMA for expected returns and allocations.

2023 Capital Market Assumptions (CMA): 10-year annualised expected returns

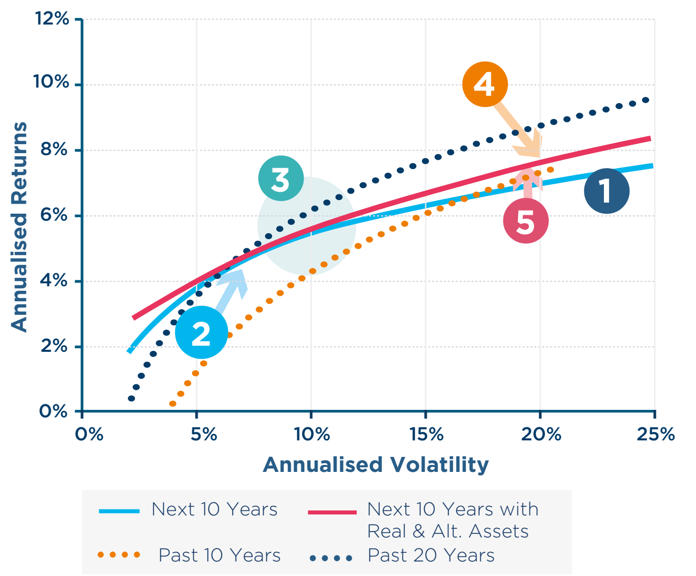


Source: Amundi CASM Model Data as of 30 December 2022. Colours indicate higher (dark green) to lower (dark red) expected returns for the next decade compared to last year edition of the CMA. Data are in local currency.

Five main changes vs historical risk-return patterns

1. **Moving to a flatter risk-return profile vs history.** This means that additional risk taken will be less remunerative than in the past.
2. **Aggregate bonds are back and shining.** After a decade of meagre returns, bonds' expected returns are moving up, even above their long-term average.
3. **High yield and EM bonds are stuck in the middle:** their risk-return profile is improving vs the past decade, but is still below their long-term average. EM bonds are favoured over HY in the search for higher yield.
4. **Lower equity returns and higher volatility vs the past amid climate change impact.** Equity still key for portfolio construction, look for regional diversification.
5. **Real and alternative assets help enhance portfolio returns.** They offer an interesting risk-return profile, to target higher returns with similar levels of volatility.

Illustrative risk-return curves for main asset classes 2023 Capital Market Assumptions vs past 10 & 20 years



Source: Amundi CASM Model Data as of 30 December 2022. The lines fit the spatial distribution of risk-return profiles of the traditional asset classes, from government bonds (on the left side), to equities (on the right). For additional information see the 'Sources and Assumptions' section at the end of this document. The forecast returns are not necessarily indicative of future performance, which could differ substantially. Data are in local currency.

With contributions from
LORENZO PORTELLI,
Head of Cross Asset Strategy
ALESSIA BERARDI, Head of EM Macro Strategy

Click here to read the full capital market assumptions paper

What impact will this have on pension funding ratios?

Over the next five years, despite decent equity performance, **we do not forecast major changes of funding status for the average pension fund.** Nonetheless, some regional differences are worth highlighting, with a stable situation in the US and moderate declines in the UK and EU.

Assumptions	UK	Eurozone	US
Growth Asset Allocation[1]	30%	38%	50%
- Equities	20%	30%	50%
- Alternatives	10%	8%	0%
Hedging Asset Allocation[1]	70%	62%	50%
- Credit	20%	16%	40%
- Government bonds	50%	46%	10%
- Derivatives duration contribution[2]	+2.1 yrs	+1.9 yrs	+1.8 yrs
Growth Asset 5yr Return (in respective currency)[3]	6.2%	6.8%	7.6%
Hedging Asset 5yr Return (in respective currency)[3]	5.0%	2.8%	4.8%
Liability discount rate 31/12/22	5.0%[4]	3.8%[5]	4.8%[6]
Liability discount rate in 5yrs	4.3%[4]	4.0%[5]	5.0%[6]
Funded Status[7] **31/12/22**	136%	92%	94%
Funded Status[8] **31/12/27**	132%	86%	93%

Our assumption on discount rates over a 5-yr horizon is for a very **modest increase in the US** and the Eurozone and a **more significant decrease** in the UK (where starting yields were significantly higher). As such, service and interest rate costs are the main drivers of liability valuations over a 5-year horizon:

- **In our US example,** the hedging asset return is on par with the discount rate. Our assumption is that US hedging assets typically have a large exposure to credit. Therefore, growth asset performance can compensate the service cost without much need for further sponsor contribution. Assuming a 94% funding ratio as of December 2022, we model a stable funding ratio at 93% in our central scenario at the end of 2027.
- **In the Eurozone example,** investment in government bonds rather than credit contributes to a lag between hedging asset investment income and interest rate costs. Hence, growth asset performance cannot finance service costs on their own, and some level of contribution from the sponsor would be necessary to keep a constant funding ratio. Assuming an 92% funding ratio as of December 2022 and no contribution, the funding ratio would be reduced to 86% in our central scenario by the end of 2027.
- **In the UK example,** a significant decrease (-0.7%) in discount rate over a 5-year horizon would increase liability valuations by 12% (considering a duration of 17 years). Assuming assets hedge 75% of liabilities' interest rate duration, we find this has an impact of -3% on the funding ratio. Concerning other effects, growth asset performance would compensate the difference of yield between gilt assets and credit-valuated liabilities. Therefore, a pension scheme starting the year with a 136% funding ratio would remain overfunded in 5 years' time albeit at a lower level (132%).

Although **our analysis shows that the bottom line will not change greatly, pension funds can improve and manage the funding ratio evolution by making decisions on the underlying pension strategy.** In a scenario characterised by deteriorating funding status such as that envisaged for the EU and the UK above, pension funds could optimize their asset return, for example, by increasing their allocation to growth assets or raising the credit exposure in the hedging bucket. Alternatively, contributions from sponsors could offset the declining funding ratio trend.

As a final note, these simulations did not account for any inflation indexed liabilities. In such an uncertain inflation context, managers exposed to index-linked liabilities should consider the opportunity of hedging inflation sensitivities. **In conclusion, we believe that now is a good time for pension funds to review their strategy and consider their specific funding situation.**

With contributions from
LARS CICHOS,
Senior Investment Strategy Advisor
BENJAMIN BRUDER,
Senior OCIO Advisor

1. Allocation estimated by Amundi based on public data. UK: PPF purple book 2022. Eurozone: WTW German Pension Finance Watch Q3 2022. US: Aon pension risk tracker 2022.
2. Interest rate hedge ratio assumptions of 75% in the UK, 35% in Europe (Germany) and 50% in the US.
3. Assumptions from Amundi Expected return paper " A rocky net zero pathway: Medium to long-term scenarios and return forecasts", March 2023.
4. UK s179 equivalent discount rate, calculated as Gilt + 100bps
5. IFRS equivalent discount rate, calculated as German bund + 120bps
6. USGAAP equivalent discount rate, calculated as US Treasury + 90bps
7. Amundi estimations of average funding ratios, based on the last section of this pension letter.
8. UK service cost of 0%, EU service cost estimated as 2% and US service cost as 1.5% of liabilities. Median service costs for each zone estimated from Factset data. No sponsor contribution is assumed.

Isabelle VIC-PHILIPPE
Head of Euro Aggregate

Benjamin BRUDER
Senior OCIO Advisor

Pension funding ratios: Back and forth on inflation anticipations

With no clear direction on interest rates, the equity rally had a modest contribution to funding ratios. This quarter, we also look back on the swap spread dislocation that happened in the Eurozone last year.

	31/12/2018	31/12/2019	31/12/2020	31/12/2021	30/06/2022	30/09/2022	31/12/2022	31/01/2023
Netherlands	103.60%	104.30%	100.20%	114.30%	122.40%	124.62%	115.79%	115.58%
UK	95.70%	99.20%	95.50%	107.70%	120.10%	137.56%	136.47%	134.79%
US	86.10%	86.80%	87.90%	95.50%	93.90%	93.80%	93.60%	94.40%
German CTA	67.30%	67.90%	69.10%	77.00%	90.70%	91.70%	92.00%	91.40%

Sources: - UK data: Purple Book, PPF S179 funded status.
- Netherlands data: Dnb - US data: Aon Pension Risk Tracker.- German CTA data: FactSet, based on average pension exposure of German corporates of EUROSTOXX 600 for 31/12/18 until 30/12/20. Amundi estimate from 30/12/21.

Q4 2022 and Q1 2023 to date market review

The fourth quarter of 2022 was broadly positive for markets with **a majority of assets gaining ground** with few exceptions.

October and November US CPI readings surprised on the downside, leading **to growing optimism that we might have finally seen inflation peak.** Even if both the Fed and the ECB remained hawkish, signalling further rate hikes in 2023, the last quarter of 2022 marked the only quarter with positive performance across the board.

Markets made a good start to 2023 with January showing positive returns in equities, government bonds and credit. Declining inflationary pressures driven by lower energy prices favoured better macro forecasts for 2023, particularly in Europe, and raised hopes that central banks might be nearing the end of their current cycle of rate hikes. Risk appetite was also supported by China easing Covid restrictions.

In February, a stream of data showed inflation in Europe and US remained more resilient than expected **leading to a downturn** across equities, credit, sovereign bonds and commodities.

Impact on pension funds:

In Q4 2022, global equities showed strong performance in USD terms (+9.8% for the MSCI World net dividend), but the weakness of the dollar (-8.4% vs EUR) offset this performance for unhedged GBP or EUR investors. Euro interest rates remained volatile but unchanged over the period, while USD 15Y discount rate and GBP Gilt yield both decreased by -0.2%. As such, **in the US,** liabilities valuations increased, offsetting the equity performance and funding ratios were unchanged. **In the UK,** higher liability valuation (+2.2% on average) pushed funding ratios down 0.8%. The **Eurozone** funding ratios remained largely unchanged, but in **the Netherlands,** they decreased significantly in November (-7.6% vs October) due to the publication of the pension indexation decisions for 2023.

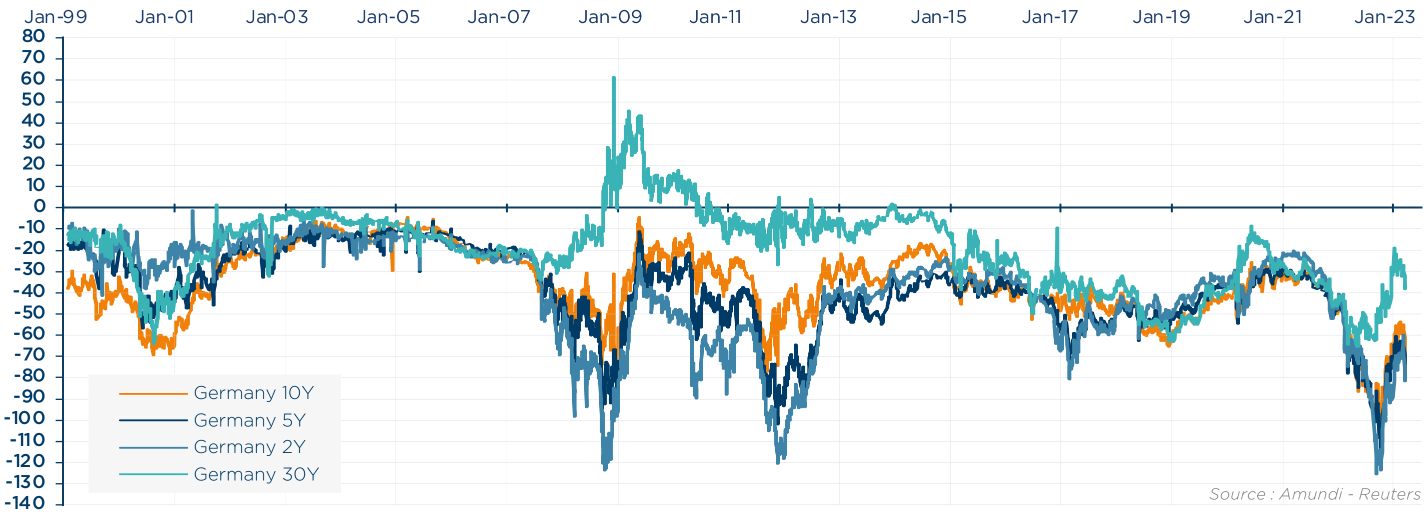
In early 2023, the equity rally continued its positive performance (+4.7% for the MSCI World net dividend in USD). January showed a significant drop in interest rates, but these rates returned to their initial level in February.

Globally, gains on the asset side due to equity performance in January tended to be compensated by losses in liabilities due to discount rate decreases. February showed the exact opposite. **Funding ratio behaviour depended heavily on the interest rate hedging policy:** net, funding ratios on average have remained stable so far versus the end of last year.

Special focus on the Eurozone swap spread dislocation in 2022

During 2022, the dislocation between Sovereign and swap interest rates has reached historical levels (Figure 1), which has implications on several levels.

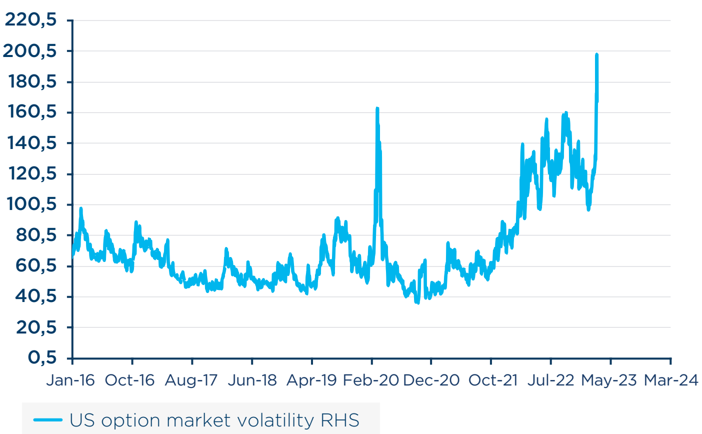
Figure 1. German rates - SWAP rates



The explanation for this is mostly due to the technicalities of the fixed income market where the two legs of the swap spread (Sovereign rate – swap rate) behave differently. The **swap market has been mostly driven by hedging flows** from the banking sector. As usual, during an increasing interest rate environment, households and companies rush to lock in a low financing rate. As a result, the **flow of hedging** by paying swaps **increased materially** during the first half of 2022 leading to an **upward pressure on swap rates.** Sovereign bond yields also rose, but to a lesser extent because of the imbalance between free floating rates and market participants' needs. ECB buying programmes have reduced the sovereign bond portion of free-float. For instance, the Eurosystem National Central Banks hold close to 40% of the German sovereign debt and 30% of the French sovereign debt.

The other aspect of this rising interest rate environment is the **significant increase in volatility** (Figure 2) pushing up collateral needs to meet margin calls while a lot of collateral has been already posted for TLTRO[9] operations. Highly rated and liquid bonds such as German treasuries are the cheapest and most efficient in collateral operations.

Figure 2. US nominal yields vs volatility



Source : Amundi - Reuters

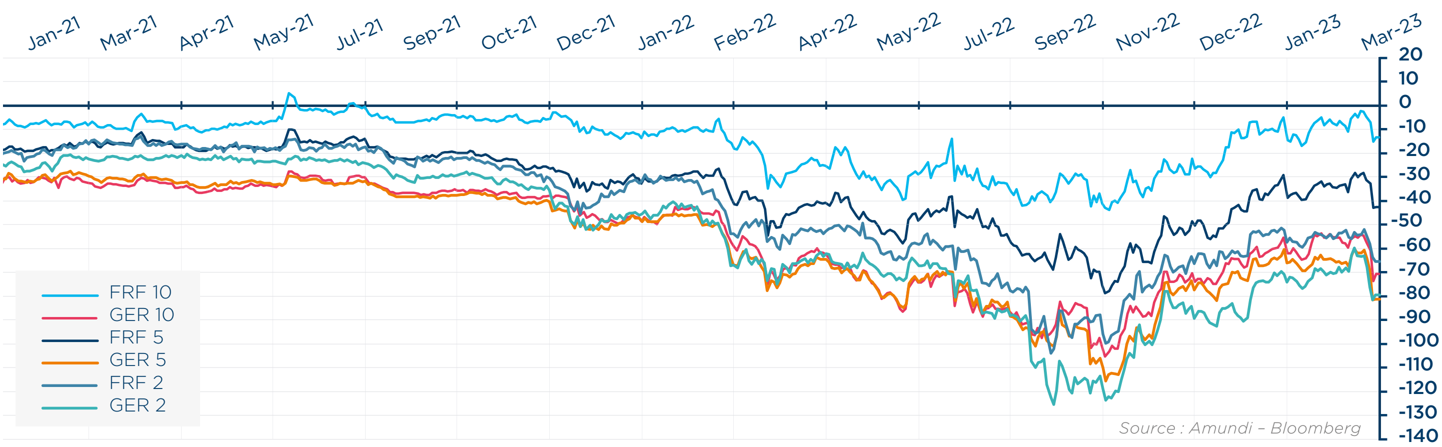
Since October, the trend has reversed, triggered by a combination of fundamental and technical factors. On the fundamental side, banks limited loans to households first because of the assumption that the economic slowdown could turn into a shallow recession, but also because the attrition rate level limited their ability to lend. Therefore, **swap paying flows vanished**. On the technical side, several decisions from the ECB, notably an increase in the eligible pool of bonds, together with new Bund issuance helped in freeing collateral.

9. Targeted Longer-Term Refinancing Operations: used to provide financing to European credit institutions with maturities longer than one year. These loans are reduced as part of ECB's quantitative tightening programme.

What about 2023?

2023 should be more favourable for swap spreads (Figure 3) with heavy TLTRO reimbursements due at the end of the first semester and the implementation of quantitative tightening by the ECB in March freeing up further collateral. Euro system deposits will benefit from exceptional remuneration for another quarter even if the rate is lowered. Decreasing volatility should also help to reduce collateral needs. The increase in interest rates is also expected to weigh on credit production by the banking sector because of the impact on the households' creditworthiness.

Figure 3. France & Germany vs SWAP



Source : Amundi – Bloomberg

What does it imply for LDI management?

The spread between liability discount rates and the swap rates has been much more stable than the sovereign swap spread. Therefore, physical LDI strategies invested in sovereign bonds outperformed both liabilities and synthetic LDI invested in swaps between end-2021 and October 2022. Since then, the **trend reversed, and swap based strategies outperformed government bond-based LDI,** which gave up a significant portion of their relative gains. For 2023, a **more favourable swap spread environment should benefit synthetic interest rate hedging** via swap over government bonds.

In general, pension fund managers should take into account the current conditions and developments in swap spreads when choosing between synthetic or physical LDI exposure. As we saw in 2022, **conditions can evolve quickly and significantly.** To face such an environment, pension funds might prefer to delegate the optimal choice between bonds and swaps through an active LDI management mandate.

CROSS ASSET Investment Strategy

CENTRAL & ALTERNATIVE SCENARIOS (12 TO 18 MONTHS HORIZON)

	DOWNSIDE SCENARIO Recession in DM Prob. 20%	CENTRAL SCENARIO Persistent stagflation, reassessment of risk premiums Prob. 70%	UPSIDE SCENARIO Economic resilience Prob. 10%
 Geopolitics	▪ Worsening / expanding war in Ukraine. ▪ Worsening energy crisis.	▪ Stalemate in the Ukraine war. Risk of escalation in the short run. We expect de-escalation in late 2023. ▪ Gas prices have fallen and are becoming less sensitive to the war (mild winter, untapped stocks).	▪ De-escalation in Ukraine. ▪ Lower energy / food prices.
 Inflation and policy mix	▪ Either persistent inflationary pressures (1) [10%] or strong cyclical disinflation (2) [10%]. ▪ In case (1) CB status quo (no pivot in 2023), while in case (2) CB may return to rate cuts depending on the severity of the crisis.	▪ CB are data-dependent and reach terminal rates by mid-2023, with rates staying high for longer. ▪ Protectionist policies with green industrial policies: IRA in the United States; Net Zero Industry Act (NZIA) in the EU. ▪ EU fiscal support removed gradually. US fiscal impulse to stay in negative territory amid debt ceiling constraints. ▪ Sticky core inflation, unlikely to return to CB targets before H2 2024.	▪ Either persistent inflationary pressures (1) or disinflation due to commodities (2). ▪ In case (1) CB would push terminal rates up, while in case (2) CB would maintain the status quo.
 Growth path	▪ Financial crisis or worsening energy crisis. ▪ Strong recession in the United States and Europe.	▪ Global economic slowdown in 2023, with large divergences: anaemic growth in Europe and recession in the United States, rebound in China with the reopening. ▪ Reassessment of risk premiums following the market turmoil: tightening of credit conditions. ▪ Sub-par growth expected in 2024 in most DM.	▪ No V-shaped recovery, but lower uncertainty and increased confidence may yet support domestic demand. ▪ Growth back to potential in 2024.
 Climate change	▪ Climate transition measures postponed.	▪ Climate change adds to stagflationary trends. ▪ Climate risk hampers growth.	▪ Climate change policy and energy transition are top priorities.

RISKS TO CENTRAL SCENARIO

HIGH ← PROBABILITY → LOW

Market Impact	25%	20%	20%	20%	15%
	Geopolitical risk and war escalation	Economic risk: deeper profit recession (US / Europe)	Persistent stagflationary pressure (US / Europe)	Macro financial risks triggered by recent market turmoil	US debt ceiling
+	**Positive** for DM govies, cash, gold, USD, volatility, defensive assets, and oil.	**Positive** for cash, JPY, gold, quality vs. growth, defensives vs cyclicals.	**Positive** for TIPS, gold, commodity FX, and real assets.	**Positive** for US Treasuries, cash and gold.	**Positive** for EUR, JPY, CHF, and Bund.
–	**Negative** for credit, equities and EM.	**Negative** for risky assets and commodity exporters.	**Negative** for bonds, equities, DM FX, and EM assets.	**Negative** for credit.	**Negative** for US Treasuries, US equities, and risky assets.

Source: Amundi Institute as of 22 March 2023. DM: developed markets. EM: emerging markets. CB: central banks. USD: US dollar. EUR: Euro. CHF: Swiss franc. JPY: Japanese yen. TIPS: Treasury inflation-protected securities.
FX: foreign exchange markets.

CROSS ASSET Investment Strategy

AMUNDI ASSET CLASS VIEWS

	Asset Class	Current view	Change vs. m-1	Rationale
EQUITY PLATFORM	US	–/=		As markets digested the poor quality of Q4 earnings amid high inflation and higher rates, valuations were bound to be affected. The declines, led by the failure of regional banks, indicate that markets were ignoring risks that deserved attention. We remain cautious but like businesses that reward shareholders.
	US value	+		We prefer value names amid a mild increase in yields, but remain focused on quality and earnings, as well as differentiated businesses that can outgrow the cycle. We are selective on banks.
	US growth	– –		Valuations are still excessive in big tech and large cap names despite the former's disappointing earnings season. We avoid unprofitable businesses that are more affected by higher rates.
	Europe	–/=		Uncertainty around recession, inflation and earnings keeps us cautious, even though we saw some positive surprises in recent earnings in the cyclicals sector. On the banking side, we prefer businesses with strong capital positions and liquidity ratios. The current volatility may even open up entry points for names with strong long-term potential. Overall we like quality, value names.
	Japan	–/=		The widening of the band (by BoJ) for bond yields and the market's expectations of the YCC could affect yen movements, making us slightly cautious on Japanese equities. We continue to monitor earnings and the effects of slowing global growth on the export-oriented Japanese markets.
	China	+		We are constructive in sectors such as consumer discretionary on account of the rebound from Covid lockdowns that is also evident in hard data. But we are selective and vigilant on the evolution of geopolitical risks (US, Russia) and the fiscal policy framework.
	Emerging markets ex China	=		Earnings dynamic are supportive in general but country-specific factors such as the political environment in Brazil (mild positive) and valuations in India and Malaysia keep us selective.
FIXED INCOME PLATFORM	US govies	=/+		The Fed's job on interest rates is being complicated by financial stability concerns, in addition to the difficult balancing tasks of boosting growth and taming inflation. We think the central bank will keep its tightening trajectory, but that it will become less aggressive. As a result, we are constructive on duration but remain very active as the situation is fluid.
	US IG corporate	=/+		Spreads are not fully accounting for the yield volatility and pressures on consumption, which will eventually impact corporate cash flows. We are slightly positive but favour businesses with high carry and the ability to withstand earnings pressures.
	US HY corporate	–		Slowing economic growth, a worsening default outlook and higher cost pressures on companies lead us to remain cautious. We are watchful of the effect of real rates and financial stability on spreads.
	European govies	–/=		The ECB appears determined to fight inflation, leading us to be slightly defensive on duration. However, we are agile in adjusting this stance for any change to the ECB's rhetoric and yield movements. We are vigilant on peripheral debt.
	Euro IG corporate	=		Leverage remains stable compared with history but the tightening monetary policy framework in Europe and the potential geopolitical risks leave us close to neutral. We are monitoring stability risks and how the economic deceleration affects the cash flows and liquidity needs of companies.
	Euro HY corporate	–		As internal liquidity buffers reduce, HY corporates may increase leverage at a time of weak earnings, rising interest costs and deteriorating default prospects. Hence, we remain cautious and are mindful of factors that could trigger any spread volatility.
	China govies	=		We are monitoring the government's fiscal and monetary policies and how they collectively affect Chinese yields. For now, we are neutral amid our view that it offers diversification advantages.
	EM bonds HC	=/+		In an environment of soft global growth, EM debt offers attractive carry even if spread compression may be limited from current levels. We are particularly monitoring the political events in Turkey and Nigeria and are cautiously optimistic on the former.
	EM bonds LC	=/+		We are constructive on EM duration and FX but remain very selective as directional certainty is still limited in the medium term. But we believe there are opportunities in Mexico and Thailand, and are tactically positive on Colombia, South Africa and India.
OTHER	Commodities			Oil prices were weighed down by concerns on growth, affecting the very near-term outlook. However, the production discipline of OPEC+ and US producers, and surging Chinese demand, leads us to maintain our 12m Brent target of $100/bl. We also keep our 12m gold price target of $2,000/oz.
	FX			We reduced our cautious stance on the GBP vs. the dollar owing to expectations of a weaker greenback. We also confirm our EUR/USD 12m target at 1.15. Select EM FX offer opportunities to play the strength in Latin America and Asia as sentiment improves.

– – – – – – = + ++ +++

Negative view Neutral Positive view

▼ Downgrade vs. previous month

▲ Upgraded vs. previous month

Source: Amundi as of March 2023, views relative to a EUR-based investor. This material represents an assessment of the market environment at a specific time and is not intended to be a forecast of future events or a guarantee of future results. This information should not be relied upon by the reader as research, investment advice or a recommendation regarding any fund or any security in particular. This information is strictly for illustrative and educational purposes and is subject to change. This information does not represent the actual current, past or future asset allocation or portfolio of any Amundi product.

To go further: The Amundi Research Center

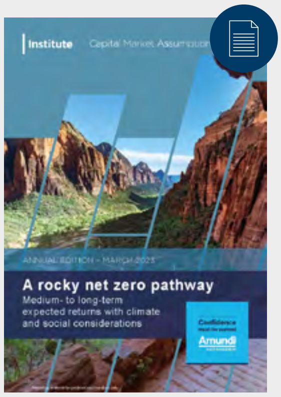
Amundi Institute

The Amundi Institute was created to deepen the strategic dialogue with clients, and to cement Amundi's leadership in the economic and financial research landscapes. Sitting at the heart of the global investment process, the Institute works seamlessly with Amundi's investment platforms to produce analysis that twins an explanation of what's going on in the economy and markets with implications for investors. Our goal is to help clients navigate an increasingly complex and rapidly changing world.

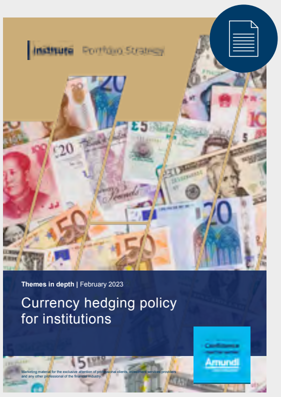
To find out more, please visit: **research-center.amundi.com**

ESG Thema

Expected returns paper



Thematic Papers



Discover the new Cross Asset