January 2024

Bank of Ireland Investment Markets

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Head of Investment Markets
Bank of Ireland Investment Markets

Happy New Year & welcome to the first edition of The REVIEW 2023 Market Review and 2024 Outlook

In this new update we look back at the events that shaped markets in 2023, share our expectations for 2024, and draw on the insights and thought leadership from a selection of our global fund managers.

2023 was a rollercoaster year for markets, with the introduction of artificial intelligence (AI) fuelling the rise of the Magnificent Seven[1] while rising interest rates, inflation, and geopolitical tensions posed significant challenges.

Kevin Quinn, our **Chief Investment Strategist**, looks at these events in detail and provides his outlook for 2024.

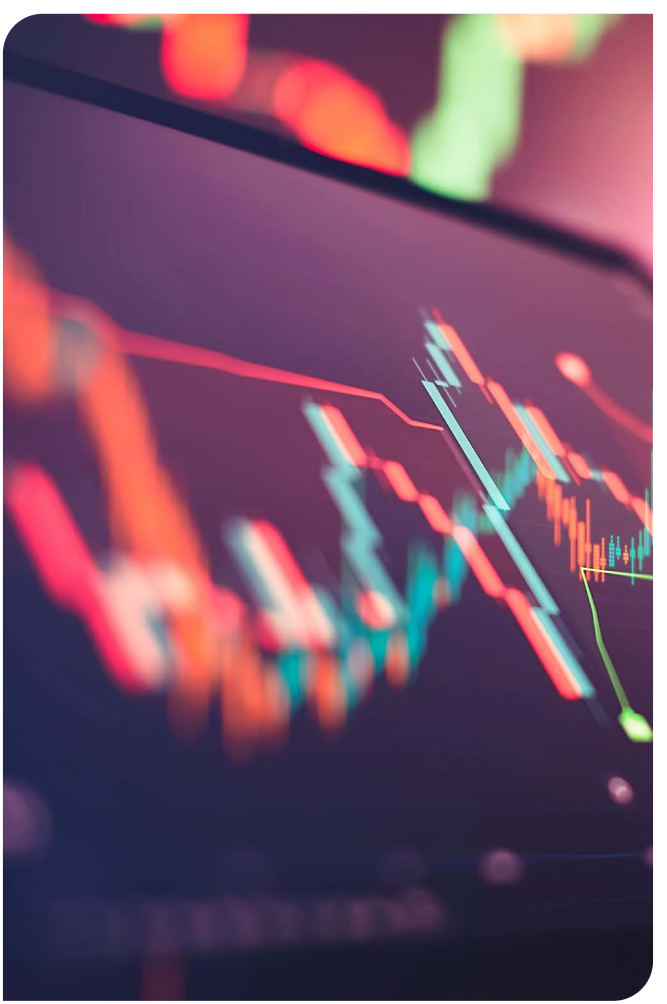
With valuable insights from our global fund managers on a range of topics, we also include:

- **M&G Investments'** view on the importance of active management in bonds
- Why **State Street Global Advisors** believe **Target Date Funds** are a robust choice in achieving retirement goals
- **KBI Global Investors'** five megatrends in water and clean energy stocks
- **Fidelity International** share their insights on sustainable opportunities in emerging markets
- **Schroders** guide to who's benefiting from generative AI

You'll also find information on some of the invaluable investment tools available to you, including **Fund Centre** and **Sustainable Investing Hub**, as well as how our team helps to empower your financial journey.

We have also included a Glossary of terms at the end of this document. Within each section, we have linked to these terms to help make reading The REVIEW 2023 Market Review and 2024 Outlook a little easier for you.

On behalf of all of my colleagues at **Bank of Ireland Investment Markets**, I would like to thank you for your continued business, and we look forward to supporting you in 2024.



[1]Alphabet, Amazon, Apple, Meta, Microsoft, NVIDIA, Tesla.

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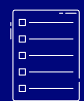
What we delivered for you in 2023

Helping our Advisors and you to thrive.

30 Investment Market Webinars

providing relevant & timely market updates to Advisors to support you.

420 Investment Collateral Updates



keeping Advisors and customers continuously informed.

7 New Investment Products

adding to our broad range of innovative investment solutions.

41% Article 8 Investment Funds

moving to a more **sustainable investing** platform.

Sustainable Investing Hub

102 Investment Market Updates

providing regular and insightful market updates to customers and Advisors.

6 Fund Centre Enhancements

making it simpler to do business with us.

Fund Centre

2 Bank of Ireland Investment Markets Advisor Videos

highlighting the impact of this specialist team.

Web Improvements

delivering enhanced customer journeys through refreshed Sustainable Investing Hubs, Market Watch and Investment pages to help our customers to thrive.

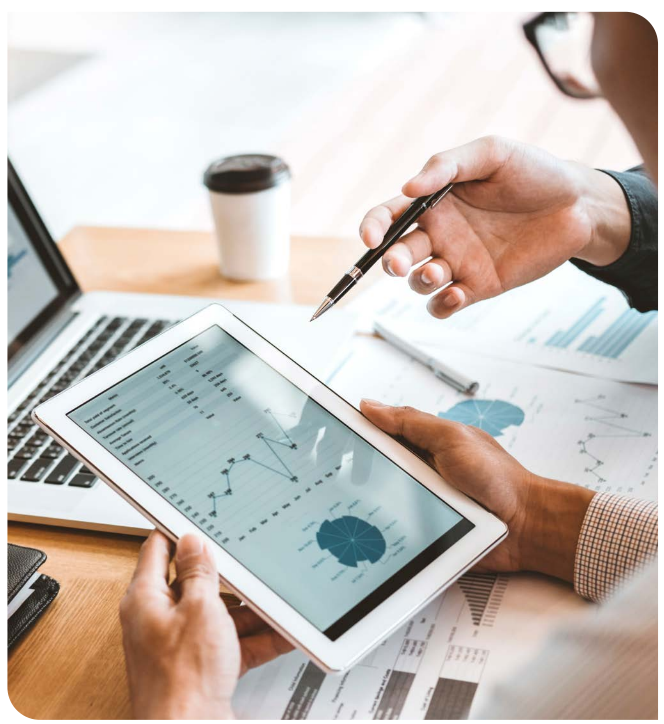
Market Watch

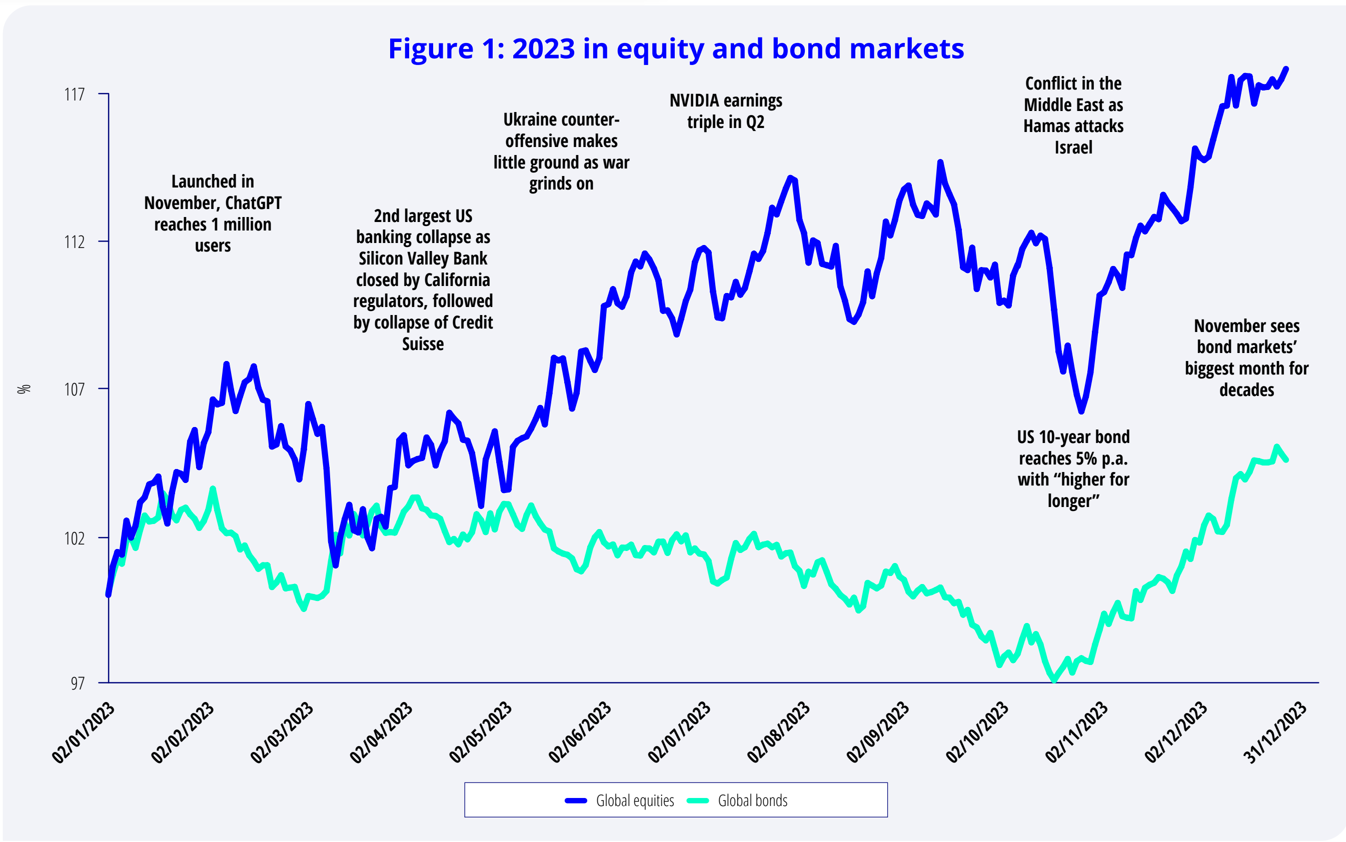
2023's three peaks - peak growth, peak yields, & peak AI

Kevin Quinn
Chief Investment Strategist,
Bank of Ireland Investment Markets
LinkedIn

2023 was an exceptionally strong year for investors (Figure 1), recovering most of the ground lost in 2022. The year saw **inflation** begin to decline, although interest rates needed to go a lot higher, only peaking towards the end of the year. It will also be remembered as a year that confounded market commentators as recession fears proved largely misplaced, particularly in the resilient US economy.

Against this backdrop, **equity** market performance was impressive, although it was driven by a narrow group of large-cap technology **stocks**. Towards the year-end, the **bond** market made impressive gains as expectations of interest rate cuts became a dominant theme in markets.





Source: BOI Investment Markets/Bloomberg, 31.12.23.

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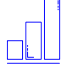
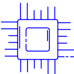
Drivers of 2023 returns


1 Peak growth

2 Peak yields

3 Peak AI

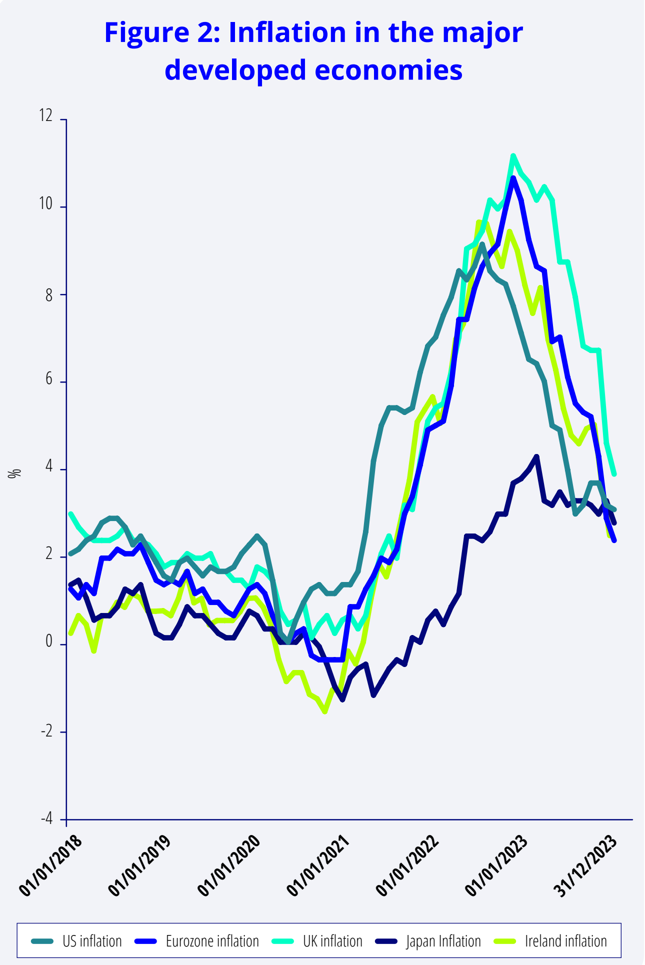


1 Peak growth

Inflation was on a steady decline throughout 2023, with headline inflation reaching 3.1% in the US and 2.4% in the eurozone. At the time of writing, Irish inflation had fallen to 2.3% year-on-year[1]. Although core inflation, which excludes energy and food, remains higher, it's evident that inflation is losing prominence as far as markets are concerned.

Achieving this required larger increases in interest rates in 2023 than was originally expected. This, in turn, caused stress in the US banking system, culminating in the March closure of Silicon Valley Bank by California regulators - the second largest failure in US history. In a swift response, US regulators, possibly recalling the 2008 Global Financial crisis, moved quickly to contain the situation and prevent contagion.

Figure 2: Inflation in the major developed economies



Source: Bloomberg, 31.12.23

Diverging economies

By mid-summer 2023, divergence in the fortunes of different parts of the global economy was one of the stand-out features.

- The US emerged resilient from the banking crisis and produced robust economic growth in subsequent quarters, peaking at 4.9% per annum (p.a.) growth in Q3 2023[2].
- While Europe took the interest rate medicine at a similar pace to the US, the economy proved less resilient and we saw countries such as Germany slip into near-recessionary conditions.
- China's post-COVID-19 reopening, expected to boost global growth, progressed slowly due to consumer reluctance to spend and a property crisis creating an overhang that made interest rates cuts more difficult.

In the final months of 2023, geopolitics returned to the forefront for the second consecutive year. Conflict in the Middle East erupted in the most tragic way in October. A limited spike in oil prices proved short-lived as the conflict remained contained and its impact on global markets so far has been very limited.

[1] Source: Bloomberg, 15.12.23. [2]Source: Bureau of Economic Analysis, 21.12.23.

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Peak yields

Towards the end of 2023, strong economic growth and persistent core inflation kept central banks talking tough in terms of interest rates. While there was a general pause in rate increases in Q4 2023, the mood music was that interest rates wouldn't be cut for some time. This was reflected in higher bond yields in October, as US ten-year yields peaked at 5% p.a. and the German equivalent approached 3% p.a.[3]. Both of these are levels not seen in 16 years.

The "higher interest rates for longer" comments led to a temporary convergence with market views in October. However, by November, market sentiment shifted due to a faster-than-expected decline in eurozone inflation and signs of a slowing US economy. As a result, the market began to price in interest rate cuts from as early as March 2024, despite central bank arguments to the contrary.

This rapid shift in opinion saw 10-year bond yields dropping below 4.2% p.a. by December, leaving November with the biggest one-month gains in the bond market in decades, as well as the year's strongest month in equities. By late-December, following announcements from the US Federal Reserve (Fed) and European Central Bank (ECB), bond yields fell further (the US 10-year was below 3.8% while the German equivalent reached as low as 1.8% p.a.) and a "Santa Rally" in equity markets continued into year-end[4].

Figure 3: US and German 10-year bond yields in 2023

Source: Bloomberg, 31.12.23.

[3] Source: Bloomberg 15.12.23. [4]Source: Bloomberg 15.12.23

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3 Peak AI

In 2023, artifical intelligence (AI) and the Magnificent Seven[5] tech stocks dominated for equity investors.

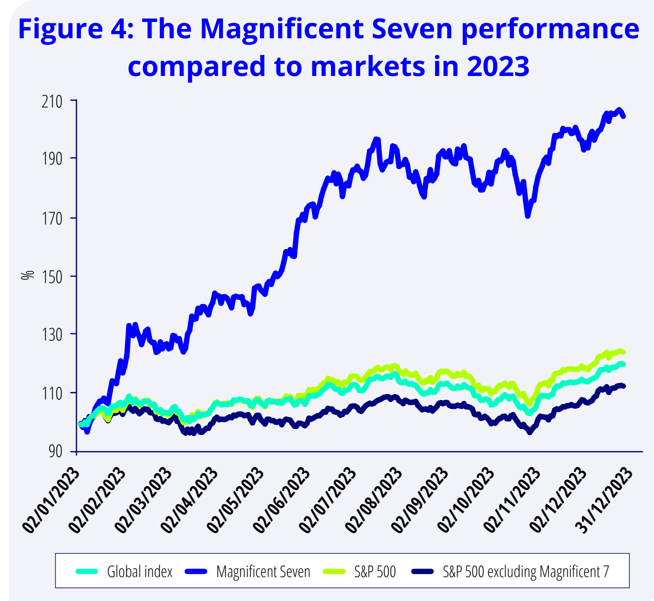
Sparked by the successful launch of ChatGPT in November 2022, and the focus on AI ever since, these seven mega-cap US tech stocks, now valued at $11.7 trillion[6], drove remarkable combined returns of nearly 100% for 2023[7].

The broader US market's 22.3%[8] return drops significantly to 8.9% without the influence of the Magnificent Seven, making it easy to see just how important these companies have been for investors in 2023[9].

- NVIDIA led the group with a staggering 228%[10] increase in its share price in 2023 as demand for the chips that underpin artificial intelligence proved insatiable.
- Meta, Facebook's parent company, rose nearly 185% and Apple, the world's largest company, saw its share price rise by just under 44% in 2023[10].

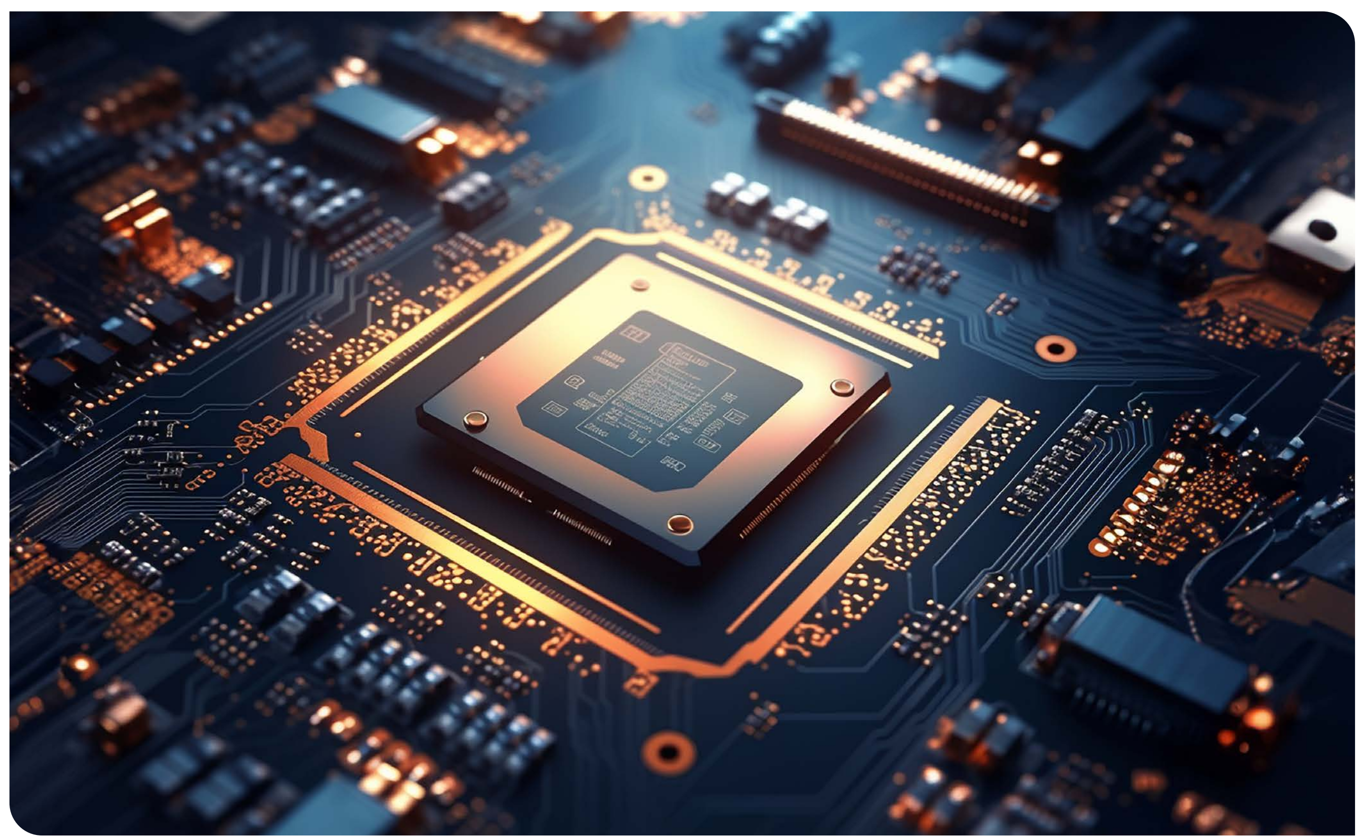
Put simply, neglecting the Magnificent Seven proved costly for investors in 2023, as these companies outperformed, leaving many fund managers likely to spend the next year explaining why they missed out.

Figure 4: The Magnificent Seven performance compared to markets in 2023



Source: Bloomberg, 31.12.23.

Betting against these stocks has been an unprofitable approach for years, but replicating 2023's success also appears unlikely. With less demanding valuations in other parts of the world's stock markets and the prospect of interest rate cuts, a more broadly based performance may emerge in 2024. While not dismissing large tech companies' potential, it's important to recognise that many must continue to deliver exceptional earnings just to stand still.



[5]Alphabet, Amazon, Apple, Meta, Microsoft, NVIDIA, Tesla. [6]Source: Bloomberg, 31.12.23. [7]Source: Bloomberg; Magnificent 7 Index in euros, 31.12.23. [8]Source: Bloomberg; S&P 500 in euros, 31.12.23. [9]Source: Bloomberg; S&P 500 ex Magnificent 7 in euros, 31.12.23. [10]Source: Bloomberg 31.12.23, total return expressed in euros.

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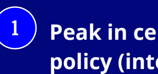
2024 outlook - three peaks and a valley

In 2024, investors face a balancing act between the lagged impact of higher interest rates, slower growth, and geopolitical tensions, with the potential for **disinflation** alongside expected big interest rate cuts amid the ongoing AI revolution. The peaks coming into view are:


1 **Peak in central bank policy (interest rates & money supply)**

2 **Peak employment & talk of recession**

3 **Peak geopolitics**

4 **A valley in the economy**

1 Peak central bank policy

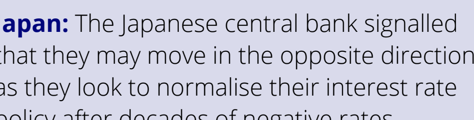
The era of cheap money (2008-2021) is over, but we have also seen the end of the interest rate rises. So what might follow?

Inflation peaked late in 2022, declined in 2023 and, while not quite at policy level and still a concern for central banks, is gradually becoming less of a market focus. Despite risks of a resurgence, the probabilities of this seem modest. As a result, markets quickly accelerated their opinion on the speed and scale of interest rate cuts due in 2024.

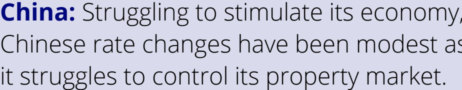
Interest rate expectations

Eurozone: At the end of 2023, expectations were just under 60% for interest rate cuts to begin by March 2024, with at least five, if not six 0.25% interest rate cuts by the end of 2024.

US: The market believes there is roughly a 85% chance of interest rate cuts by March 2023, with an expectation of six 0.25% cuts in the year.



Japan: The Japanese central bank signalled that they may move in the opposite direction as they look to normalise their interest rate policy after decades of negative rates.

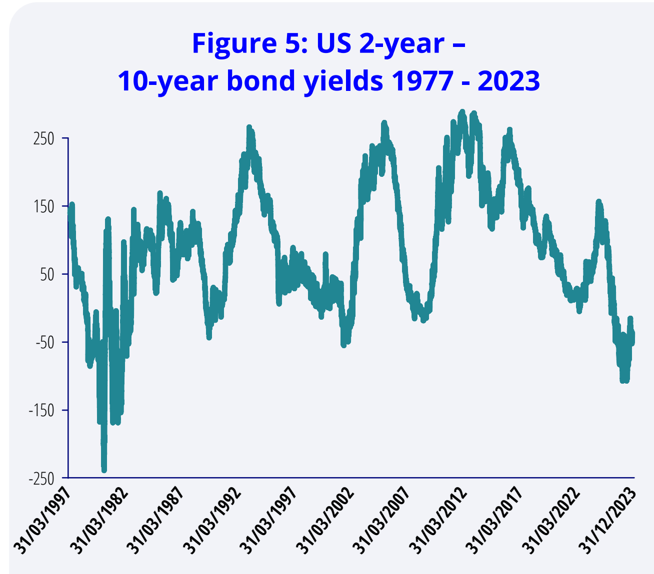


China: Struggling to stimulate its economy, Chinese rate changes have been modest as it struggles to control its property market.

Major developed economies are moving towards interest rate cuts, causing shifts in bond market yields as the interest rate "normalisation" process begins. However, there is a significant difference of opinion between markets and central banks regarding the pace and depth of interest rate cuts. For instance, the Fed has indicated it expects to cut interest rates three times next year compared to the six expected by markets.

Early in 2023, both eurozone and US yield curves were deeply inverted, with short-term interest rates significantly higher than longer-term rates, contrary to the norm. By late 2023, the normalisation process began, and in 2024, we can possibly expect to see short-term rates fall below long-term ones.

Figure 5: US 2-year – 10-year bond yields 1977 - 2023



Source: Bloomberg, 31.12.23

While there's plenty of scope for markets' disappointment in the timing and extent of any interest rate cuts, lower interest rates in 2024 are a significant positive for investors, benefiting both risk and bond investors as we go through the process. However, disappointment may arise with the speed or magnitude of cuts (or both) that the Fed and ECB are prepared to deliver. We saw evidence of this in early January, when markets tempered their enthusiasm for rate cuts and bond yields moved back up. The ebb and flow of opinion on this issue is likely to be a prominent feature in the coming months.

It also seems likely that interest rates will settle at structurally higher levels, likely contributing to slower growth, especially given the debt levels that now prevail in some developed economies.

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Peak in central bank policy (interest rates & money supply)

Peak employment & talk of recession

Peak geopolitics

4 A valley in the economy

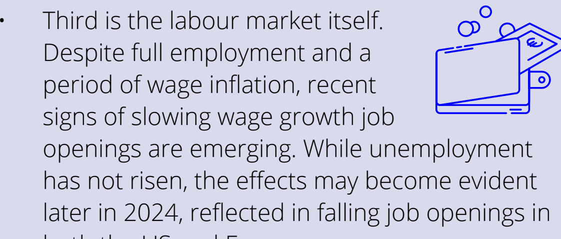
2 Peak employment & talk of recession

Despite recent challenges, including high inflation and rising interest rates, unemployment has not increased. In fact, eurozone unemployment, which had been falling since the COVID-19 pandemic, reached a low of 6.5% in mid-2023[11].

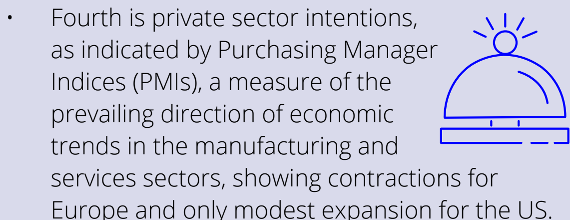
Similarly, the US experienced a low of 3.5% in March 2023[11]. Although there has been a very modest pick-up in both the eurozone and the US towards the end of 2023, labour markets on both sides of the Atlantic remain robust.

To understand the decline in inflation without a recession or increased unemployment, several factors come into play:

- First, consumers used pandemic-related savings to support spending throughout 2023. This is likely to run out in 2024.
- Second, despite significant interest rate increases, their full effect on the real economy is yet to be realised, particularly in the US where so much of the mortgage market has fixed rates that have remained untouched (only about 3% of US mortgage are on a variable rate and 14 million Americans refinanced their home loans during the pandemic to avail of lower rates[12].)



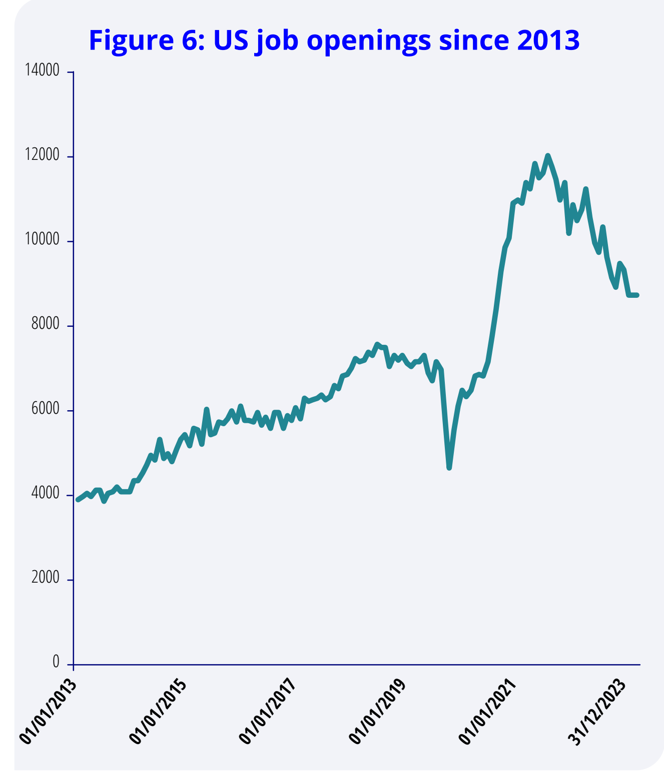
- Third is the labour market itself. Despite full employment and a period of wage inflation, recent signs of slowing wage growth job openings are emerging. While unemployment has not risen, the effects may become evident later in 2024, reflected in falling job openings in both the US and Europe.



- Fourth is private sector intentions, as indicated by Purchasing Manager Indices (PMIs), a measure of the prevailing direction of economic trends in the manufacturing and services sectors, showing contractions for Europe and only modest expansion for the US.

Combined, these factors may slow the global economy and probably mean a modest recession in some parts of the world.

Figure 6: US job openings since 2013



Source: Bloomberg, 31.12.23.

Figure 7: Purchasing manager indices since 2021

Source: Bloomberg, 31.12.23.

[11]Source: Bloomberg, 31.12.23. [12]Source: KKR, Bank of America, 31.12.23.

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3 **Peak geopolitics**
4 **A valley in the economy**

3 Peak geopolitics

The geopolitical stage poses considerable challenges for investors in 2024.

US internal politics, will be a key driver of the geopolitical stage in 2024. The 2024 US election looks highly uncertain with President Biden currently faring poorly in the polls, despite full employment and robust growth in the US economy. With former President Trump likely to be the Republican candidate, it may turn into an election in which there is a "anti-establishment" feel to his campaign, a re-run of "America first" style politics which could translate into a reduced role for the US internationally – meaning reductions in expenditure for Ukraine against Russia and even a softening of the stance towards Taiwan.

A Biden victory may continue recent multilateral US policies, contingent on economic performance in the year ahead. The outcomes for incumbent presidents who go into an election either in a recession or just emerging from one, have historically been quite poor, so the extent of a slowdown will be important.

Elections are also a feature of the landscape in Taiwan, with the possibility of a government change which could favour closer ties with China.

The risk of escalation of the conflict in the Middle East, in particular with any direct involvement of Iran remains a possibility, but at least in the near term, it does appear to be contained.

4 A valley in the economy

The economic slowdown is coming for western developed economies but it may happen slowly and in an unsynchronised fashion. Leading business indicators, tighter lending standards, slower credit growth, the lagged impact of interest rate rises, and Chinese weakness are all likely to impact the global economy in 2024. However, the effects will unfold slowly, allowing for continued growth in the first half of 2024, possibly longer.

It will also be a period in which some parts of the global economy will expand while others contract.

- In the US, inventory and construction investment, which are usually a very large part of any recession, have already bottomed out in 2023 and could be in recovery by 2024.
- In Europe, while core countries such as Germany may be very close to recession, growth in the periphery is forecast to hold up a little better and may be enough for the eurozone as a whole to avoid outright recession.
- China will continue to grow, but probably at a slower pace. Chinese households did not have the backstop of pandemic-era savings and government support has been more modest, so their recovery has been weaker.
- For Japan, 2024 will be a landmark year, when it is likely to emerge from 20 years of deflation.

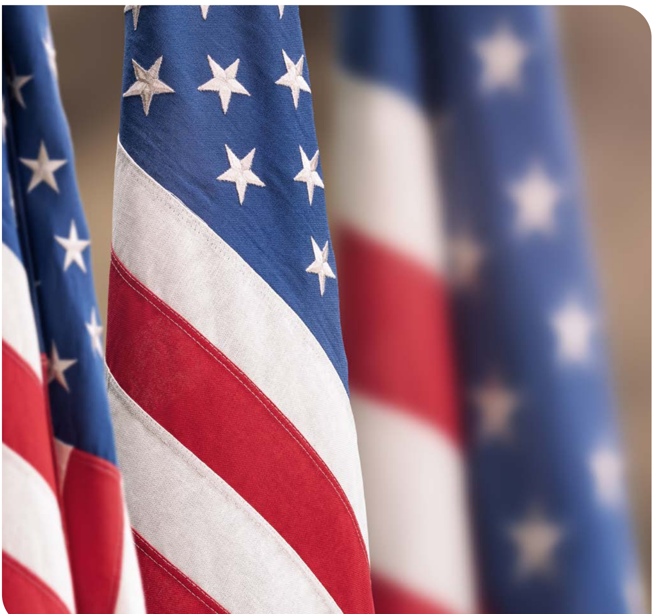

Table 1: Consensus forecasts

	2024 real economic growth	2024 inflation	2025 real economic growth	2025 inflation
Eurozone	0.6%	2.7%	1.5%	2.1%
US	1.3%	2.7%	1.4%	2.3%
China	4.5%	1.7%	4.4%	1.9%
Japan	1%	2.1%	1%	1.5%

Source: Bloomberg 21.12.23

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Company earnings are forecast to be in recovery mode during 2024, and even allowing for some slippage here, this will support a reasonable start to 2024 for risk assets, or perhaps an extension of what we saw in 2023.

- In the US, consensus estimates are for growth of 8% p.a. in Q1 2024, accelerating to 17.5% p.a. in Q4.
- In Europe, the expectation remains that earnings recession will continue in Q1, but that earnings recovery will begin in Q2[13].

The AI theme will persist for many years, but the wider market may play catch up for some part of the year.

A stop-start dynamic in the first half of the year may arise from the inevitable tussle between market optimism regarding the timing and extent of interest rate cuts against potentially less accommodation from central banks.

A more noticeable slowdown may not manifest until later in the year when many of the factors mentioned above begin to have a greater bearing.

For **bond investors**, 2024 should be profitable, despite the fact that significant rate cuts have already been priced into the market. The one area that could pose some challenges is the supply of new government bonds that will be issued. With most governments remaining in an expansionary fiscal mode and much of the debt issued in recent years being rolled over, there will be a lot of bonds for sale, which could keep prices down.

For the **equity investors**, the year's outcome is less predictable, though a near-term continuation of 2023 trends is likely. Optimism about US earnings growth and European recovery may have to confront a broader economic slowdown later in 2024. Nevertheless, US earnings are expected to recover throughout 2024, while Europe is expected to bottom out by mid-year, followed by a robust recovery.

For **currencies**, 2024 hinges on the timing and scale of central bank interest rate moves. Currently, the Fed looks likely to act first, with the ECB following shortly after, potentially keeping the US dollar weak. The direction that the yen may take could make 2024 a year in which the yen reverses direction and starts to recoup losses.

[13]Source: I/B/E/S Refinitiv, 31.12.23.

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Leveraging the insights & thought leadership of our global fund managers

Amy McNally
Head of Product &
Provider Management
Bank of Ireland Investment Markets

Within **Bank of Ireland Investment Markets**, we work with around 26 different global fund managers. We pride ourselves on our independence and being able to select and work with global and leading fund managers that help us meet the investment needs of our customers and, in turn, provide value and choice to our overall investment offering.

Making investment content easy to understand

We understand the investment world can be viewed as complex, technical, and full of jargon, which can make it difficult to understand. Within our business, we place a great emphasis on ensuring all investment content and information we prepare for you is written in a way that is easy to understand and jargon-free! We also work closely with our global fund manager community to identify what investment topics are of interest to their global customer base. This ensures that we are always delivering the most up to date, easy to understand and relevant investment content to you.

With this in mind, the next section of The REVIEW brings you insights and thought leadership from a number of our global fund managers.

These insights focus on a wide variety of investment subjects, including:

- The argument for active management in bonds
- Why it's worth considering having some exposure in your investment portfolio to water and energy stocks
- How emerging markets are becoming more sustainable
- Investing for your retirement
- How the world of artificial intelligence is growing - we need to ensure we understand it before we decide to invest in it!

We hope you find these articles both useful and interesting!

> *We pride ourselves on our independence and being able to select and work with global and leading fund managers.*

The case for active management in bonds

Target Date Funds – a sound, robust default choice helping you achieve your retirement goals

KBIGI

The case for investing in water and clean energy stocks

Sustainable opportunities to be found in emerging markets

Schroders

Artificial intelligence revolution: who's profiting now from generative AI?

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The case for active management in bonds

Carlo Putti,
Investment Director,
M&G Investments

In this article, Carlo Putti explains why M&G Investments believes there are benefits to an active management style in bonds.

- The global bond market is today valued at around $130 trillion[14], offering plenty of opportunity for fund managers to generate value. However, in the recent environment of rising inflation and interest rates, active management is more important than ever.
- Active bond managers tend to have more flexibility to invest in bonds that they believe are the most attractive. They also carry out in-depth research to identify these pockets of value and can benefit from access to new issue premiums.
- While growing in popularity, it is important to consider that passive bond investments often give exposure to the most indebted governments or companies – so-called 'sinners, not winners' – and tend to be poorly diversified, while also lacking the flexibility of an active manager.

A deep, diverse and growing investable universe

While passive investments have seen rapid growth in recent years, we believe active management offers several crucial advantages when investing in bonds.

This is especially true in the current climate, as uncertainty over the future path of interest rates and inflation continues to drive heightened volatility across the bond market. Volatility tends to create mismatches in market pricing, resulting in significant spread dispersion, where bonds with the same credit rating trade at different spreads over government bond markets. Skilled active managers can exploit this to generate added value.

The case for active management

Investing in equity markets is comparably straightforward compared to bond markets; a company typically only has one listed equity, or share. However, bond investors often have to choose between multiple bonds issued by the same company with different characteristics.

With such a diverse spectrum of bonds to choose from, as seen in Figure 8 below, assessing the relative value of bonds with different terms to maturity, interest rates and currencies to identify the most attractive risk-reward opportunity requires a rigorous selection process, in our view.

FIgure 8: Credit markets - a deep, diverse and growing investable universe

Global Government bonds (USD trillion (tn))
0 5 10 15 20 25 30 35 40
2001 2004 2007 2010 2013 2016 2019 2022
$29.4tn

Global Investment Grade Corporate (USD tn)
0 2 4 6 8 10 12 14 16
2001 2004 2007 2010 2013 2016 2019 2022
$11.7tn

Global High Yield Corporate (USD tn)
0.0 0.5 1.0 1.5 2.0 2.5 3.0
2001 2004 2007 2010 2013 2016 2019 2022
$1.9tn

Source: M&G, Bloomberg, 22.12.22, most recent sourced data available.

[14]Source: Capital Markets Fact Book, 2003, SIFMA.

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How active bond managers can add value

1 A flexible approach

Active managers often have greater flexibility than passive managers to adjust sector and company exposure to what they believe are the most attractive in the economic environment at that time and avoid those that could face headwinds. They also benefit from careful bottom-up security selection and can position portfolios to seek to minimise the impact of rising interest rates. These are crucial levers to take advantage of investment opportunities.

2 Can act on short-term opportunities

Active managers can take advantage of relative value opportunities. For example, comparing different bonds from the same issuer (such as those issued in different currencies or maturities) to exploit pricing mismatches.

3 Fundamental credit analysis

Fundamental credit analysis is essential in understanding a company's financial situation and how it might impact their financial performance. With one of the largest teams of credit analysts in Europe, M&G Investments is well placed to identify the companies and sectors that should be in the strongest position to perform in a variety of economic scenarios.

4 Capturing new issue premiums

Active managers are also well-placed to capitalise on the additional yield pick-up that issuers typically offer when pricing new bond issues versus their existing debt.

The other side of the argument

While in our view, a well-resourced active bond manager offers several advantages over passive bond strategies, there are some potential drawbacks to be considered.

- For example, actively managed products typically have higher fees to reflect the greater human input.
- Furthermore, in order to generate value, active managers may take on greater market risk than a passive product.
- As performance is dependent on the skill of the manager, active funds may underperform a passive product as well as outperforming it during different market cycles or timeframes.
- Additionally, some active funds set minimum investment thresholds for prospective investors.

> *"Active managers often have greater flexibility than passive managers to adjust sector and company exposure."*

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The shortcomings of passive fixed income

1 Tilted towards most indebted companies
While an equity market index used in passive equity investing is typically weighted towards a market's biggest and arguably most profitable corporations, a bond index gives exposure to the most indebted governments or companies – so-called 'sinners, not winners'. The largest components of a typical corporate bond index used for passive bond investing will usually be those with the largest outstanding amounts of debt – far from the type of issuer to which investors may choose to have a sizeable exposure.

2 Poor diversification
It is a common misconception that credit indices are well diversified. Looking at the ICE BofAML Global High Yield Index as an example of a leading bond index, for example, it has an exposure of around 80% to US dollar denominated assets, making it very reliant on the US economy and highly exposed to oil prices. This highlights why investors should examine the underlying assets to ensure their exposure matches their risk appetite and provides sufficient diversification.

3 Exposed to market volatility
During sharp market sell-offs, typical passive bond solutions can be behind their benchmarks as the market is unable to absorb large amounts of selling. During severe sell-offs, there have even been cases when the prices of these solutions have fallen below their value. Furthermore, unlike active managers, passive bond solutions are fully invested and so cannot hold cash and other liquid instruments to act as a buffer against market falls.

4 Lack of flexibility
Passive bond strategies do not have the ability to adjust exposure depending on their macro outlook or assessment of valuations as active managers can. Instead, they seek to match the interest rate and credit risk of a specific bond index.

For example, as a passive strategy follows an index, if the index increases its duration, passive funds will have to do the same and vice versa if the index decreases its duration. The problem is that the duration of an index is inversely correlated to its yield; as yields rise, the duration will fall because the higher the compensation investors receive (i.e. yield), the less time it is going to take to get their money back (i.e. duration). As such, as yields rise, investors should be thinking about adding duration, not reducing it. Yet, in a passive fund, duration will be coming down as rates are rising.

5 Limited ability to capture value opportunities
Market volatility creates many opportunities for active managers to capture value via spread dispersion but this is not something passive bond vehicles are able to exploit. Similarly, they do not have the flexibility to sell a position they no longer believe to be attractive.

Summary

- With today's uncertain market backdrop, M&G Investments believes a flexible active management approach will be increasingly important to capitalise risk/return future opportunities across the global bond markets.
- In M&G Investment's opinion, the opportunity is made especially attractive now by the fact that investors in credit markets could be significantly overcompensated for the risk they are perceived to be taking.
- Skilled active managers, like M&G Investments, have the tools at their disposal to help protect investors' capital during market weakness and to help identify opportunities that could outperform in an eventual recovery.

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Target Date Funds – a robust default choice helping you achieve your retirement goals!

Barry O'Leary
Relationship Management, State Street Global Advisors

STATE STREET GLOBAL ADVISORS

State Street Global Advisors (SSGA) is the main investment manager for Bank of Ireland Life's **Passive IRIS** investment strategy. Here, Barry O'Leary from SSGA explains what **Target Date Funds** are and why they're a strong default choice in reaching your retirement goals.

In Ireland, the coming decades will see retirees increasingly dependent on their Defined Contribution (DC) Pension pots as the remaining Defined Benefit (DB) schemes either windup or naturally run-off. Ireland is playing catch-up in this regard compared to the experience of larger markets such as the US and Australia, with the UK also further along this journey.

What these markets have in common is that **Target Date Funds** are or are becoming, the predominant default investment strategy for many retirement plans. Introduced in the US in the 1990s, their success there has been such that 95% of US plans now use **Target Date Funds** as their default[15].

What exactly are Target Date Funds?

A **Target Date Fund** is a single fund that a pension investor holds for their entire career and is built specifically with the investors' retirement year in mind. The fund adapts to changing needs as retirement approaches; this includes ensuring an appropriate mix of assets is held as an investor moves towards retirement.

In the early years of saving for retirement, typically, an investor will want to hold assets such as equities to deliver growth. As the expected retirement date gets closer, a **Target Date Fund** will automatically switch a portion of the pension pot into lower-risk investments, such as cash and bonds, as well having a risk management system around the equity exposure within the fund.

[15] Source: Vanguard, "How America Saves" (2016).

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How can Target Date Funds help you?

A key part of building retirement confidence is:

1. ensuring robust investment returns and
2. managing risks within your pension funds.

A well-governed default investment strategy can help you achieve better retirement outcomes. A pension solution's default investment strategy, like **Bank of Ireland Life's Passive IRIS**, should allow you to focus on your retirement goals and how much you can save without having to worry about these complexities of investment choice.

What to think of when considering Target Date Funds

When choosing a partner for your lifestyle investment strategy there are a number of factors you may wish to consider:

1. **Investment Solutions Mindset:** Designing an investment strategy for your lifespan is a significant challenge. State Street Global Advisors (SSGA) has a dedicated Investment Solutions Group that focuses on constructing multi-asset, outcome-oriented investment strategies. This team, of over 135 investment professionals across eight global investment centres, is one of the most experienced and long-standing teams in the industry and have been serving our clients through multiple market cycles for almost four decades.

2. **Passive Investing:** Globally, passive, or index investing, is becoming more common in default pension investment strategies. In passive investing, managers look to replicate rather than outperform a market. The longer the investment horizon, as is the case with pension investing, the smaller the chance that managers can beat the index which can make passive investing more relevant.

   By adopting a passive investing approach in **Passive IRIS**, investors do not have the headache of trying to identify which managers may be good and appropriate and then continually monitoring them or having to replace underperforming managers. Additionally, passive investing is usually cheaper and can represent better value for money over the long term.

SSGA is the world's largest manager of global passive equities[16] and was named **Passive Manager of the Year** at the Irish Pensions Awards[17] in 2023.

3. **DC Expertise:** The US and Australia are the two largest DC markets in the world and started the transition from DB to DC decades before Irish pensions embarked on the same journey. By choosing SSGA as **Passive IRIS'** current main investment manager, Bank of Ireland Life partners with a global DC expert to bring the best ideas from these international markets to you. SSGA has over 40 years' experience in the Defined Contribution market, managing over $799 billion[18] for DC pension schemes on behalf of 32 million[19] DC members across the globe.

Summary

When it comes to planning for your retirement funds, target date funds can help you achieve better retirement outcomes. Bank of Ireland Life's **Passive IRIS** solution can offer a proposition that reflects the best global thinking, the evolving investment and regulatory landscape, as well as your changing needs and preferences. To find out more about **Passive IRIS** solution, talk to your Advisor.

[16]Pensions & Investments Research Center as of December 31 2022, updated annually. [17]Source: European Pensions, Irish Pension Awards 2023. [18]AUM as of September 30 2023. [19]Estimate based on State Street Global Advisors, Brightscope, and S&P Global Market Intelligence Money Market Directories (MMD) as of December 31, 2021.

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The case for investing in water & clean energy stocks

Niall Murphy
Senior Vice President
Business Development
and Client Services at
KBI Global Investors

In this article, KBIGI's Niall Murphy examines the key trends that support investing in water and clean energy stocks.

- There are five megatrends supporting the case for investing in water and clean energy stocks.
- Massive infrastructure investment globally is required to assure adequate water and clean energy supplies in the future – we outline two interesting case studies.
- Climate change further underpins the opportunities for investing in both investment themes.

With the planet facing a critical supply-demand imbalance for the vital resources of clean energy and water, KBIGI launched its Alternative Energy and Water Strategies in 2000. Throughout these 23 years, we have consistently highlighted the same five megatrends that support investment themes, all five of which are more pronounced now than 23 years ago, primarily as a result of climate change and a growing global population. The five megatrends we identified are as follows:

1. **Constrained supply:** the supply of water on the planet is extremely difficult to increase, and climate change, whether through floods or droughts, is adversely impacting existing supply. Similarly, developing renewable sources of clean energy like wind and solar is paramount in a world where we desperately need to reduce carbon emissions and energy security is becoming more important.

2. **Increased demand:** As the global population grows and becomes more affluent, more water and energy are needed for industrial, agricultural, and domestic purposes.

3. **Increasing regulation:** across the world, governments are insisting on higher standards for water and water waste services, as evidenced by
   - the Safe Drinking Water Act in the US,
   - the Water Framework Directive in Europe, and
   - China's water standards.

   Regulation, both economic and environmental, has been a backbone of support for investment in water.

   Meanwhile, on the energy transition side, we have seen a concerted effort by governments globally in the last few years to hasten the transition to net zero, given their collective concerns about the impact of climate change.
   - So far, 179 countries have set national or state renewable energy targets, according to the BNEF (source: IRENA).
   - We have seen significant incentives under the Inflation Reduction Act (IRA) in the US, and the European Union has its "Fit for 55" plan and, more recently, the REPowerEU plan, which targets increasing the share of renewables in final energy consumption to 45% by 2030. (source: IEARenewables2022).
   - In more practical terms, the EU Parliament has voted to ban sales of new diesel and petrol cars from 2035.

4. **Increasing technological solutions:** there are so many examples of how technological solutions are helping address resource scarcity in the area of water and energy transition globally. Some obvious ones are battery technology making electric vehicles more appealing, the increasing efficiency of solar panels, or improvements in smart metering to ensure more efficient use of water, which helps reduce demand.

5. **Increasing expenditure on infrastructure:** A recent study by the Global Commission on the Economics of Water estimated that up to $400 billion a year of extra investment is needed in low- and middle-income countries just to achieve universal access to clean drinking water, sanitation, and hygiene by 2030. On the clean energy side, investment continues to grow; a record $1.75 trillion was invested in 2022, and the IEA (International Energy Agency) forecasts that this figure must quadruple to limit global temperature growth to 1.5°C by 2050.

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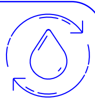
The case studies below help outline some examples of real infrastructure spend required in the area of water and clean energy.

Case Study: Water

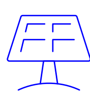


Throughout the developed and developing world, we see governments and municipalities addressing current and anticipated water shortages through major infrastructure projects.

Currently, the River Liffey supplies 85% of the water requirements for 1.7 million people in the Greater Dublin Area (GDA). The Liffey is the 19th largest river in Ireland, yet nearly five times more water is extracted from it than any other water body in the state. This dependency on the Liffey results in a serious vulnerability to risks such as prolonged drought and/or contamination. Population growth, economic growth, and climate change will exacerbate the region's water supply challenges even further.

Uisce Éireann forecasts that by 2044, the Eastern and Midlands regions will need 34% more water than today. Options such as the use of a desalination plant were considered, but ultimately the proposed solution is to extract water from the Shannon, downstream of Lough Derg, and pipe the water 170 kilometeres to Dublin at an estimated cost of €1.3 billion. This is a controversial proposal given the water needs of those in the West of Ireland and the high current leakage rate. Uisce Eireann cites a current leakage rate of 37% from reservoir to tap, given that so much of the water infrastructure is old and needs to be replaced or repaired[20].

Case Study: Clean Energy



Coping with intermittent sources of power like solar and wind can pose challenges for the electrical grid, which has been designed to deal with predictable energy generation from oil, coal, and gas.

Across the developed and developing worlds, electrical grids need to be adapted and made more resilient. Germany, for example, is currently in the midst of a major overhaul of its electrical grid. With its nuclear plants already shut down and coal plants on target to cease generation by 2030, there are plans to construct four new high-voltage DC transmission lines—in essence, electrical highways—linking wind generated in the north of Germany to the south and west, where most of the industry and population are located.

All in all, according to the German utility EnBW AG, up to €75 billion could be invested in German electricity infrastructure alone by 2030[21]. Furthermore, in regions susceptible to extreme heat, more frequent and impactful climate events caused by climate change have highlighted the need for transmission lines to be installed underground so they don't give rise to forest fires, as was the case in the Californian forest fires of 2018.

KBIGI investment approach

The KBIGI approach is to invest in companies whose products and services provide solutions to address the supply-demand imbalance in the areas of water and clean energy.

It certainly has been an interesting journey for KBIGI's Water and Alternative Energy strategies over the past 23 years. New and more sustainable businesses have emerged across a range of industries; renewable technologies are increasingly cost-competitive, and huge infrastructure investment will continue in both clean energy and water. Given the tailwinds described above, we are excited about the possibilities in store for both portfolios for the remainder of the decade and beyond.

Summary

- The investment case for investing in themes like water and energy transition is stronger than ever.
- The increased frequency and impact of climate change events have mobilised governments across the globe to enact policies to limit global temperature rises, which is hugely supportive of both themes.
- Companies whose products and services help address the global scarcity of water and clean energy tend to have the ability to grow earnings faster than the broad market and can generate superior returns if they can be identified at attractive valuations[22].

[20] Water Supply Project – Eastern and Midlands Region and National Leakage Reduction Programme. [21] Europe's grid operators brace for capex surge, July 2023.
[22] Views are as of 10 November 2023 and are subject to change.

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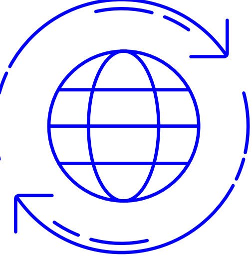
Sustainable opportunities to be found in emerging markets

Amit Goel
Fidelity Sustainable Emerging Market Equity portfolio manager

Here, Fidelity International's Amit Goel examines the sustainable opportunities within emerging markets.

- Fundamentals in emerging market economies look relatively attractive, both compared to their history as well as compared to developed markets.
- Geopolitical tensions are leading to a rewiring of global supply chains as companies look to diversify production.
- This trend is benefiting several emerging economies. Emerging markets are a diverse set of economies.
- It is crucial to differentiate and active management can add significant value in this space.



Global emerging markets are facing multiple challenges, but Fidelity International believe that now is a good time to consider investing in the asset class. The fundamentals of emerging markets remain strong, and valuations are more attractive versus developed markets. That said, rigorous research and local understanding are needed to separate what's important from what's not and deliver sustainable investment returns from this dynamic investment landscape.

Strong economic fundamentals lay the groundwork for the future

Global markets are facing multiple challenges:

- Higher interest rates in the US are making investors wary of riskier asset classes, including emerging market (EM) equities.
- China, the largest component of the emerging markets (EM) asset class, is also grappling with slowing growth and geopolitical risks.

Yet, in Fidelity International's view, EM are better placed today than in the past. Having learned their lessons in previous crises, they are on a stronger footing with robust government balance sheets and better current account balances, for example. Interest rates have been held at higher levels, even as inflation has receded, so EM central banks have the flexibility to lower interest to boost growth in the case of a slowdown. This provides an added layer of resilience, perhaps not available to developed economies. Meanwhile, the underlying structural growth trends in most EM should keep driving corporate earnings over the medium to long term.

Putting all this together, Fidelity International see relatively strong underlying economic strength across EM, with valuations also looking attractive. While it is hard to predict when investor sentiment will improve, Fidelity International believe EM offers a strong risk-reward profile for investors willing to take a long-term view.

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Emerging market changes create opportunity

A major economic legacy of the COVID-19 pandemic - exacerbated by a more uncertain geopolitical environment - has been the rewiring of global supply chains. Although it is a slow process, our corporate interactions suggest that global companies are redirecting production to other countries that are closer to home (the trend of nearshoring) or to friendly partner countries (friendshoring). This is expected to benefit several countries across emerging markets.

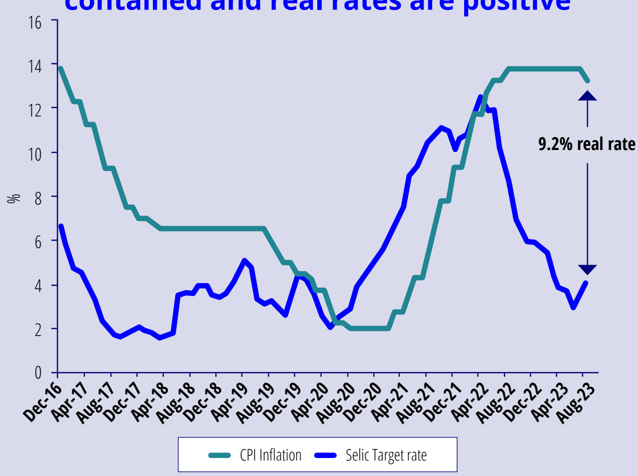
1 Mexico

In the case of Mexico, its proximity to the US is leading to a marked increase in supply chain nearshoring. Our channel checks suggest that the number of projects being implemented in Mexico today are among the highest in the last 10-15 years as the US is reducing its trade deficit with China. Since this change is more structural, we have a more constructive view on Mexico over the longer term.

2 Brazil

Elsewhere in Latin America, Fidelity International have started to see opportunity in Brazil. While Brazil has always been a tough market for investors due to the low long-term growth rate (at around 1-2%) and higher volatility (with frequent recessionary periods), Fidelity International started to find interesting investment opportunities early in 2023 when valuations were cheap. Looking ahead, rates cuts are expected, which should boost growth and corporate earnings.

Figure 9: Brazil's inflation is now well-contained and real rates are positive



Source: Fidelity International, 31.10.23.

3 India

Fidelity International also have a positive view on India, which is insourcing production capacities in areas like IT hardware, chemicals, and textiles. This investment in infrastructure, alongside production-linked incentives for manufacturing, is a key positive for sustainable economic growth in India through higher consumption and employment. In many ways, India today is similar to where the Chinese economy was 20 years ago, underlining its growth potential.

China could surprise in 2024

One area where the market could get a positive surprise in 2024 is China. The world's second-largest economy, home to a large pool of smart and hard-working people who drive innovation and global competitiveness of the economy, should not be ruled out. The anticipated rebound in consumption post-COVID reopening earlier in 2023 did not materialise as many had anticipated, but it is bound to come back at some point.

While many countries are looking to adjust their supply chains, China's dominance in global supply chains has been built over several decades and will take several years to be fully replicated elsewhere. Hence, completely blocking China is as much a risk for the rest of the world as it is for China. The emergence of China+1 policies, which involve partnering with another production partner alongside China, is a testament to how embedded China is within global supply chains, despite a push from others to diversify away from the nation.

Fidelity International recognises that the risks to investing in China have increased over recent times and, as a result, we are demanding a higher hurdle return rate for our investments to compensate for this. However, we don't want to go overboard and given where valuations are, we think this is not the time to sell out of China.

Figure 10: China retail sales growth

Source: Fidelity International, 31.10.23.

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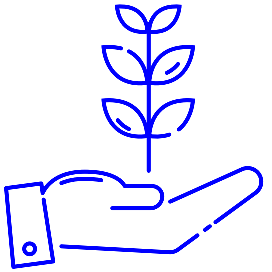
Sustainability considerations can provide an additional edge



Philosophically, Fidelity International's sustainability in EM investing originates from our belief that companies with strong Environmental, Social, Governance (ESG) practices will, over time, benefit from lower cost of capital and higher returns compared to a competitor with weak ESG practices. Also, consumers are increasingly becoming conscious of a company's social and environmental practices and this will reflect in a company's brand leadership and market share.

Hence, Fidelity International's investment process focuses on:

- Excluding companies operating in "proven harm" sectors such as weapons, tobacco, gambling and others.
- Rigorous analysis of sustainability factors (driven by our focus on management quality, their focus on improving environmental and social policies and disclosures, and their capital allocation and alignment to minority shareholders)
- Fundamental factors (with our focus on best-quality businesses that could gain market share in good-quality sectors that themselves benefit from structurally higher growth or improving industry structures).

Fidelity International also puts a lot of emphasis on engagement, given that EM companies are often behind the curve in terms of appropriate ESG disclosures. As a result, Fidelity International believes engagement can be an effective means of driving positive change and improving sustainable practices, and ultimately creating value for clients.

Summary

- Overall, emerging markets are not immune to the challenges facing the global economy, but Fidelity International has a strong conviction that this is an opportune time to invest in the asset class as fundamentals remain strong and are at a better starting point in terms of valuations versus developed markets.
- That said, it is crucial to separate what's important from what's not and use active **stock** selection, based on fundamental and ESG analysis, to construct a **portfolio** of high-quality companies that can generate sustainable returns over the medium to longer term.

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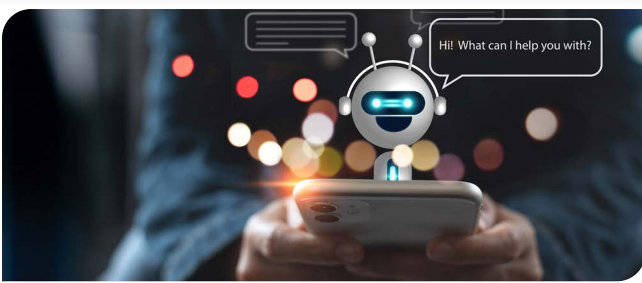
Artificial intelligence revolution: who's profiting now from generative AI?

Alex Tedder
Head of Global and Thematic Equities, Schroders

Schroders

With AI taking the world by storm, Schroders discusses which technology companies may be best placed to reap the rewards from current trends.



What is generative AI?

Generative AI, the most well-known example of which is ChatGPT, has sparked peoples' imaginations. Unlike traditional AI, which analyses past data for patterns and can be used to glean insights from or make predictions, generative AI uses existing data to generate entirely new content, whether that's in the form of text, images, audio or video.

What kind of companies operate in the generative AI segment?

There are a number of different types of technologies that are needed to build a generative AI application, which are collectively referred to as a 'technology stack'. There are four layers to the stack, and these can be seen in the next column:

> *Financial markets are particularly excited about the application of generative AI to businesses - the productivity gains and cost savings that can be realised.*

The **compute layer** is the base of the stack.

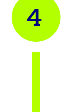
- Generative AI systems require large amounts of computing power and storage capacity to train and run the models.
- Hardware (semiconductor chips) provides the computing power, while cloud platforms like Amazon Web Services, Microsoft Azure or Google Cloud Platform provide services like virtual machines and storage.

Next comes the **foundational model layer**.

- Foundation models are systems with broad capabilities that can then be adapted to a range of different, more specific purposes.
- Arguably, this is the most important layer of the generative AI stack.
- These foundation models are large statistical models built using sophisticated machine learning algorithms that generate human-like responses derived from large volumes of data they're trained upon.
- Foundation models are split into closed-source and open-source models.
- Closed source software is proprietary which means only the company that owns it can modify it.
- In contrast, open source means the source code is publicly available and programmers can change it.

Third is the **infrastructure**

- These are the tooling and infrastructure companies for apps that don't use proprietary foundational models detailed in the infrastructure and foundational model layers.
- Such apps need the infrastructure companies to help them fully utilise the technology available at the foundational level.
- Apps with proprietary models (like ChatGPT) don't need to rely on third parties in the infrastructure or foundational model layers.



Finally, at the top of the stack is the **application layer**, which is the software via which users interact with the underlying AI technology. This can include OpenAI's ChatGPT product or an internally built solution like Schroders' in-house AI product, named "Genie".

Figure 11 on the next page illustrates how these layers come together to form a technology stack.

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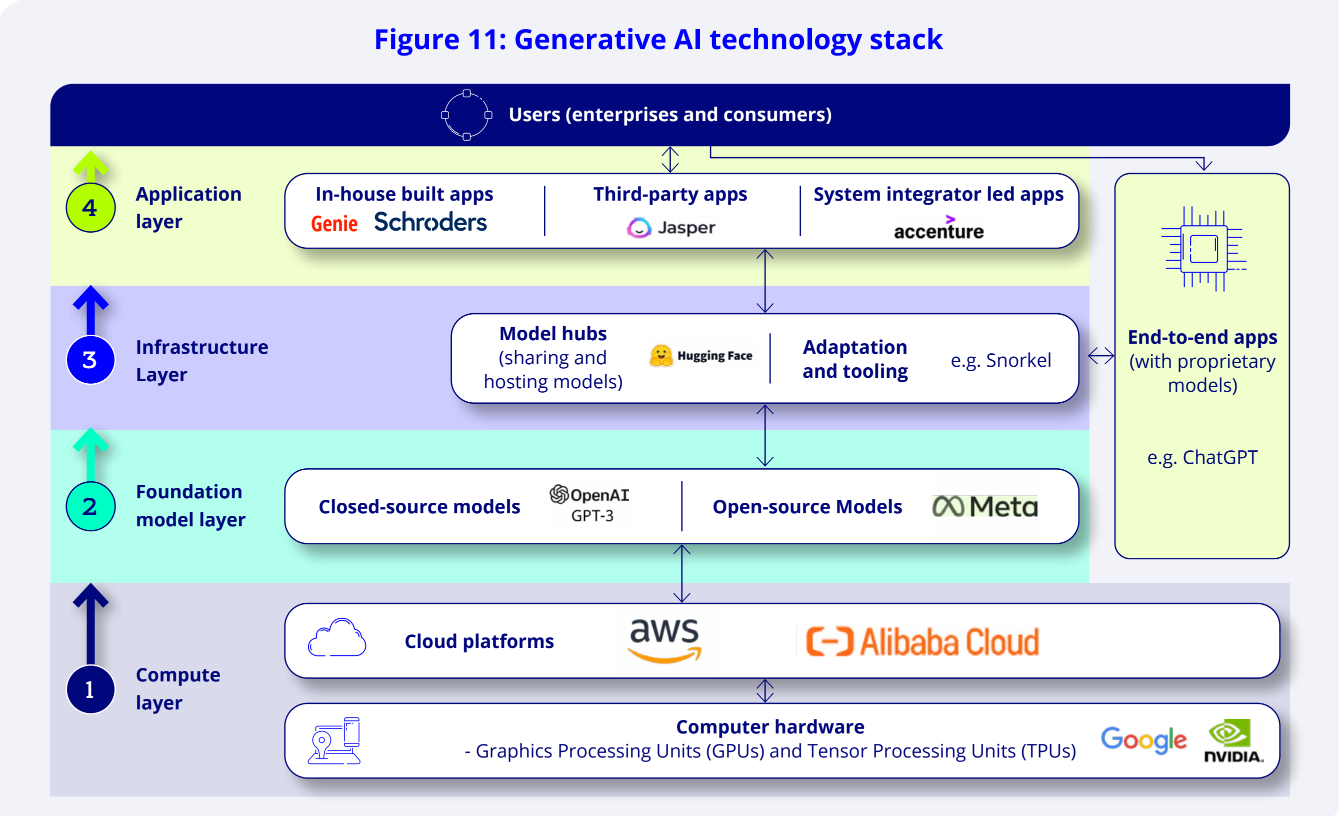

Source: Schroders, 2023. Views shared are those of Schroders and may be subject to change. Companies shown for illustrative purposes only. Logos shown are the property of their respective entity.

What kind of companies will make the most money from generative AI?

It is not yet clear which of these layers will accrue the most value. After all, it is still early days for the technology after all.

So far, the 'compute' layer has emerged as a winner, and given how companies like US AI computing company NVIDIA have performed this year, the stock market seems to agree. That said, there is a question over whether the cutting-edge technology being designed by NVIDIA today could be commoditised over time.

Meanwhile, the cloud market is an oligopoly - a market in which control over an industry lies in the hands of a few large companies. At least for now, the big players like Amazon Web Services, Microsoft Azure and Google Cloud Platform will likely retain their advantage, having invested significantly in infrastructure and established customer relationships in recent years.

However, new technology enables new ways of doing things and creates entirely new businesses.

- For example, Netflix was enabled by the internet and was allowed to flourish because it offered a superior product to traditional pay TV in a way that threatened existing media companies.
- Uber is a company whose business model can only exist because of smartphones and the mobile internet.

It certainly seems as though this exciting new technology will provide new ways of doing things, but it is perhaps too early for those businesses to have emerged yet. This is what active investors are looking for.

Investors should also look outside the tech industry for beneficiaries of current AI trends. Companies that are data-rich, for example, those that own a large amount of proprietary user-generated content, could become valuable simply because of the value of that data in training AI models.

Summary

- AI is going to play into how people allocate capital between different asset classes, different regions and different sectors.
- And that's where it gets interesting: there'll be winners and losers at the corporate level from this in terms of how they adopt AI and how they implement it – how successful they are in improving productivity and creativity in a meaningful way.
- Companies that successfully implement AI enhancements will generate cost and revenue synergies that are likely to be rewarded by investors.

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Brenda Sheridan
Investment Communications Manager,
Bank of Ireland Investment Markets

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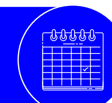

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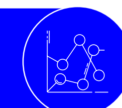
4. **Access all our Article 8 Funds* at the click of a button** – we understand the importance of being able to see a snapshot of what Article 8 Funds are available from us; this can be shown on screen with one click!

5. **Factsheets key stats updated monthly** – every month, we work with our wide range of global and Irish fund managers to update you on funds' asset mix, top 10 holdings, commentaries, etc. All of this information is available in our fund factsheets.

6. **Generate performance graphs specific to you** – use our charting tool to create performance charts specific to your investment journey and to any timeframe that you wish to see (based on funds' availability).

7. **Compare fund performance** – use our charting tool to compare performance to other funds, markets, or leading indices.



8. **Access historical fund price history** – in **Fund Centre's** prices tab, you can access the full price history for every fund and download these in Excel if you need to.

9. **Sharing options** – there are lots of ways to share the useful information you find on **Fund Centre** with yourself, or family and friends. You can PDF and email factsheets; you can email performance chart links, where performance will update for the most recently available figures every time you click on the link.

10. **Popular documents** – you can access lots of other useful information about investing, including a guide on how to use it, our latest market updates, and our **Sustainable Investing Hub**, through **Fund Centre** by clicking the **Popular Documents** button.

*Article 8 Funds promote environmental or social characteristics (although not exclusively) & which invest in companies that follow good governance practices.

To view our Fund Centre,

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Sustainable Investing Hub

Our commitment to sustainable investing

With sustainable investing becoming a growing part of our investment offerings, we are fully committed to embedding sustainable investing into our solutions.

Sustainability and a desire to live in a more sustainable way, both personally and professionally, are topics we are hearing about more and more in our day-to-day lives. More frequently we are hearing about the many issues our world is facing, including climate change, inequality, and a lack of financial wellbeing and inclusion.

There is a growing effort amongst policy makers and international bodies to put in place solutions to help alleviate these issues. Financial institutions, particularly wealth and fund managers, are also tackling what part they have to play in taking better care of our world and as fiduciaries of large pools of capital for investors & retirees globally.

From talking to you, we understand how important sustainable investing is. We also understand this area is complex so our aim is simplify what sustainable investing means.

Our aim is to help you better understand how Sustainable Investing is implemented across our solutions.

Our **Sustainable Investing Hub** is where you can find information on:

- Sustainable investing hub
- Thought Leadership & educational content
- Sustainable investing
- Our ESG Fund range
- Our ESG commitment
- Sustainability-related discloures
- Sustainability approach

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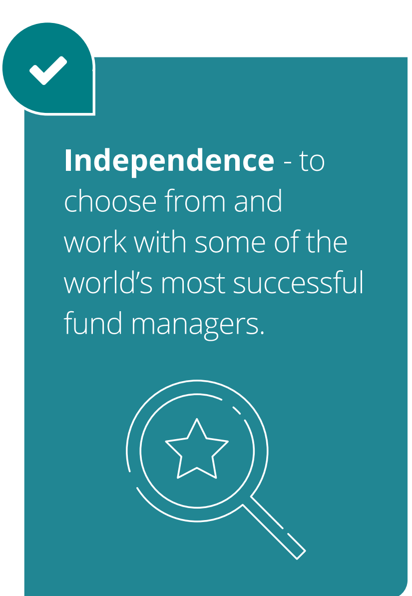
Bank of Ireland Investment Markets - empowering your investment journey

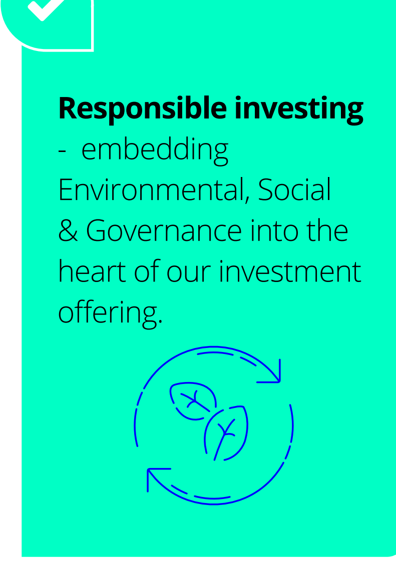
Bank of Ireland Investment Markets is the centre of excellence for Savings and Investments for our business. A cornerstone of our investment offering is working with some of the world's leading investment managers, allowing us to provide you with a truly independent platform, grounded in choice.

Bank of Ireland Investment Markets select the best of these managers' investment products to deliver unrivaled choice and access to the best in the market.

Sustainable Investing is embedded in our processes and forms an integral part of our investment business to help our Advisors and customers to thrive.

As a team, our key focuses are:





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Appendix

5-year historic performances table

	2019	2020	2021	2022	2023
Global equities	29.0%	6.7%	27.5%	-13.0%	18.1%
US equities	33.9%	8.7%	38.2%	-13.0%	22.2%
European equities	28.0%	-1.4%	25.8%	-9.9%	16.6%
Emerging market equities	21.8%	9.1%	4.9%	-14.9%	6.6%
Global bonds	5.4%	4.9%	-2.6%	-15.1%	4.5%
US government bonds	11.4%	8.3%	-2.0%	-12.5%	5.8%
European government bonds	6.9%	4.3%	-3.7%	-18.4%	7.2%
Emerging market debt	14.5%	-3.4%	6.4%	-9.8%	5.4%
Broad commodities	7.9%	-13.1%	37.0%	20.7%	-10.9%
US corporate bonds	11.2%	7.8%	-1.9%	-17.1%	5.8%
European corporate bonds	6.3%	2.4%	-1.2%	-14.0%	8.4%
Japanese equities	21.6%	4.1%	10.0%	-10.5%	15.5%
NVIDIA	80.5%	104.2%	142.1%	-47.1%	228.2%
Tesla	28.2%	674.4%	60.8%	-62.8%	95.3%
Microsoft	60.7%	30.9%	63.7%	-23.5%	53.10%
Alphabet	30.7%	20.2%	77.5%	16.9%	53.20%
Meta	59.7%	22.2%	32.2%	-48.9%	184.70%
Apple	92.7%	67.5%	44.6%	16.2%	44.20%
Amazon	25.5%	61.9%	9.9%	-39.7%	75.10%
Silicon Valley Bank	33.9%	39.3%	90.0%	-64.8%	n/a
Credit Suisse	28.0%	-10.9%	-17.9%	-65.7%	n/a

Source: Bank of Ireland Investment Markets/Bloomberg, 31.12.23.

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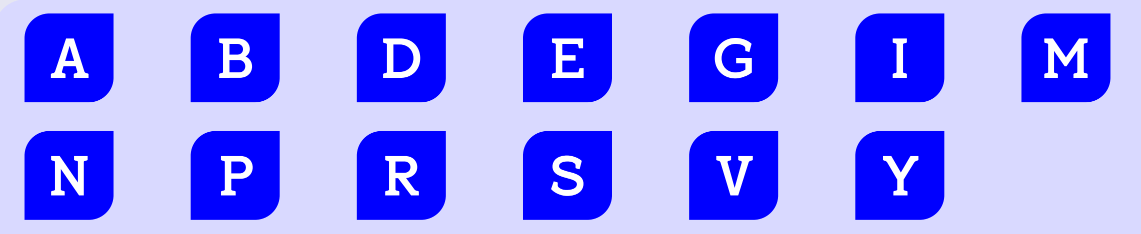
Glossary

We have created a high-level glossary in this PDF to explain some commonly used terms that are used in our investment literature. Hopefully this makes reading our literature a little easier for you.



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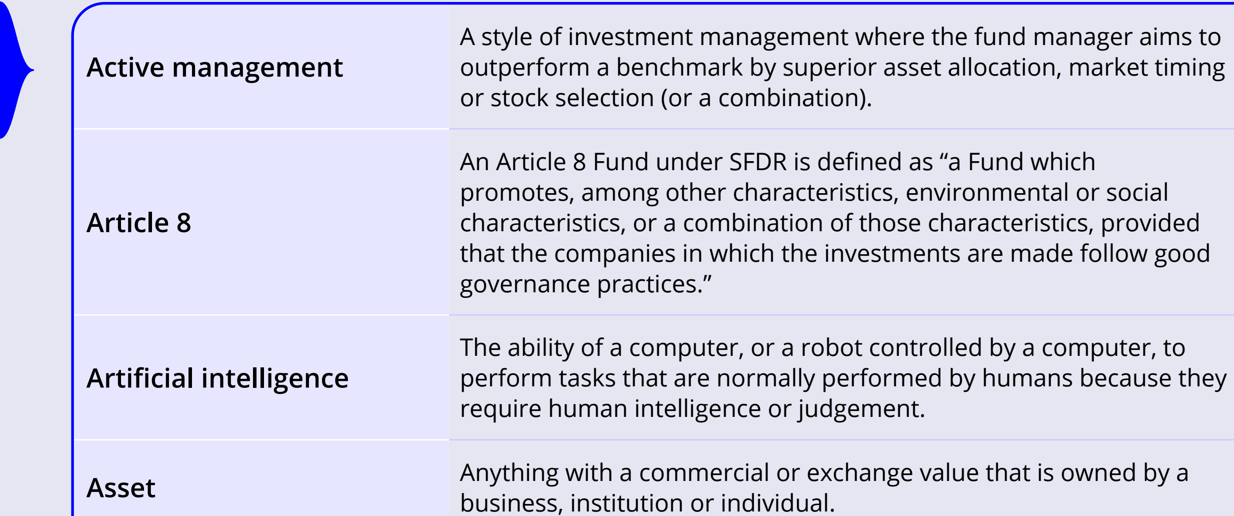

Term	Definition
Active management	A style of investment management where the fund manager aims to outperform a benchmark by superior asset allocation, market timing or stock selection (or a combination).
Article 8	An Article 8 Fund under SFDR is defined as "a Fund which promotes, among other characteristics, environmental or social characteristics, or a combination of those characteristics, provided that the companies in which the investments are made follow good governance practices."
Artificial intelligence	The ability of a computer, or a robot controlled by a computer, to perform tasks that are normally performed by humans because they require human intelligence or judgement.
Asset	Anything with a commercial or exchange value that is owned by a business, institution or individual.

B

Term	Definition
Benchmark	A standard, usually an unmanaged index, used for comparative purposes in assessing the performance of a portfolio or mutual fund.
Bonds	A loan in the form of a security, usually issued by a government or company. It normally pays a fixed rate of interest (also known as a coupon) over a given time period, at the end of which the initial amount borrowed is repaid.

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Defined Contribution pension	Occupational pension schemes where your own contributions and your employer's contributions are both invested and the proceeds used to buy a pension and/or other benefits at retirement.
Defined Benefit pension	Occupational pension schemes that provide a set level of pension at retirement, the amount of which normally depends on your service and your earnings at retirement or in the years immediately preceding retirement.
Developed economy or market	Well-established economy with a high quality of life and a high degree of industrialisation and security.
Disinflation	A temporary slowing of the pace of price inflation. Unlike inflation and deflation, disinflation refers the rate of change in the rate of inflation.
Diversification	The process of owning different investments that tend to perform well at different times in order to reduce the effects of volatility in a portfolio and also increase the potential for increasing returns.
Duration	A measure of the sensitivity of a bond or bond fund to changes in interest rates. The longer a bond or bond fund's duration, the more sensitive it is to interest rate movements.

Emerging economy or market	Country in the process of catching up with developed economies, with rapid growth and increasing industrialisation. Investments in emerging markets are generally considered to be riskier than those in developed markets.
Equities	Shares of ownership in a company. They offer investors participation in the company's potential profits but also the risk of losing all their investment if the company goes bankrupt.
Environmental, Social and Governance (ESG)	Environmental, social, and governance is a set of considerations, including environmental issues, social issues and corporate governance that can be considered in investing.

Government bond	Loans issued in the form of bonds by governments. They normally pay a fixed rate of interest over a given time period, at the end of which the initial investment is repaid.

Index	An index represents a particular market or a portion of it, serving as a performance indicator for that market or segment.
Inflation	The rate of increase in the cost of living. Inflation is usually quoted as an annual percentage, comparing the average price this month with that of the same month a year earlier.

Multi-asset class	A multi-asset class investment contains more than one asset class, thus creating a group or portfolio of assets. The weights and types of classes vary according to the individual investor.

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Net zero	A target of completely negating the amount of greenhouse gases produced by human activity, to be achieved by reducing emissions and implementing methods of absorbing carbon dioxide from the atmosphere.

Passive management	An approach to investing whereby capital is allocated according to the stock or sector weightings of an index. Also known as indexing or tracking.
Portfolio	A collection of financial assets owned by an investor and may include bonds, equities, cash, property, alternatives, etc.

Responsible investing	Responsible investment involves considering environmental, social and governance (ESG) issues when making investment decisions and influencing companies or assets (known as active ownership or stewardship).
Risk	The chance that an investment's return will be different from what is expected. Risk includes the possibility of losing some or all of the original investment.

Stocks	Stock is a share in the ownership of a company. Stock represents a claim on the company's assets and earnings. As you acquire more stock, your ownership stake in the company becomes greater.
Supply chain	The sequence of processes involved in the production and distribution of a commodity.
Sustainable investing	Sustainable investing balances traditional investing with environmental, social, and governance-related (ESG) insights to improve long-term outcomes.

Valuations	The worth of an asset or company, based on the present value of the cash flows it will generate.
Volatility	The degree to which the price of a given security, fund, or index changes. It is calculated as the degree of deviation from the norm for that type of investment over a given time period. The higher the volatility, the riskier the security tends to be.

Yield	A measure of the income return earned on an investment. In the case of a share, the yield is the annual dividend payment expressed as a percentage of the market price of the share. For property, it is the rental income as a percentage of the capital value. For bonds, the yield is the annual interest as a percentage of the current market price.

Warning: Past performance is not a reliable guide to future performance.

Warning: Past performance is not a reliable guide to future performance.
Warning: The value of your investment may go down as well as up.
Warning: If you invest in these funds you may lose some or all of your investment.
Warning: These funds may be affected by changes in currency exchange rates.
Warning: These figures are estimates only. They are not a reliable guide to the future performance of your investment.
Warning: If you invest in this product you will not have access to your money until your retirement date.

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