

Adviser Edge

AI, semiconductors, and the new concentration risk



Artificial Intelligence (AI) is no longer just a story about excitement, imagination, or headline-grabbing technology. It has become a major driver of global equity markets. Reshaping earnings expectations, valuations, and the composition of major indices. For advisers, the key question is not whether AI is “real,” but ***whether clients understand how much AI exposure they already have and whether that exposure is deliberate.***

Why AI has changed the valuation debate

At its simplest, equity valuation is driven by two things:

1. the future cash flows investors expect a company to generate, and
2. the multiple they are willing to pay for them

AI has affected both. It has led investors to reassess growth prospects of companies able to monetise the technology. At the same time, confidence in the durability and value of those future earnings has increased.

That helps explain why the first phase of the AI trade was led by the largest US technology companies: the so-called Mag 7. These were not speculative start-ups waiting for AI to make them viable. They were already profitable, cash-generative businesses with dominant platforms, deep customer relationships, and the capacity to invest at scale. AI did not create their quality. Instead, it gave investors a new reason to reassess their growth potential.

Before tools such as ChatGPT, AI mattered but still felt abstract for many investors. Once people could interact with a model directly, the market could more easily imagine its potential. Applications have quickly emerged across software, cloud computing, search, advertising, customer service, and productivity. The companies with the data, distribution, infrastructure, and capital to exploit those opportunities naturally attracted attention.

Beneath user-facing applications such as ChatGPT sits a more complex infrastructure story. Large Language Models (LLMs) require vast computing power. They must be trained on enormous datasets and then run each time a user submits a prompt. That created intense demand for graphics processing units, or GPUs, which are well suited to processing many calculations in parallel.

Nvidia was the clearest early winner because its chips, software and data-centre ecosystem were central to building and running AI models at scale. Its success has simply come from selling more chips. It has also been about profitability. The company has commanded exceptional margins because its products have been critical to customers building out AI capacity. Its position has been reinforced by the wider ecosystem around the hardware, including networking, software and tools that help large clusters of GPUs work together efficiently. Customers have not simply been buying a component, they have increasingly been buying access to an ecosystem.

What are CPUs and GPUs?

CPUs are designed to handle a wide variety of tasks and make decisions about what a computer should do next

GPUs are designed to perform many calculations simultaneously, making them particularly useful for AI workloads

Why the AI opportunity is broadening

The next phase of AI is broadening and is likely to involve more **agentic** systems. These are tools that can plan, execute, and complete multi-step tasks with less human intervention. That could be significant for productivity but it also changes the infrastructure requirement. AI agents require more than just GPUs. They also require memory chips to hold and process information and central processing units (CPUs) to coordinate activity. Networking equipment, power and cooling are equally essential to support modern data centres. That matters because data-centre power demand is expected to roughly treble by 2030¹, according to the International Energy Agency.

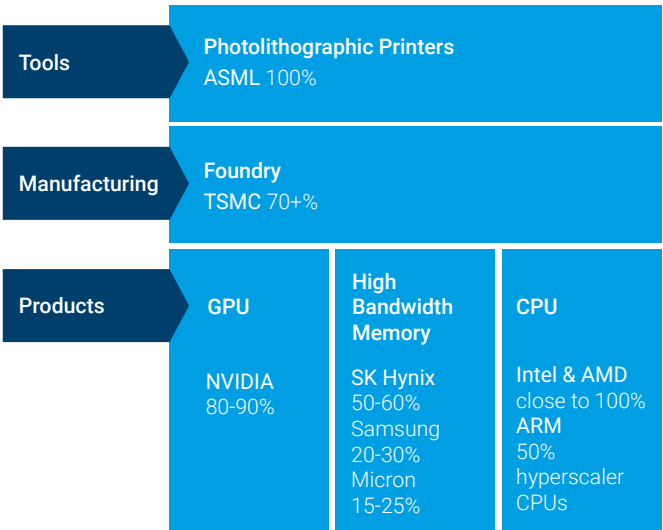
This is why the semiconductor sector has become such a focus.

The AI supply chain is highly concentrated at several points. ASML is the dominant supplier of advanced lithography equipment used to manufacture leading-edge chips. While TSMC (Taiwan Semiconductor Manufacturing Company) is the leading foundry for many advanced semiconductor designs. Nvidia remains dominant in GPUs. SK Hynix, Samsung, and Micron are central to high-bandwidth memory. Intel and AMD remain important in CPUs, while hyperscalers such as Alphabet are increasingly developing custom chips of their own.

When demand rises rapidly while supply is constrained, companies sitting at key bottlenecks can gain significant pricing power. That has supported earnings expectations across parts of the semiconductor supply chain. In some cases, share prices have risen sharply but earnings expectations have risen too. A stock is not automatically expensive simply because it has gone up in value. The more relevant question is whether future cash flows have improved enough to justify the price move.

For now, much of the positive case for AI rests on hyperscaler capex. The largest cloud and platform companies, including Microsoft, Amazon, Alphabet and Meta, are spending unprecedented sums on data centres, chips, and AI infrastructure. Moody's Ratings estimates that the largest US cloud and AI infrastructure providers are on course to spend close to \$700 billion between them in 2026². That spending is driving much of the profit growth across the semiconductor sector. If it continues, earnings may continue to follow. But if capex slows because returns disappoint, the impact on suppliers could be significant.

For advisers, this makes AI less a single stock story and more a portfolio exposure question.

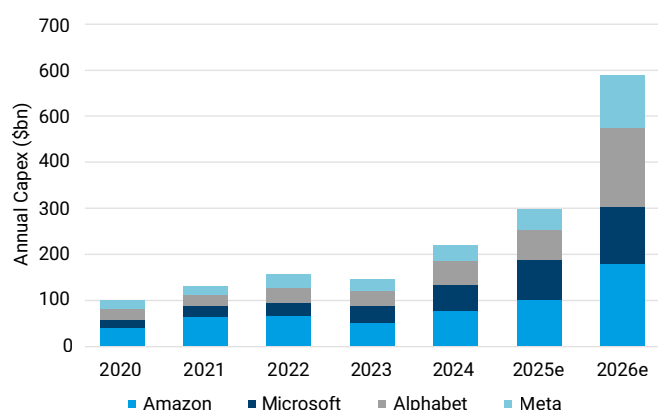


Layer of the AI supply chain	Why it matters
Chip design	Designs the processors used to train and run AI models
Advanced chip manufacturing	Produces leading-edge semiconductors at scale
Semiconductor equipment	Provides the specialist tools needed to manufacture advanced chips
Memory	Supports faster data access and processing for AI workloads
Cloud and data-centre infra-structure	Provides the computing capacity used to train, deploy and scale AI services
Networking, power, and cool-ing	Moves data efficiently and supports the physical demands of high-density data centres
Software and applications	Turns AI capability into tools, services, and productivity gains for end users

Where the risks could emerge

Hyperscalers have a clear incentive to reduce reliance on expensive external suppliers by developing more of their own chips. Google's TPUs and Amazon's Trainium are examples of this trend.

New model architectures, more efficient AI systems, or unexpected competitors (remember DeepSeek in January 2025) could also challenge assumptions about future infrastructure demand. AI may remain a powerful long-term theme, but the long-term beneficiaries may extend well beyond today's market leaders.



From AI opportunity to portfolio concentration

Many clients may already have substantial AI and technology exposure through broad market indices, even if they have not chosen that exposure explicitly. Market-cap-weighted indices naturally allocate more to the largest companies. That can work well while those companies lead but it can leave portfolios increasingly dependent on a narrow group of stocks and sectors.

The rise of passive investing has made this effect more visible. Market-cap-weighted index funds allocate more capital to companies as their market value rises. As a result, clients invested in global equity funds, US equity funds, multi-asset portfolios, passive strategies, or growth funds may have accumulated significant exposure to a relatively small number of US technology companies without making an explicit investment decision to do so.

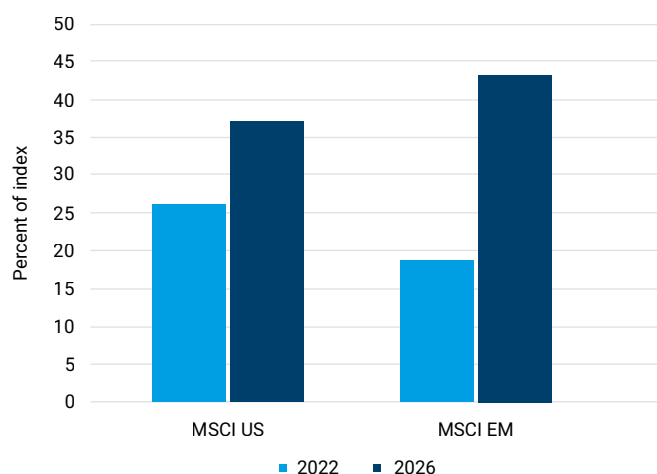
Technology exposure is not inherently a problem. Many of these businesses are highly profitable, cash-generative, and competitively strong. The risk is that a portfolio that looks diversified at fund level may be less diversified once the underlying holdings are aggregated. Advisers should therefore consider total exposure across holdings, wrappers, and mandates rather than assessing individual funds in isolation.

There is also a behavioural risk. Market leadership often feels permanent while it lasts. The largest companies attract more capital, their share prices rise and their index weights increase further. The process can look orderly on the way in. But if

sentiment changes because earnings disappoint, capex slows, regulation tightens or a new technology emerges, the reversal may be less orderly. That is particularly true if many investors are crowded into the same positions. History suggests that periods of market concentration can reverse quickly once market leadership changes.

Active management is not a guaranteed solution, and active managers will not always get these calls right. But flexibility can be valuable when market leadership changes. A genuinely active approach may be able to reduce exposure where concentration risk looks excessive and allocate to emerging opportunities before they become large index weights. It may also help distinguish between companies with durable cash flows and those whose valuations rely mainly on future promise.

Technology share of index



What this means for advisers

AI is not simply a repeat of the dot-com bubble. There are real revenues, real profits, and real infrastructure spending behind much of the market performance. But it is not risk-free. Valuation still matters. Cash flows still matter. The price paid for growth still matters.

For advisers, the practical starting point is not to predict the next AI winner. It is to understand current exposure. How much of the portfolio is already linked to technology, AI infrastructure, and US mega-cap growth? Is that exposure intentional? Is exposure diversified across the supply chain or concentrated in a small number of names? And is the investment approach flexible enough if leadership changes?

AI may remain one of the defining investment themes of the decade. For advisers, the opportunity is not simply to explain the technology but to help clients distinguish enthusiasm from exposure, growth from valuation and long-term opportunity from short-term concentration risk.

Adviser checklist

- What proportion of the client's overall portfolio is exposed to AI-related themes?
- Is exposure primarily through broad indices or explicit thematic allocations?
- How concentrated is exposure in a small number of companies, sectors, or geographies?
- Is exposure diversified across the AI supply chain?
- How would the portfolio respond if market leadership shifted away from US mega-cap technology?
- Does the client understand the additional concentration risk they are accepting?

¹International Energy Agency, April 2026

²Moody's Ratings, March 2026

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WF3687348 (07/26)