

October 2026

Editorial

Since we last reported on AI's impact on the economy and financial markets in late spring, much has changed. Model capabilities and corporate adoption have continued to advance. In particular, the rapid growth of AI agents, virtual collaborators that can perform tasks autonomously and cooperate with other agents, has made AI considerably more useful and enabled significant productivity gains in some activities.

These developments have generated substantial economic benefits, particularly for the United States and emerging economies in North Asia. They have also driven a strong appreciation in the value of AI-related companies, producing significant wealth effects, as Damian Künzi and Josipa Markovic illustrate in their economic analysis (*page 2*).

However, the past few months have also shown that these benefits come at a steep cost and entail growing risks. Security concerns, including reports of AI-enabled cyberattacks, have added to growing investor caution. While enthusiasm remains high, rising volatility and weaker returns among AI-related stocks suggest that markets are beginning to recognise these risks. Meanwhile, the current pace of investment is increasing the risk of excess capacity, potentially reducing some of the expansion's positive economic effects.

At the same time, the cost of developing and deploying advanced models has risen sharply, encouraging customers to seek cheaper and less proprietary alternatives. This could affect the valuations of leading AI companies, reshape the supply chain and alter its geographical balance, with China gaining ground in lower-cost models and processor development.

In his equity-market analysis (*page 4*), Andreas Homberger examines whether AI's productivity gains are sufficient to justify its rapidly rising costs. Strong earnings at several leading companies could sustain the

positive market trend for some time. Nevertheless, current valuations appear to incorporate highly optimistic earnings expectations. If revenues and returns on AI investment disappoint, investors may have to reassess these valuations. Diversifying some exposure towards more defensive equities may therefore be appropriate.

Investment in AI and its supporting infrastructure has also become so extensive that even the largest companies cannot finance all planned expenditure from internal cash flow. The use of credit in its various forms is therefore growing rapidly. A greater role for debt is a natural consequence of the industry's expansion, but the pace and scale of borrowing, together with the high leverage embedded in some financing structures, are becoming a concern. As Valeriy Petrov explains in his analysis (*page 6*), investors should carefully examine the structure, collateral, counterparties and refinancing risks of these instruments before committing capital.

AI is rapidly reshaping economies and markets, making it a key theme for investors. We will continue to follow developments closely and share our views. We hope you enjoy this edition.



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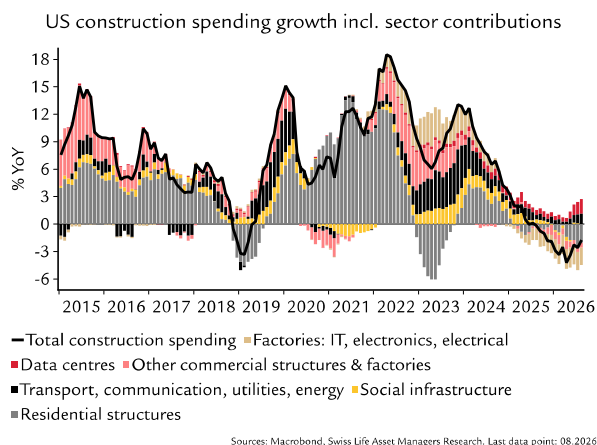
Focus #1: The economic effects of the AI build-out

The construction of data centres is less relevant for the US economy than the huge investment announcements by the hyperscalers suggest. Emerging markets are the main beneficiaries of those hardware investments. The US economy is benefiting from the AI investment boom mainly through software investments and wealth effects.

Author: Damian Künzi, Head Macroeconomic Research and Josipa Markovic, Economist Emerging Markets

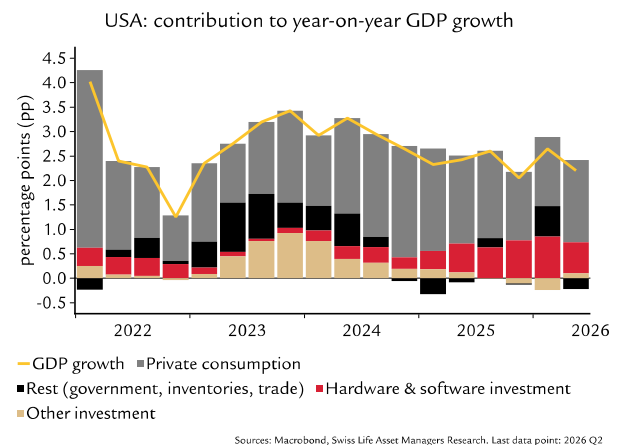
Software beats hardware

The AI revolution is in full swing and is already having a direct impact on economic data through the enormous investments in the necessary infrastructure. In this article, we would like to discuss these effects with a focus on the US and emerging markets. We exclude the consequences of AI applications on productivity and the labour market; we already addressed these issues in our first special issue of Perspectives on AI.



The US remains a leader in the development of commercial AI models and data centres. According to sector analysts, the US accounted for roughly 60% or even more of global investment in computing capacity in 2026 alone. Apart from traditional infrastructure projects, data centre construction is the only bright spot in the US construction sector, which continues to suffer from high interest rates and a decline in residential construction (see chart). Nevertheless, data centres currently account for “only” 3.8% of US construction spending – far less than the heated political debate about their construction suggests. Much more valuable than the shell, land, cooling systems and electrical infrastructure covered by this figure are the compute stacks within the data centres: Since the start of 2025, hardware investments have accounted for 19% of US GDP growth. While details are lacking, it is reasonable to assume that data centre equipment accounts for the lion’s share. However, most of this investment

spending leaks abroad as an estimated 80% of the compute stack in data centres is imported. Therefore, the actual growth contribution from hardware investment is much smaller than the headline number suggests. Statements by some analysts that the US economy would have been in a recession in 2025 without AI investments are wrong, in our view, especially since the AI investment boom has led to significant financing requirements that have crowded out other investment. More relevant for US GDP growth are software investments, which have accounted for 16% of US GDP growth since the start of 2025. The strong increase in this category is likely to be heavily driven by the development of AI models, the costs of which are largely capitalised as investments in the context of GDP.



Wealth effects support US consumption

However, the main growth effect of the AI boom is indirect: the equity market boom has caused the net wealth of US private households to rise from 358% of GDP at the start of 2025 to 404% in the second quarter of 2026, close to the historical peak recorded in the second quarter of 2021. In view of this wealth effect, households have felt comfortable reducing their savings rate to just 4% recently despite slowing wage growth and a higher cost of living. In this respect, the AI (equity market) boom has noticeably supported US consumption and the economy, which in turn also

implies that any strong correction in AI stocks would lead to significant US recession risks.

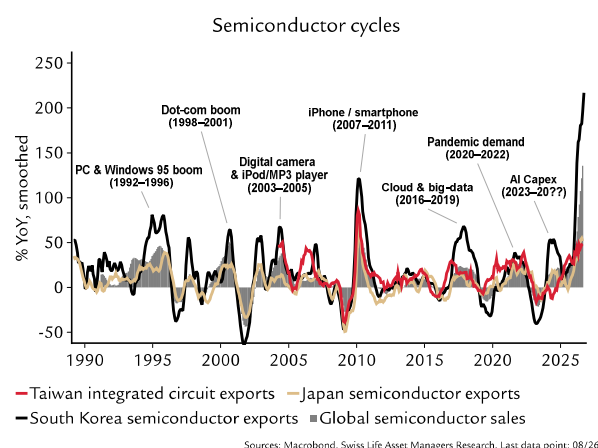
Emerging Asia at the core of the AI supply chain

North Asia is emerging as one of the main beneficiaries of the global AI investment boom. Between January and July 2026, cumulated exports reached record highs in both South Korea (\$595bn, +50% YoY) and Taiwan (\$493bn, +45% YoY). The expansion has been driven by semiconductors and other AI-related technology exports, whose share of total shipments continues to rise. Importantly, both economies are not only exporting more chips but are also earning substantially more on each unit sold as AI-driven supply constraints support exceptional pricing power and margins. While in Taiwan both real and nominal GDP is growing by double digits this year, in South Korea real GDP grew by 3.7% YoY in H1 2026, while nominal GDP surged by 21.7% YoY. Higher profits ultimately feed through to corporate investment, tax revenues, wages and domestic demand, allowing the benefits of the AI-driven semiconductor cycle to extend well beyond the export sector into the broader economy. Recent data already points to a pickup in both non-AI industrial activity and private consumption. The benefits are also spreading across the wider supply chain. Malaysia, Singapore, Vietnam and Thailand are benefiting from increased demand for semiconductor manufacturing, assembly, testing and packaging, while Mexico has emerged as a major near-shoring hub and risen to become the world's fourth-largest exporter of processors.

Why this semiconductor cycle could last longer

As long as demand for AI hardware continues to grow, a range of emerging economies are likely to benefit from the resulting economic tailwinds. However, the current development rekindles the risk of a typical pattern of a semiconductor cycle: demand increases, prices boom, manufacturers overinvest, supply catches up, and prices eventually fall and production volumes decline. In the past three decades such cycles lasted 2–3 years from peak to trough (see chart). The key question today is not whether we will see this pattern emerge again. The evidence suggests that it is already unfolding, with investment plans picking up rapidly to catch up with demand. The more important debate is whether this cycle can prove more durable than previous semiconductor upcycles and sustain its impact on growth for a longer period of time. There are several reasons why it might. First, there is greater visibility of future demand: hyperscalers have announced multi-year investment plans and shown commitment via long-term contracts with semiconductor producers.

Second, AI adoption is still at a very early stage, leaving room for further growth. Third, unlike previous semiconductor cycles that were primarily driven by device adoption (e.g. PCs, smartphones) or infrastructure buildouts (the dot-com era, cloud computing), AI does not appear to have a clear saturation point. Earlier cycles matured once device penetration approached its limits, internet infrastructure was largely deployed, or a substantial share of workloads had migrated to the cloud. In the AI era, however, there is no obvious saturation point: AI workloads keep expanding, models keep improving, while compute intensity is rising exponentially with each new frontier model. Fourth, even if supply eventually catches up with demand and memory prices begin to decline, the so-called Jevons paradox suggests that lower AI costs could actually spur greater adoption and usage. As a result, demand for memory and advanced chips may continue to expand, implying that any eventual downcycle could be considerably less severe than in previous cycles.



Reasons to be cautious

That said, there are also reasons to remain cautious. First, the industry could once again fall into a familiar pattern of overinvestment, with companies building excess capacity based on overly optimistic demand expectations. Second, the competitive threat from China should not be underestimated. While one could argue, following the logic of the Jevons paradox, that cheaper Chinese AI models may accelerate adoption and ultimately increase overall demand for AI hardware, China's efforts to build its own advanced semiconductor industry pose a risk to incumbent producers – although the timing and magnitude of this challenge remain uncertain. Third, technological advances could reduce memory requirements, weakening demand growth. Finally, a higher cost of capital could make some of today's investments less attractive and render parts of the current investment cycle unprofitable.

Focus #2: AI and equity markets – will monetisation work?

AI remains a powerful equity market driver, but the sustainability of current expectations is yet to be proven. Monetisation is the key challenge, as capital expenditures outpace cash flow generation and reliance on external financing increases. We expect strong demand and earnings growth to support markets in the near term, but a more significant test is likely as more capacity comes online and the viability of current business models will be scrutinised.

Authors: Andreas Homberger, Head Quantitative Equities

Equity market developments

Since our last update in May, most AI stocks and thematic baskets have posted modest gains, while Asian semiconductor stocks have significantly outperformed (see table below). Volatility, however, has been extreme. The Korean stock market, for example, experienced nearly 10 intraday trading halts. AI stocks rallied strongly through late June, while software stocks corrected, before concerns over unprecedented capital expenditure, circular financing structures, and rising debt and equity issuance triggered a pullback in July. Even so, 15 of the 20 best-performing stocks globally this year are IT companies, led by Sandisk, whose shares have gained approximately 700%.

	% Year-to-date	% since last update	% since launch of ChatGPT	PE	Forward PE
US AI	24.3	0.9	647	37	27
Asia AI	43.5	7.8	256	34	22
Magnificent 7	6.1	5.0	301	33	25
Nvidia	14.0	6.6	1'158	31	23
USA Tech	16.7	9.2	180	37	25
Asia Tech	54.3	11.6	233	44	29
US Market	10.7	5.3	87	26	22
Emerging Markets	21.4	6.0	89	16	12
US AI Infrastructure	45.6	-1.2	272	46	22
USA AI Productivity	9.2	17.6	n.a.	21	16
USA AI Revenues	14.1	36.9	122	69	42

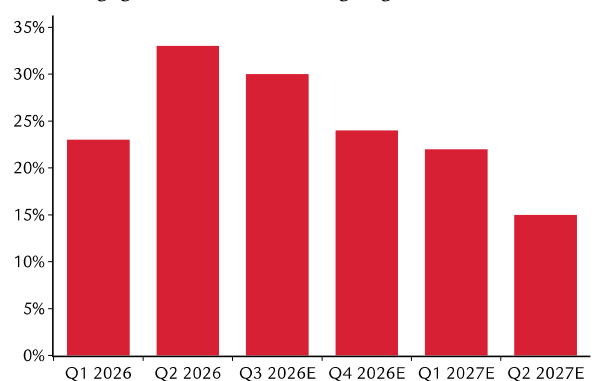
Notes: Data as of 15.09.2026. Date of the last update is 30.04.2026. Forward PE is estimated based on earnings forecasts for 2027. Source: Bloomberg, Swiss Life Asset Managers

Equity market dependence on AI

Today, around 50% of the US equity market is linked to AI-related stocks, with semiconductors alone accounting for nearly 20% of the index. Hyperscalers and AI infrastructure companies are expected to generate roughly 65% of US earnings growth between 2026 and 2028. Including valuation gains from investments in AI firms, US earnings grew by about 50% in Q2, compared with roughly 30% excluding those gains. Without the contribution of AI stocks, median earnings growth in the US would have been only around 15%. In emerging markets, earnings growth is driven almost entirely by Taiwanese and Korean semiconductor companies, whose profits increased by between 50% and more than 300% year-over-year. These figures highlight the global stock market's growing dependence on AI. Markets are increasingly concentrated in AI-related

stocks, a large share of earnings growth is generated by the sector, and margin expansion is driven primarily by the very high reported margins of AI companies.

Earnings growth S&P 500 excluding mega-tech other income*

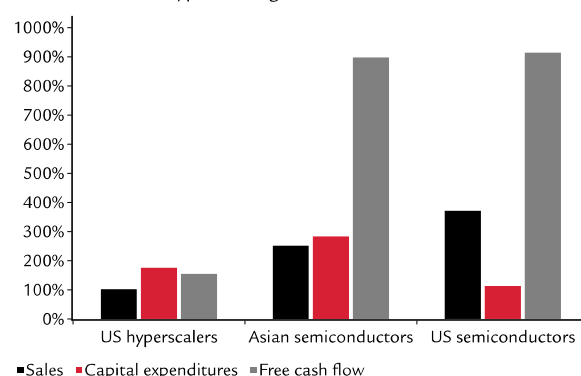


* Other income mainly refers to gains from investments in non-listed AI companies such as OpenAI and Anthropic. Sources: Goldman Sachs, Macrobond, Swiss Life Asset Managers Research. Last data point: 17.09.2026

Reasonable valuation, very optimistic expectations

The key issue for equity markets is not current valuations, but expectations for future revenue growth, earnings, cash flow generation, and margins. The scale of AI-related investment can no longer be funded solely through operating cash flows, leading to a surge in IPOs, equity issuance, and debt financing. As a result, the US equity market is expected to record its first positive net issuance balance in two decades, alongside some of the largest IPOs in history.

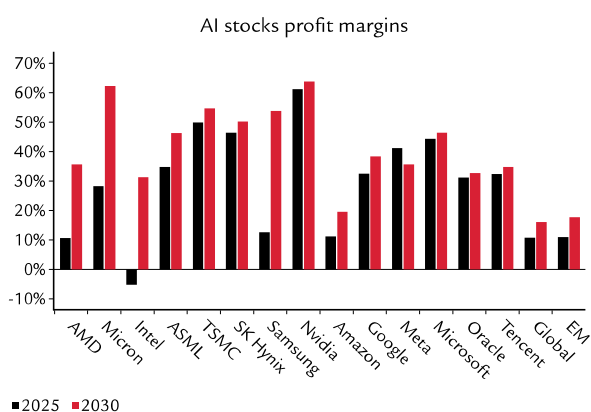
US hyperscaler growth rates 2025-2030



Notes: All data is based on Bloomberg consensus estimates. Sources: Bloomberg, Macrobond, Swiss Life Asset Managers Research. Last data point: 26.08.2026

For US hyperscalers, all part of the world's ten largest listed companies, revenues are expected to double, capital expenditures (capex) to triple, and free cash flow to increase 2.5-fold between 2025 and 2030.

Profit margins across AI-related stocks are also expected to rise over the next five years, despite already being two to four times higher than those of the broader global equity market, whose margins themselves are near record highs. For US semiconductor companies, margins are currently around twice their historical average of roughly 40%.



Historically, however, the largest companies have rarely been able to sustain such elevated growth rates while maintaining margins far above market averages over extended periods. For current expectations to materialise, leading US frontier AI labs must retain, or even expand, their market share and achieve profitability soon. Failure to do so would make it difficult for hyperscalers and semiconductor firms in the US and Asia to earn adequate returns on their unprecedented AI-related capex. In that case, current expectations for revenue growth, free cash flow, and margins would likely prove too optimistic. A broad failure of AI monetisation could trigger a significant correction in global equity markets and materially increase the risk of a global recession. This risk is further amplified by circular financing structures, high levels of debt, remaining performance obligations (RPOs), and contracted backlogs. Hyperscalers' on- and off-balance-sheet debt currently totals approximately \$500bn and \$1.6tn, respectively, while RPOs and contracted backlogs amount to an additional \$2.0–2.5tn.

OpenAI, Anthropic and Nvidia

A key upcoming issue is the large amount of data centre capacity scheduled to come online in 2027 and 2028. Today, hyperscalers and Nvidia already recognise future revenues from these pre-contracted

investments, while OpenAI and Anthropic are not yet paying for most of the capacity, and the associated assets are not yet being depreciated. It is unclear whether future cash flows and funding rounds will be sufficient to cover these commitments. Combined revenues are expected to reach around \$100bn in 2026 and \$200bn in 2027, yet both companies are likely to remain deeply unprofitable. OpenAI is expected to consume around \$280bn of cash by 2030 and, together with Anthropic, has committed to hundreds of billions of dollars of compute capacity. As a result, both firms remain heavily dependent on external financing, even as IPO plans have been delayed by security and business model concerns. Nvidia has effectively become the “central bank” of the AI ecosystem, albeit without the ability to create liquidity. It has invested over \$100bn directly in AI companies and indirectly supports much larger financing commitments tied to its hardware. As a result, the ecosystem has become highly interconnected. If OpenAI or Anthropic were unable to meet their obligations, Nvidia, hyperscalers, and other AI-related companies would face significant consequences. For example, Nvidia projects cumulative revenues of \$600bn from OpenAI through 2030; OpenAI accounts for roughly 70% of Microsoft's AI revenues; around 40% of hyperscaler profits in Q2 2026 were driven by gains from investments in frontier labs; and neocloud provider CoreWeave relies heavily on just three major customers, Microsoft, OpenAI, and Meta, which together generate more than 80% of its revenue.

Equity market outlook and alternatives to AI stocks

In our view, the AI-driven rally could have further legs before all the risks outlined above may lead to serious problems. AI demand is real, AI companies have consistently beaten already high expectations recently (often by far) and strong earnings growth in the next quarters will continue to support equity markets. Risks from massive compute investment and frontier labs' limited resources will likely only start to bite in the second half of 2027, as more capacity comes online. Likewise, it may take a while until cheaper Chinese models gain full trust of users around the globe and until new production capacity for semiconductors is sufficient to cover demand. If the buildout of AI continues as currently expected and without an external shock, markets remain well anchored and earnings growth justifies further price appreciation. Given this mix of considerable opportunities and rising risk, we would, however, complement AI exposure with more defensive allocations like dividend-paying and European equities.

Focus #3: Key dependencies in AI credit financing

Fragmented credit markets let AI companies arbitrage financing opportunities. Individual deals may look sound in isolation, but only a holistic assessment reveals the interconnected risks across the entire capital structure.

Author: Valeriy Petrov, Co-Head Portfolio Strategy

The debt avalanche has just started

Until Q3 2025, AI was primarily equity-financed; debt played a minor role, and valuation concerns were far from credit investors' minds. That started to change in September and October 2025, when the US hyperscalers accessed the IG bond market at scale, some placing their first bonds ever. Fast forward one year, and the credit market has been flooded with around \$1tn¹ of AI-related debt. Unsurprisingly, the largest chunk, \$388bn, has been placed in the global IG bond market, where the US hyperscalers, after draining the USD market, accessed AUD, CAD, CHF, EUR, GBP, and JPY, while Asian players also tapped the HKD and SGD markets. The global AI IG issuance of the last 18 months represents 2.6% of the global corporate IG market.

Yet other markets were far more exposed to AI credit funding needs. The Structured Finance market raised \$180bn, or 18% of the global market, in the form of Data Centre ABS and CMBS. The Direct Lending market, which includes Infrastructure Debt Financing, provided \$235bn², or 12% of global outstanding. Not surprisingly, AI debt sought other venues to diversify its financing sources and tapped the HY bond, Convertible bond, and Leveraged Loan markets, all on a smaller scale, to raise unsecured and secured corporate-level debt, as well as asset-based and project debt – rare products for these public markets.

Perhaps the most interesting source is the least discussed: bank balance sheets. There is not much systematic disclosure available, only sporadic press releases³ and articles. What we understand from them is that banks are actively looking to offload their exposure, and we will explore the likely venues and scale further in this article.

Echoes of the dot-com bubble

The current AI investment cycle echoes the telecom boom of the late 1990s. The long-term growth story may ultimately prove correct, but periods of rapid expansion can also lead to excessive optimism and eventual failures. Looking back, many risks were visible in the assumptions underpinning investment decisions. For credit investors, the most important skill is often

not identifying the companies that will succeed but avoiding those that will fail.

AI boom: common truths and their key vulnerabilities

The central investment case for AI is that demand for computing power will continue to grow as AI adoption expands across industries. As we argued previously, today's equivalent of shovels in gold rush era is data centre infrastructure. Yet the financing of the data centre ecosystem has fragmented into multiple segments, from buildings and power infrastructure to servers, GPUs, and grid connections, each with its own risks, capital structure and different ways to raise debt.

The market prices GPUs as the riskiest segment. The terms look creditor-friendly: short tenor, full amortisation by maturity, committed customers paying fixed price for the full tenor of the loan, often with Investment Grade rating. Despite these protections and often double-B or higher rating, the market demands credit spreads consistent with much weaker credit.

Leverage is high, equity in such deals accounts for about 15% to 20% of total financing. The collateral value is high today, but the collateral ages quickly and is exposed to technological obsolescence and production defects. Recent reports that Nvidia is exploring insurance solutions against chip obsolescence suggest these risks remain difficult to absorb.

Data centre buildings are considered akin to special real estate investments. They are exposed to a different set of risks, including development, access to power, and signal latency due to distance to end users. Long-term contracts with IG rated tenants provide rating support but increase portfolio concentration risk. Lease break clauses, which are rarely public, add to uncertainty. Investing requires pricing of each risk component in the deal and overall portfolio risk concentration assessment.

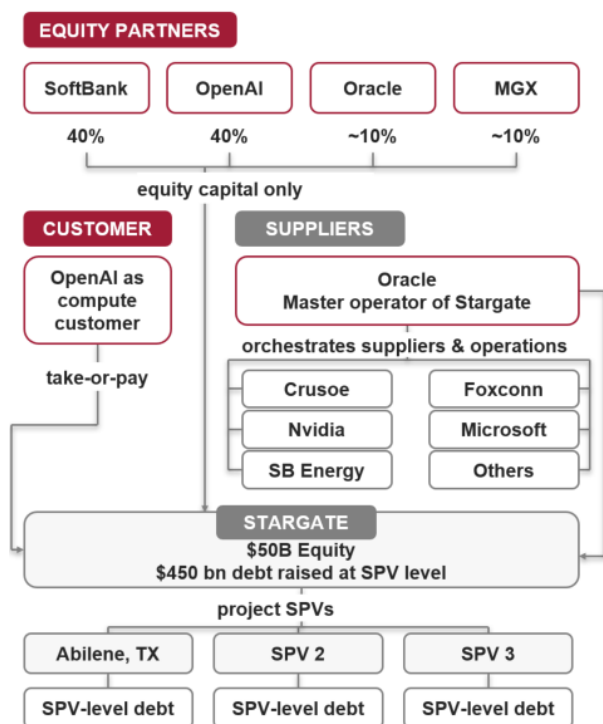
Eighteen months after the first sizeable hyperscaler bond issues, there is leverage on every level of the AI value chain. Moreover, transactions often treat counterparties as independent investment-grade credits, even though many are deeply interconnected. This concentration creates potential points of failure that investors are likely underestimating.

The risk mesh

At the centre of the chip-financing deals is Nvidia. The company supplies GPUs but it also buys them through “independent” SPVs and then sells the resulting compute. Nvidia is transforming into a typical capital goods manufacturer financing its sales but the disclosure is lacking detail to separate product from financing operations.

Nvidia has also taken sizeable equity stakes in AI labs, data centre operators and chip-financing companies that rely on its hardware and compute services. While this may support ecosystem growth, it also creates significant interconnections across the AI value chain.

Against this backdrop, it is notable that Nvidia, despite its AA/Aa1 rating and relatively tight CDS spreads (currently just below 90 bps), frequently uses off-balance-sheet financing structures that price at much wider spreads of around 400 bps. While these structures broaden investor participation, they also limit visibility into Nvidia’s mix of credit and cash sales. Any reassessment of Nvidia’s growth outlook could trigger a repricing of counterparty risk across transactions where this company plays a central role.



Source: Swiss Life Asset Managers

To illustrate the interconnections, consider the financing structure behind Stargate (see chart above), one of the largest compute financing and operating structure announced to date. It received an equity financing commitment of \$47.5bn; it uses project SPVs for each data centre; each financed with substantial non-

recourse project debt. GPU financing sits alongside these structures through separate financing vehicles.

OpenAI is the only client that committed to buy compute worth \$300bn over five years from 2027. Nvidia has guaranteed \$250bn of that commitment. Oracle manages the data centres, and Nvidia supplies the GPUs. Although the contractual arrangements are not fully disclosed, the structure illustrates the high degree of interdependence across the AI ecosystem, with Oracle ultimately exposed to OpenAI's creditworthiness and Nvidia providing a significant backstop.

More broadly, AI infrastructure is increasingly financed through multiple layers of capital, combining corporate borrowing with project-level leverage. While significant amounts of equity have been committed, a large share of future funding requirements is still expected to come from debt markets.

Reports about bank exposure to project finance for data centres are spotty but telling. Large banks already have several billion of exposure tied in the way we described to just a few counterparties. The banks are actively working on risk transfers to support new lending. Given that much of the sector's operating cash flow is expected to be reinvested in growth, a significant portion of this debt will eventually need to be refinanced in public markets.

Domino blocks

Stargate may be the largest announced structure to date, but there are myriad firms applying the same blueprint of financial engineering, each on their smaller scale.

Despite their different business models, most share two features: ambitious unfunded growth plans and dependence on a small group of customers. This concentration of counterparty risk makes the AI ecosystem inherently vulnerable. The sector's upside may be substantial, but it is likely to accrue primarily to equity holders rather than creditors. While AI credit is difficult to ignore given its size and yield premium, we favour a selective approach, even at the cost of temporary underperformance. History suggests that periods of overinvestment eventually give way to consolidation, with leveraged capital structures typically rewarding equity at the expense of credit.

^{1,2} Source: Bloomberg listing of individual deals, own aggregation into market segments, market sizes based on market value of indices published on Bloomberg

³ E.g. “Deutsche Bank Hedges Data Center Risk in SRT on €2 Billion Book”, Bloomberg article published on 7 Sep 2026

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