GLOBAL ARTIFICIAL INTELLIGENCE

Annual review and 2024 outlook

A note from the Global Artificial Intelligence Team

Since 2016, we envisioned that artificial intelligence (AI) would become a transformative technology that drives a new wave of innovation and disruption across industries and sectors. It was very exciting to see our long-held vision for AI starting to come to fruition beginning in late 2022, when ChatGPT demonstrated AI's potential to the general public and corporate leaders. In the past year, AI related investment activity accelerated despite an overall muted tech spending backdrop, and we appear to be at the dawn of a long-term investment cycle that will likely have significant upstream growth implications in AI applications and AI-enabled industries. We believe this represents a remarkable opportunity for investors who are positioned ahead of this change.

KEY TAKEAWAYS

- Equity markets rallied sharply in 2023 after a challenging 2022
- We believe the equity market recovery in 2023 can extend into 2024
- 2023 proved to be a pivotal year for artificial intelligence companies
- AI's impact on every industry is starting to take hold, and we see a growing opportunity set beyond just the Magnificent 7 and the technology sector

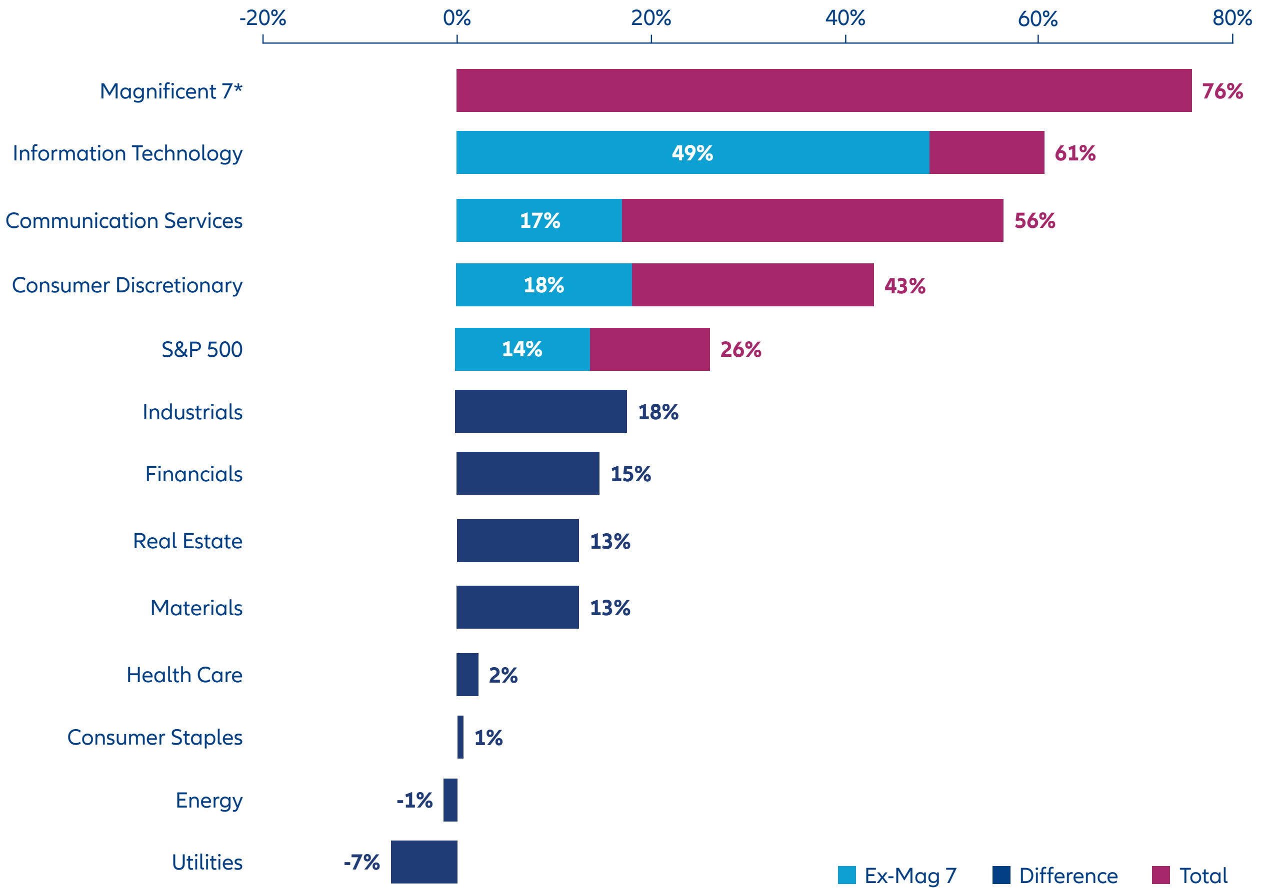
Market review and outlook

Market summary for 2023

Equity markets rallied sharply in 2023 after a challenging 2022. Despite significant fears of a recession in 2023, a recession never materialised as US economic growth and corporate earnings were relatively robust. The Federal Reserve and other major central banks were able to achieve a cooling of inflation from elevated levels without inducing significant job losses. Consumption remained resilient. Many of the supply and demand distortions from the pandemic continued to unwind, helping to bring down the inflation backdrop. Economic growth has been uneven, leading to higher volatility and wider dispersion of returns among sectors and market capitalisation during the year.

Specifically, returns were largely concentrated among the "Magnificent 7" – seven technology and media companies with outsize market capitalisations.[1] Investors favoured the Magnificent 7's durable earnings profile and their exposure to generative AI. While the S&P 500 returned 26.3% for the calendar year, the Magnificent 7 returned 76%. Excluding them from the S&P 500 would have resulted in returns closer to 13.8%.[2]

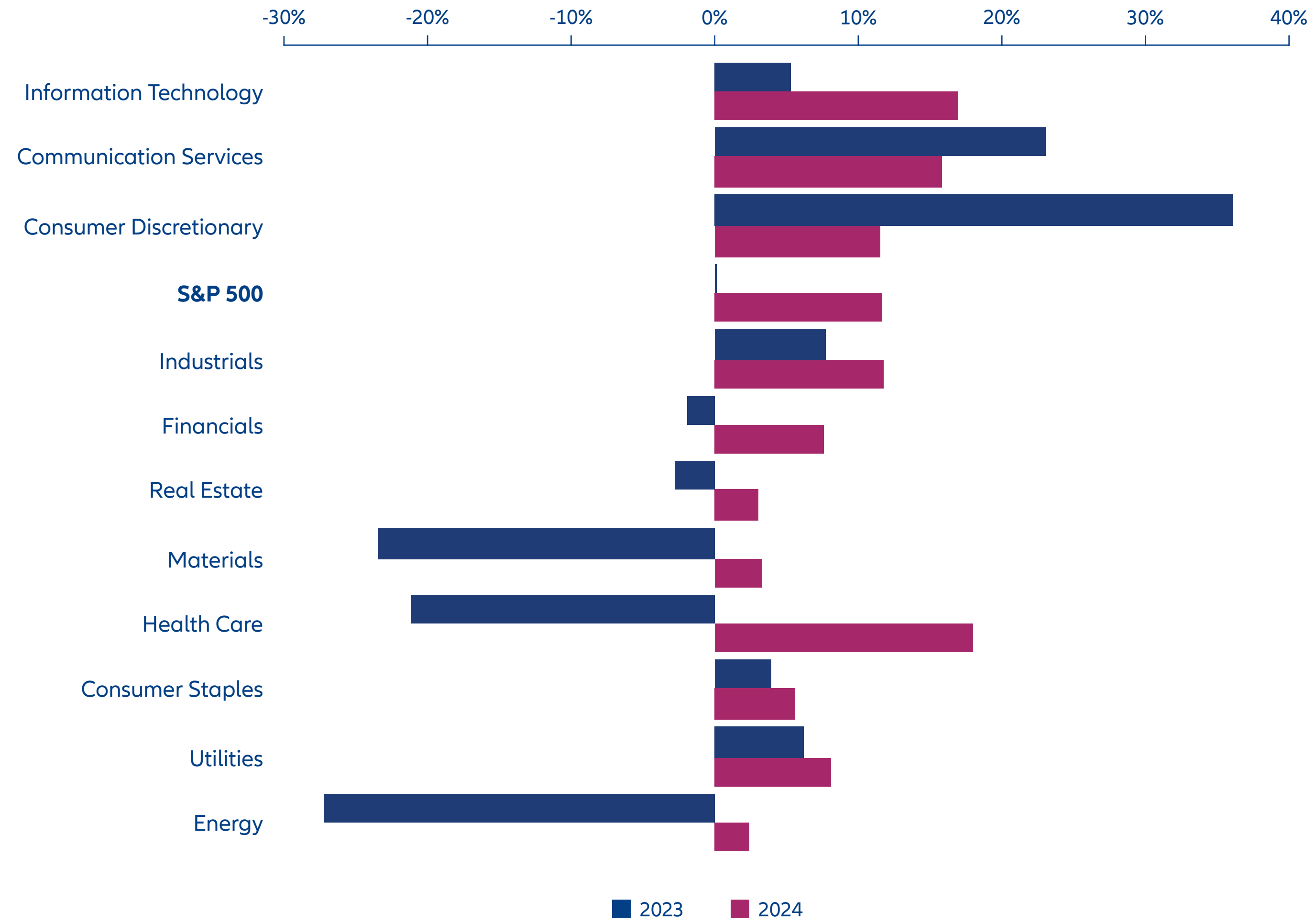
Exhibit 1: S&P 500 Calendar Year 2023 Sector Returns



As of December 31, 2023. Source: FactSet. Past performance does not predict future returns.

Over the past two years, the S&P 500 made little headway. While S&P 500 stocks were up 26% in 2023, they were down over 18% in the previous year. Since December of 2021, the equity market has only increased a few percentage points. Recent returns for small- and mid-cap stocks, represented by the Russell 2000 and Russell Mid Cap indexes, are even lower than for large caps. The relative outperformance of large caps in 2023 was pronounced, and small cap index valuations are near their lowest levels in 20 years compared to their large cap counterparts. Earnings growth for the S&P 500 in 2023 was flat overall, with most of the growth concentrated in the technology, communication services and consumer discretionary sectors. Several sectors faced headwinds from rising interest rates and slower global growth, which led to a relatively narrow market for most of the year.

Exhibit 2: S&P 500 earnings growth



Source: FactSet. As at 31 December 2023. Past performance does not predict future returns.

Our market view for 2024

We believe the equity market recovery in 2023 can extend into 2024. Over the last few months of 2023, the US equity market showed signs of broadening out beyond the Magnificent 7. Interest rates appear to be on a path lower with an economic soft landing more likely. At the December 2023 FOMC meeting, the Federal Reserve held the fed funds rate steady and signalled multiple rate cuts could come in 2024 and 2025, as rates are either at or near-peak levels with promising inflation and moderating jobs data.

The backdrop for normalising monetary policy should be conducive for an economic recovery and for growth to reaccelerate as 2024 progresses. The recent soft economic backdrop due to higher interest rates has weighed on some sectors and industries more than others. Lower rates and easier financial conditions should translate to better demand, easier access to capital and increased investment in high return-on-investment projects such as AI.

We also think small- and mid-cap stocks have the potential to outperform large caps in 2024, given their historical outperformance during recovery phases and the relatively muted returns over the past few years. Even if there is more market volatility ahead, smaller stocks might be closer to a recovery; we believe estimates have already discounted more of the uncertainties ahead. Earnings growth looks poised to reaccelerate in 2024 across more sectors, and it may be conducive for a continued broadening of the market across market cap segments. There will likely be bumps along the way and the market might be due for a short-term breathier after the recent strength, but there are reasons to be optimistic for 2024.

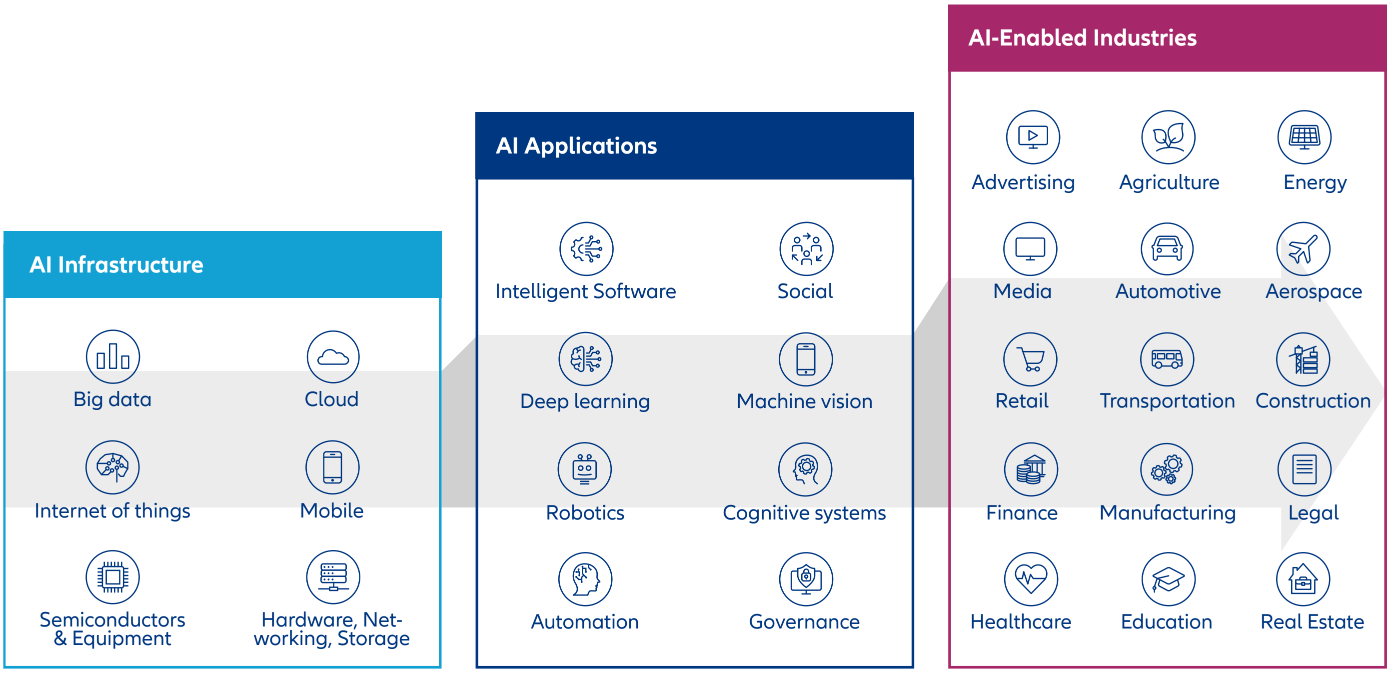
Outlook for global AI investing in 2024

AI's impact on every industry is starting to take hold, and we see a growing opportunity set beyond just the Magnificent 7 and the technology sector. ChatGPT and early use cases of generative AI have shown how these breakthroughs can greatly improve efficiency and drive a new wave of automation.

We believe deep fundamental research and stock selection will be key in capturing the vast wealth creation opportunity from AI across sectors and market-cap sizes over the coming years.[3]

AI has the potential to disrupt every industry

Our approach to global AI investing encompasses a broad spectrum of technologies and sectors, embracing the disruptive power of AI.



Source: FactSet. Allianz Global Investors. There is no guarantee that these investment strategies and processes will be effective under all market conditions and investors should evaluate their ability to invest for a long-term based on their individual risk profile especially during periods of downturn in the market. This is for guidance only and not indicative of future allocation.

AI infrastructure

Key theme: AI investment cycle expands due to training, inference and domain-specific deployments

The developments around generative AI and large language models further demonstrate that the demand backdrop for AI infrastructure companies should remain strong, given the computing requirements for training complex AI models and the subsequent inference needed for edge intelligence. More companies are now motivated to build out their own domain-specific generative AI capabilities through continuous training and refinement. As these launch for broad-based use, demand should also expand to networking and storage infrastructure to support the explosive growth in new AI workloads. Investment also appears to be expanding to smaller cloud providers, governments and corporations in more countries around the world, which should be supportive of the ongoing build-out of critical AI infrastructure in the coming years.

Company example:
A leading fabless semiconductor company that provides networking and custom design solutions is seeing new demand for custom AI chips as cloud service providers scale out AI infrastructure. Additionally, the company's other product segments are well-positioned for a cyclical rebound, providing an additional tailwind for revenue and margin expansion.

AI applications

Key theme: Infusing more intelligence into applications and driving more monetisation opportunities

A new wave of AI applications are infusing generative AI capabilities into their software to drive greater value and create more monetisation opportunities. Today's general purpose AI models were trained on the internet, and they can't respond to questions based on proprietary knowledge or data housed privately within an organisation. Many internet and software companies have a wealth of proprietary data sets and workflows to train AI models that can result in a new era of more intelligent applications and systems, opening up many new opportunities for monetisation and value.

Company example:
A leading software provider that empowers professionals to create captivating digital marketing and media experiences is seeing healthy demand for its new products that leverage generative AI. Users can effortlessly bring ideas to life through text-based prompts and AI can generate new images and videos based on the company's proprietary stock database that is commercially safe and protects intellectual property.

AI-enabled industries

Key theme: AI is reinventing digital transformation

AI is helping to reinvent digital transformation, introducing new possibilities like generative AI solutions that can significantly boost productivity and reduce costs. As more processes go digital, the opportunity for AI to react to new information or unexpected changes can revolutionise every industry. Many companies in AI-enabled industries are increasing investments in generative AI to train their own industry-specific models – using proprietary content or knowledge – to better compete and innovate in the future. We are witnessing an increasing number of companies across the automotive, consumer, healthcare and finance sectors leveraging proprietary datasets that could yield unique AI models and applications that are difficult to replicate and can handle tasks better than general all-purpose AI. We believe this is just the tip of the iceberg as companies become more comfortable with AI's potential to drive greater efficiencies and automation across every part of their business.

Company example:
A leading electric vehicle manufacturer extensively integrates artificial intelligence into its products and production process. The use of AI has significantly streamlined manufacturing costs and the company is making significant progress towards full-self-driving software capabilities. As a natural extension, the company is leveraging its AI innovation into areas such as humanoid robots.

Evolving regulatory environment on the path to responsible AI
We are still in the very early stages of regulating generative AI worldwide. Policymakers face a challenging task as they strive to strike a balance between implementing safeguards and not impeding the pace of innovation. Currently, most countries do not have definitive AI regulations in place, as the ongoing debate encompasses a wide spectrum of perspectives. The European Union AI Act is expected to become the first comprehensive legal framework for AI. In the United States, a comprehensive "AI Bill" is still several years away from being passed by Congress. We believe that the industry is moving towards a "Responsible AI" framework that establishes appropriate safeguards to ensure that AI is developed and deployed in an ethical, transparent and accountable manner.

Conclusion

Overall, we continue to believe we are at the very early stages of massive disruptive change brought about by advances in — and the deployment of — artificial intelligence. We believe these changes will drive meaningful growth for companies that are able to take advantage and drive disruption within their respective industries. Our view is that the compounding effect from AI disruption will create opportunities for innovative companies across every sector. We believe that stock picking will be essential to capturing the benefits of this opportunity, especially in an environment characterised by disruption and change. As we have done since the launch of the approach seven years ago, we remain focused on identifying the companies that leverage AI to deliver the most shareholder value creation over the long term.

[1] Magnificent 7: Alphabet (GOOGL, GOOG), Amazon (AMZN), Apple (AAPL), Meta Platforms (META), Microsoft (MSFT), NVIDIA (NVDA), Tesla (TSLA). Securities mentioned in this document are for illustrative purposes only and do not constitute a recommendation or solicitation to buy or sell any particular security. These securities will not necessarily be comprised in the portfolio by the time this document is disclosed or at any other subsequent date.

[2] Securities mentioned in this document are for illustrative purposes only and do not constitute a recommendation or solicitation to buy or sell any particular security. These securities will not necessarily be comprised in the portfolio by the time this document is disclosed or at any other subsequent date.

[3] A performance of the strategy is not guaranteed and losses remain possible.