Perspectives
Special Edition AI

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Editorial

AI has made remarkable progress in recent years, yet its true economic impact is only beginning to unfold. In this publication, we address some of the key questions raised by these rapid developments.

To put AI's evolution into context, it is essential to understand how the technology works and where it is heading. We therefore begin with an article by Benjamin Jonen *(page 2)*, who explains what large language models (LLM) are and how the field is advancing. LLMs impress with their versatility but still rely on statistical patterns rather than true understanding, capable of brilliance in one moment and basic errors in the next. For now, the main opportunity lies less in building ever-larger systems and more in integrating existing AI into real workflows, though more effective solutions are likely to emerge over time.

AI's impact on productivity is often framed by bold promises and deep scepticism. In his contribution, Damian Künzi *(page 4)* notes that, as with past technology cycles, productivity gains tend to materialise more slowly and unevenly than expected. Early evidence shows meaningful efficiency improvements in specific tasks, yet the broader macro picture remains mixed, with recent US productivity gains only partially attributable to AI. Much will depend on how quickly firms redesign processes and how the labour market adjusts to automation.

Investors have so far focused mainly on AI's impact on equity markets. Valeriy Petrov *(page 6)* shows that AI is also reshaping credit markets in two powerful and sometimes contradictory ways: investors fear both the erosion of existing business models and a surge of new debt driven by massive AI-related capital needs. This dynamic has increased volatility, ended years of uniform performance, and exposed vulnerabilities among former "safe haven" issuers. At the same time, rising AI-related capital expenditures have created opportunities where markets overreact to perceived disruption. In this environment, disciplined credit selection and patience are essential.

In the final piece, Andreas Homberger *(page 8)* analyses the strong gains of AI-related stocks since 2022. The picture has become more complex as lofty valuations, large investment plans, and growing competition raise the question of whether we are entering bubble territory. While US hyperscalers and key hardware suppliers remain dominant, their investment needs are enormous, long-term growth expectations increasingly stretched, and many private AI firms rely on fragile economics and aggressive financing. Meanwhile, more attractively valued investment alternatives are emerging. AI's long-term potential remains substantial, but today's equity landscape demands selectivity and diversification as exuberance and structural risks coexist.

There are many questions we could not address here, and the rapid pace of developments means our observations may quickly become outdated. We will therefore continue to monitor the field closely. In the meantime, I hope you will enjoy reading our current views.

P.S.: AI is a technical and much-hyped field, so some of the terminology can sound unusual. We've aimed to keep things clear, but a few terms were hard to avoid. To help, you'll find a short glossary at the end of this publication.

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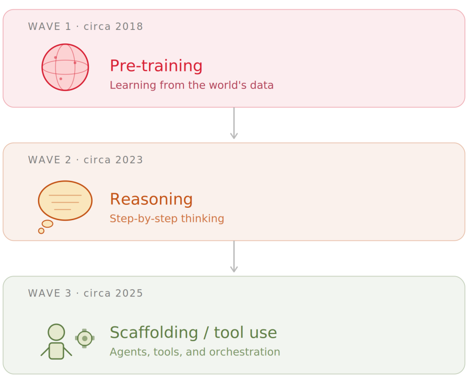
Focus #1: AI – the underlying technology

Large Language Models have made remarkable progress since the launch of ChatGPT in late 2022, yet there are signs that simply building ever-larger models may not be enough, and benchmarks reveal that current systems still fall far short of human-level reasoning. While world models may be the next big unlock, the biggest near-term opportunity lies in integrating AI into workflows, particularly through coding agents and AI assistants, but adoption will take time, requiring companies to rethink processes and establish guardrails against errors.

Author: Benjamin Jonen, Head Financial Engineering

What is AI?
Understanding what artificial intelligence (AI) is and how it works is essential before assessing its implications for the economy and financial markets. AI encompasses a set of technologies that enable machines to recognize patterns, make predictions, and choose actions to achieve specific goals. Current attention is largely focused on generative AI and Large Language Models (LLM), a subset of AI in which models learn patterns from data and then generate outputs such as text, images and even videos. These advances have been decades in the making, tracing back at least to the late 1950s, but the launch of ChatGPT in late 2022 marked a turning point, making years of progress accessible to the public through a simple conversational interface.
Large Language Models (LLMs) are fundamentally systems that predict the next word in a sentence. While this task seems simple, scaling these models has enabled them to perform far more complex functions, such as summarizing and comparing extensive documents, translating languages, and generating computer code across multiple programming languages.

Three waves of LLM progress



Source: Swiss Life Asset Managers

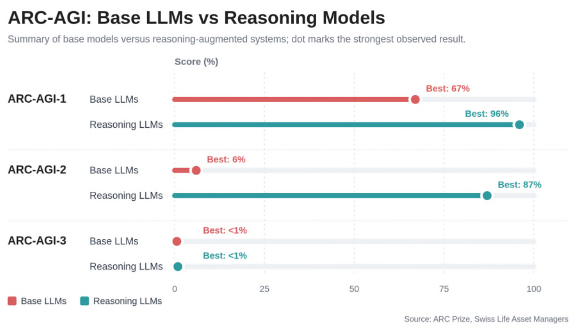
Research has suggested that as these models grow in size, their capabilities increase in a consistent and predictable way, a pattern known as the scaling law. This insight has driven a global effort to build ever-larger models, with the ambition of reaching human-level general intelligence or beyond. This first wave of LLM development – known as pre-training – is by far the most resource-intensive phase. The model learns general language patterns from vast amounts of internet data, as opposed to the comparatively lightweight post-training step that refines it for specific tasks (see chart).

Diminishing scaling
The scaling laws depend on scaling up the number of parameters, compute and data simultaneously. However, high-quality training data is becoming increasingly scarce, and evidence suggests that simply building ever-larger models requires very large investments while yielding diminishing returns. This has shifted the focus from scale alone to new approaches for improving performance, driving two new waves of model enhancements.
The second wave is the widespread use of "thinking" (reasoning) models, which are trained to work through problems in multiple steps, revising intermediate results to catch mistakes before producing a final answer.
The third wave is focused on letting models use external tools – for example, running searches, calling specialized software, or using planning and verification utilities – to handle certain tasks more reliably than language-only generation.

Are LLMs intelligent?
But are LLMs intelligent, or will they become so? These models can appear highly capable: they write software, summarize complex documents, and even solve difficult math problems. Yet they can also fail at simple, everyday judgments, like deciding whether it makes sense to walk or drive 50 metres to a carwash.
This contrast highlights a key limitation: LLMs are exceptionally strong pattern recognizers. They tend to perform best on tasks that are well represented in the

data they were trained on, but they often struggle when a problem requires grounded, real-world understanding and common sense. In short, these systems frequently rely on statistical correlation rather than true comprehension, producing fluent answers that can still miss the practical logic humans apply naturally.

One of the most prominent benchmarks for measuring model intelligence is the ARC-AGI benchmark. ARC-AGI-1 and ARC-AGI-2 present abstract visual puzzles that are easy for humans but difficult for AI, testing the ability to generalize from very few examples. ARC-AGI-3, launched in March 2026, goes a step further: it drops AI agents into interactive, game-like environments with no instructions, no rules, and no stated goals. To succeed, an agent must explore the environment, figure out how it works, and adapt its strategy across increasingly difficult levels – something humans naturally do.



The chart above shows that base LLMs cannot achieve any meaningful score on ARC-AGI-2. Reasoning models are improving but require extensive computational effort, and on ARC-AGI-3 frontier models score below 1%. The gap between human and AI performance on these benchmarks clearly illustrates the limits of current systems in terms of reasoning, planning, and learning from experience.

The next frontier: world models

Recent developments in so-called world models attempt to address exactly these deficiencies. World models are internal predictive models of how an environment works: they help a system anticipate what is likely to happen next if it takes a given action. The key difference from an LLM is that world models predict state transitions in an abstract space (instead of the next word in a sentence). The sentences "the light bulb turned on" or "the light bulb was lit" carry the same meaning and represent the same state transition in abstract space.

While still early stage, world models show promising first results and are being combined with traditional LLMs. They also play a key role in robotics, where systems must interact with and adapt to the physical world in real time.

Where the opportunity lies

In the near term, the biggest opportunities lie in integrating AI into real workflows. While many companies still report no significant bottom line effect (The State of AI in 2025: Agents, innovation, and transformation, McKinsey, 5 November 2025), there are at least three related areas where existing LLMs have created fundamental unlocks. All are expressions of the third wave of LLM development: agentic systems that have access to external tools and can act autonomously on behalf of the user.

The first area is coding. Coding agents are improving rapidly, freeing engineers from routine implementation tasks such as writing boilerplate code or navigating the intricacies of specific libraries. While the new pace of development poses many challenges (e.g. preventing outright errors and the accumulation of technical debt), the productivity gains are profound. These improvements will not be limited to programmers: coding tools are increasingly being integrated into workhorse software such as Microsoft PowerPoint and Excel.

The second area is AI assistants. These agents can take on tasks and interact with users, for example via standard messaging apps. One of the key ideas is that they can react to user requests by building applications autonomously.

The third area is creative content generation. In marketing, for example, AI tools can now produce texts, images, and even videos, dramatically reducing the time and cost of content production.

Company adoption of these new technologies will take time, as it requires rethinking workflows and establishing robust guardrails to prevent errors.

Conclusion

AI agents are a powerful new tool that has already unlocked significant productivity gains and will continue to do so. Yet it is equally important to recognise their limitations. While AI systems can produce human-like text, their underlying processes are fundamentally different from human reasoning. Many tasks, especially those requiring planning and common sense, remain easy for humans but extremely difficult for current systems.

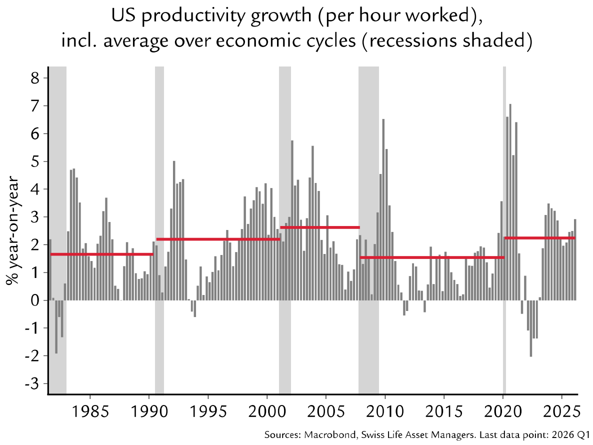
Despite these limitations, the new AI tools challenge all of us to rethink our workflows and processes – and those who adapt early stand to benefit the most.

Focus #2: Will AI lead to a productivity boom?

AI optimists argue that we are facing huge productivity gains and a golden decade, while pessimists warn of mass unemployment. Economic history calls for modesty: we will not run out of work, and new technologies will always take time to translate into productivity statistics.

Author: Damian Künzi, Head Macroeconomic Research

A bit of history: The Solow Paradox
«Productivity isn't everything, but in the long run, it is almost everything». As Paul Krugman rightly points out, productivity is the most important macroeconomic determinant of a country's prosperity. Yet it is a notoriously difficult concept to grasp in economics. Even ex post, it is complicated to causally attribute productivity developments in the economy to a specific technology. The legendary economist Robert Solow, for example, observed in 1987 that the computer age can be seen everywhere except in the productivity statistics. According to current research, the US economy could only reap the productivity benefits of the new technology in the golden 1990s and early 2000s.



This so-called Solow paradox can be explained in the following ways: (1) J-curve: the necessary investment in infrastructure, know-how and adaptation of work processes first leads to a decline and only later to an increase in productivity. (2) Measurement error: the benefits of open-source technologies such as freeware or open-source applications are high, but are not compensated in monetary terms and therefore do not appear directly in GDP. Moreover, quality improvements of information technologies are sometimes insufficiently captured. This means that their price inflation, which needs to be quality-adjusted, might be overestimated and their value added in real terms therefore underestimated. (3) Distraction: Web 2.0 came with big promises, but coincided with very disappointing US productivity figures in the 2010s. One argument is that the distraction from social media applications is undermining potential productivity gains.

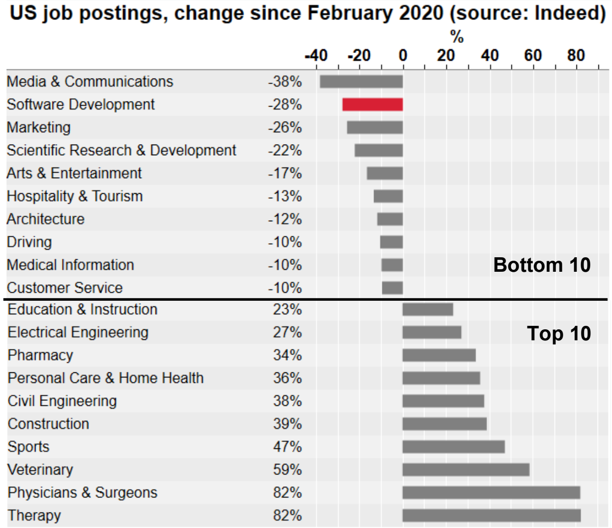
Reasons for caution
If productivity is already difficult to gauge ex post, it is speculative to estimate the productivity effect of a new technology such as AI ex ante. As a result, the forecasts vary enormously. Representative of the pessimists, Nobel laureate Daron Acemoglu expects only a maximum of 0.1% additional US productivity growth per year over the next ten years[1]. In addition to the Solow paradox, his main argument is that AI primarily replaces activities in the initial phase ("labour-replacing"). This makes a company more productive, but the employees who lose their jobs are pushed into less productive fields of activity (e.g. the unemployed software engineer now gives yoga lessons). Productivity gains are thus watered down for the economy as a whole. Acemoglu argues that only if AI increasingly becomes a productive tool in the hands of employees ("labour-augmenting") and drives innovation will greater macroeconomic productivity gains materialise.

Reasons for optimism
Representing the optimists, Stanford economist Erik Brynjolfsson thinks that AI could lead to a doubling of productivity growth in the US over a decade, implying an AI-driven productivity boost of up to 1.5% per year.[2] He assumes that AI will overcome the Solow paradox because (1) it is a widely applicable technology ("general purpose technology GPT"), (2) the necessary IT infrastructure is already in place amongst users, and (3) the technology is easy to apply. He also expects the technology to advance rapidly and sees his assumptions confirmed by his own empirical studies, which, for example, found a 14% increase in productivity amongst customer support agents within a very short time after the introduction of AI tools.[3] He already sees the strong productivity growth in the US of recent years as proof of his hypothesis.[4]

Is the AI productivity boom already underway?

We are more sceptical about the last point. The US productivity boom – with a pandemic-induced up and down – already started before November 2022, when the launch of ChatGPT made AI applications popular. The tech sector has contributed significantly to productivity growth since then, but in addition to more efficient software development thanks to AI, the economic cycle, i.e. the reduction of redundant jobs following the post-pandemic recruitment boom, probably also contributed. It is also important to distinguish between AI investments and AI applications. It is true that the enormous investments in AI infrastructure inflated US GDP growth and productivity in 2025. However, it is still unclear whether the investments will pay off and what productivity gains the actual use of AI will bring. Up-to-date experimental productivity statistics from the Federal Reserve Bank of Chicago paint a mixed picture: in addition to IT-related sectors, productivity growth has accelerated since 2022 in sectors such as publishing and real estate. AI could play a role in this. At the same time, however, productivity growth in AI-exposed sectors such as business consulting or legal services has even deteriorated slightly over the same period.

US job postings, change since February 2020 (source: Indeed)



Sources: Indeed, Macrobond, Swiss Life Asset Managers. Last data point: 1 May 2026

And even if empirical studies confirm microeconomic advances, extrapolating to the economy as a whole is problematic because it does not answer the question of what employees do with the time they gain or what jobs people who have become unemployed migrate to. Unfortunately, this is the gap in Brynjolfsson's research. To be sure, he was able to demonstrate that employment in AI-exposed job profiles has fallen significantly in the US, with job entrants in particular suffering.[5] A KOF study came up with similar results for Switzerland.[6] But where are the jobs going? In addition to slightly higher unemployment, data from Indeed shows that in the US, job advertisements have risen particularly in the human-intensive and less AI-exposed healthcare sector – an industry not known as a productivity driver.

Conclusion:

Despite all the uncertainty, we consider the following points plausible: (1) We agree with Erik Brynjolfsson that AI productivity gains will occur sooner than during the computer revolution – years rather than decades. (2) However, we are sceptical that the recently strong US productivity figures are already being driven by the use of AI. Studies by management consultancies show, even for the US, that AI is not yet widely and systematically applied in most companies.[7] The need to adapt corporate processes, clarify data security and the uncertainty as to which AI applications to rely on[8] suggest that the J-curve is also relevant for AI. (3) Productivity gains on a microeconomic scale are diluted on a macroeconomic scale. Ultimately, this reflects the fundamental belief in macroeconomics that fears of AI-induced mass unemployment are misplaced. As long as the labour markets remain sufficiently flexible, other, potentially less productive job profiles will become more important in the economy.

Hence, we expect only moderate productivity gains due to AI adoption over the next three years in our estimates of US potential growth. Beyond that horizon, we are more confident that AI applications will increasingly have a noticeable impact on productivity growth, although we still consider the growth projections of AI optimists to be overstated.

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1 Acemoglu (2024): The Simple Macroeconomics of AI

2 Interview by Fortune on 26/09/2023, Link: Top AI economist says it will create a 'productivity boom'

3 Brynjolfsson, Li & Raymond (2023): Generative AI at Work

4 Financial Times article by Brynjolfsson on 15 February 2026: The AI productivity take-off is finally visible

5 Brynjolfsson et al. (2025): Canaries in the Coal Mine? Six Facts about the Recent Employment Effects of Artificial Intelligence

6 Klaeui & Siegenthaler (2025): KI und der Schweizer Arbeitsmarkt: Erste Evidenz zu Auswirkungen auf Arbeitslosigkeit und Stellenausschreibungen

7 The State of AI in 2025: Agents, innovation, and transformation, McKinsey, November 5 2025

8 Possible questions: AI models on-premises or in the cloud? Are "simple" open-source models sufficient or do we need expensive state-of-the-art models? Waiting for AI integration within standard software?

Focus #3: The impact of AI on the credit markets

The credit markets are feeling the full impact of the AI revolution through strong demand for credit to fund capital expenditures and fear that AI will break business models. Both increased the credit volatility and caused dispersion of the credit spreads ending three years of high and undifferentiated positive performance.

Author: Valeriy Petrov, Co-Head Portfolio Strategy

Two ways in which AI affects the credit market

We can trace the auspices of the AI impact on the credit market to that early March of 2024, when news of AI assistants handling customer service hit call centre providers' debt in a way that a very bad earnings miss or significant liquidity troubles would. Only that the earnings were stable and liquidity abundant. The credit market suddenly began pricing structural shifts in the industry which were believed to lie five years ahead. The list of the impacted industries has expanded since then; this process seems to happen stepwise and engulf more and more industrial sectors.

The second way AI impacted the credit markets became obvious when credit became the source of funding for the companies on the forefront of the AI development. While in the early days the AI companies were funded either by equity or internally generated cash flows, the move to an asset-intensive business model shifted the funding source to the credit market in September 2025. Within months the spreads of the "safe haven" technology companies with still rich cash flows have widened and became a source of risk and underperformance for the credit investors. Year-to-date, hyperscalers alone have issued approximately $110bn in a wide range of markets including the 100-year GBP or 40-year CHF bond markets.

The contradiction

Logic dictates that one cannot fear the event happening and the same event not happening at the very same time. Yet, this is what happened in the credit market in February 2026.

On the one hand, the credit market was worried that the rapid adoption of AI would render a number of business models obsolete, and that the more levered companies would default soon. On the other hand, credit spreads for AI companies widened as investments in AI infrastructure were increasingly questioned.

This resulted in a negative performance for the high-yield (HY) technology sector (ICE BofA US High Yield Technology Index) of –1.3% and Leveraged Loan Technology sector of –3.5% for the month. Since then, we have seen a pull back from the extremes; however, the framework for analysis still holds.

The threatened

We have seen repeated episodes of AI-driven uncertainty around business displacement. Each follows a similar pattern: a demonstration of an AI tool, or a company reporting increased internal AI usage, triggers an immediate negative reaction towards its suppliers. The market assumes rapid replacement by AI and near-zero marginal costs. Neither assumption is likely to hold, even over the medium term, but this has not stopped investors from selling first and analysing later.

Although it is always difficult to swim against the current during strong market moves, it is worth considering the opportunities created by sell-offs.

A number of current service suppliers have long-established positions with their customers, sometimes secured by longer running service contracts. These suppliers produce ample cash flows as of today. Their market position is a result of know-how gathered over long time from a large sample of customers buying their services. That's why they can charge high prices, delivering savings to the customers while generating strong cash flow for themselves. In other words, these suppliers rely on proprietary data that are not publicly available and are unlikely to become so.

To assess the threat of AI to the business of these suppliers, we suggest a simple framework:

1. How easy can the AI tool creator gather data for training the competitive model?
2. Is the supplier developing its own AI tool?
3. Has the management of the supplier realized the urgency to adopt AI to counter the emerging competition?
4. Has the supplier sufficient means to invest in AI?
5. How is excess cash flow used: deleveraging or otherwise? Has management acknowledged the higher market funding costs?

It is worth noting that the development of AI tools is expensive and the current race among the main providers is primed to create a monopoly, which in turn should someday provide abnormal returns for the winner. Those firms expecting benefits from using AI tools might not yet realize that the price of their inhouse built AI solution, which is near zero today, would change when that happens, and alternative providers might be necessary to keep the cost low.

From cash flow to debt: Feeding the capital hungry
The AI revolution is expected to require around USD 4tn of investment, though estimates vary. Until summer 2025, debt was largely absent from the funding mix. That changed in autumn, when Oracle issued debt, followed by Meta's inaugural bond offering.
As can be seen from the chart, the narrative shifted quickly from capex supported by strong operating cash flows to concerns about rising debt supply. Tech sector spreads widened relative to overall US corporate spreads, with the sector moving from a safe haven to a relative source of credit risk (see chart below).

Option-adjusted credit spreads: IT sector vs. total market

ICE BofA US Corporate Index
ICE BofA US Technology & Electronics Index
Sources: Macrobond, Swiss Life Asset Managers Research. Last data point: 07.05.2026

The Investment Grade (IG) bond market is the most visible segment of credit, but much activity takes place elsewhere. For example, in August 2025 Meta arranged off-balance-sheet financing for a USD 29bn data centre with Blue Owl and PIMCO. The structure gave Meta a 20% stake and Blue Owl 80%, while 100% of the revenue depended on Meta, according to Reuters. The project was reportedly financed with USD 26bn of debt from PIMCO and USD 3bn of equity from Blue Owl.
The growing role of private, less transparent markets became evident in Q4 2025, putting pressure on Business Development Companies (BDCs) as listed proxies for private credit. Transparency remains limited in private credit portfolios, both on the asset and investor sides.
However, concerns about a broader contagion may be tempered by the market's relative size of around USD 1.3tn versus USD 15tn for IG corporates, and roughly USD 1.8tn each for high yield bonds and broadly syndicated leveraged loans.

Selling shovels to the gold diggers
The AI boom relies on another group of industries which provide the infrastructure (networks and power) required to run the models and deliver the outputs. In credit markets, telecoms and utilities stand out as heavy borrowers, driven by sustained capex needs.
For some, AI has been transformative. Lumen Technologies, which owns a large fiber network, completed an out-of-court restructuring in March 2024. By August, it had secured agreements with Meta, Google, Amazon, and Microsoft worth USD 5bn in incremental revenue, with an option for a further USD 7bn, highly material relative to its USD 12bn annual sales.

Price of the Lumen Technologies Inc. bond maturing in June 2029

Sources: TRACE, Macrobond, Swiss Life Asset Managers Research. Last data point: 07.05.2026

A similar trend is evident in power markets. Data centre demand has already pushed US electricity prices higher, prompting calls for hyperscalers to fund additional capacity. The latest numbers indicate that US electric utilities on average are spending more than 35% of revenues on capex (source: Refinitiv), with aggregate free cash flow nears zero even before this surge. A new cycle of debt-funded investment is likely.

Rising volatility and ample opportunities in credit
The strong and still increasing supply of bonds, loans, private credit, and structured credit to fund AI capital needs is, at times, difficult to absorb, and increases the credit spread volatility. Spread dispersion rises driven by the market doubting business models. The perception of the telecom and technology sectors as safe credit havens is lost and will not recover soon. This market will reward credit picking and patience in a way not seen in the last ten years, except for brief periods in 2016, 2020 and 2022.

Focus #4: AI and equity markets – bubble or is it different this time?

AI is the fastest ever adopted technology in history. Since the release of ChatGPT in 2022, AI stocks have performed extremely well. However, doubts about investments, valuations and adverse side effects have arisen in recent months. We examine the current situation and the outlook for AI stocks and analyse four topics: performance & valuation, signs of a bubble, viable investment alternatives to (US) AI stocks, and key aspects for the future.

Author: Andreas Homberger, Head Quantitative Equities

Performance and valuation

The performance of AI stocks since late 2022 has been striking. US AI stocks have gained around 660%, nearly ten times the broader US equity market. Asian AI stocks rose by roughly 210%, about three times more than Emerging Market equities. Nvidia, the emblematic AI hardware supplier, surged by approximately 1100% over the same period.

However, the picture has shifted since early 2025. Following the release of the DeepSeek on 20 January 2025 (the most widely known Chinese large language model), Asian AI stocks began outperforming their US counterparts. From late October 2025, when AI stock performance peaked, US AI stocks have corrected until end of March 2026, while Asian AI stocks continued to do well. In April 2026, there was a sharp rebound.

	% year-to-date	% since Oct. 25 high	% since DeepSeek release	% since launch ChatGPT	PE	Forward PE
US AI	22.9	13.7	72	660	51	29
Asia AI	30.3	28.4	99	213	45	34
Magnificent 7	1.1	0.6	24	282	37	27
Nvidia	7.0	-1.4	42	1'079	35	22
USA Tech	7.0	4.4	32	158	37	27
Asia Tech	30.9	31.0	101	188	36	30
US Market	5.1	4.9	19	77	29	23
Emerging Markets	13.9	14.2	48	65	19	13
USA AI Infrastruct.	47.3	45.4	91	277	51	26
USA AI Productivity	-7.1	-6.5	-11	n.a.	16	14
USA AI Revenues	-16.7	-24.4	-16	62	61	28

Notes: Data as of 30.04.2026 in USD. ChatGPT was launched on 30.11.2022, the DeepSeek release was on 20.01.2025. US and Asia AI performance is based on various baskets provided by the brokers. USA Tech is a mixture of IT and communication services. Forward PE is the PE with earnings per share as estimated for end 2026. Data source: Bloomberg.

A closer look at the different segments of the AI ecosystem reveals a typical early-cycle pattern. Companies positioned to benefit from productivity gains or new AI-driven business revenues have underperformed the overall US market. In contrast, infrastructure providers, the "picks and shovels" of AI, have been the clear winners. This reflects the reality that while future revenue streams from AI remain uncertain, investment needs in infrastructure are large, immediate, and well understood. In April, US AI infrastructure stocks increased by 26% while Korean and Taiwanese IT stocks gained 47% and 30%, respectively.

Valuations are quite elevated despite strong earnings growth. Both US and Asian AI stocks trade at price-earnings multiples above 45 based on the last reported earnings. Even factoring in the strong earnings growth expected in 2026, these valuations remain in the 30s, still high, although lower than those observed during the dot-com bubble.

Are we in an AI bubble?

To assess whether the market is entering a bubble, it is useful to compare current investment trends and expectations with past technology booms. Several indicators suggest emerging bubble-like characteristics:

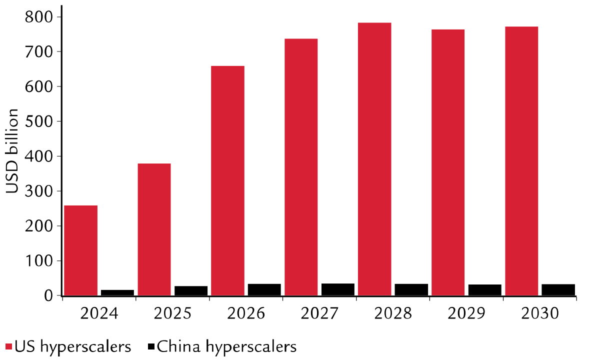
1. **Investment intensity**: Spending is driven by a race to maximize computing capacity at any cost, reminiscent of the fibre-optic overbuild around 2000. US hyperscalers (Alphabet, Amazon, Meta, Microsoft, Oracle) are expected to invest close to USD 700 billion in 2026 alone, roughly matching their combined free cash flow, with even higher levels projected for 2027–2028. This is likely to require additional debt. US firms are estimated to be investing more than 20 times as much annually as Chinese peers, partly due to higher energy use and operating costs of US models. Private players are even more aggressive: OpenAI targets around USD 1.5 trillion and Anthropic about USD 400 billion.

2. **Elevated valuations**: Market pricing implies sustained earnings growth above 10% annually for a decade for major hyperscalers and Nvidia. This is demanding, given that only about 11% of US companies achieving >10% growth in one year sustain it over ten years in the past.

3. **High market concentration**: Performance of hyperscalers has driven significant concentration, with leading AI-related firms accounting for roughly 50% of S&P 500 earnings per share. Any disappointment would likely have broad market impact.

4. **Weak fundamentals**: Leading private AI companies remain unprofitable and lack proven business models. OpenAI and Anthropic each generate less than USD 20 billion in revenue and record substantial losses. Financial visibility is further reduced by circular financing, where hardware suppliers invest in AI firms that commit to future hardware purchases.

Capital expenditures plans: consensus estimates per calendar year as at 9 March 2026



Sources: Bloomberg, Macrobond, Swiss Life Asset Managers Research

OpenAI illustrates these dynamics: its valuation has risen from about USD 250 billion to roughly USD 830 billion in a year. Revenues are expected to grow from around USD 20 billion to over USD 200 billion by 2030, yet break-even is only projected by then, with cumulative losses exceeding USD 200 billion. Funding its computing infrastructure, requiring around 30 gigawatts of power, remains uncertain.

Despite these risks, the current environment differs from the "dot-com" period: valuations are lower, leading firms are profitable, interest rates are unlikely to rise materially, and US companies face genuine competitive pressure from Asia. The main concerns remain the scale of infrastructure investment, private AI valuations, and optimistic assumptions on long-term revenue, earnings, and margins.

Overall, it is premature to call this a bubble, but AI-related assets appear significantly overvalued. A correction in expectations would affect not only these companies but, given market concentration, the broader equity market, as well as credit markets and upstream sectors such as utilities and construction.

Alternatives to US AI companies and to AI stocks

Given elevated valuations of US AI stocks, several alternatives stand out.

Asian AI companies offer lower valuations, play a key role in supplying global AI infrastructure, and benefit from more energy-efficient, often open-weight models. The region, particularly China, also has structural advantages in scientific talent and electricity supply.

Investors concerned about valuations could also consider high-dividend stocks, which are cheaper and less exposed to AI. Emerging markets provide additional diversification, although they require caution due to geopolitical risks and, in some cases, significant exposure to AI.

Key aspects for the future

So far, large language models have mainly delivered modest productivity improvements. But productivity gains alone are unlikely to justify current valuations. Sustainable business models that generate profits will be essential.

For US AI firms, two issues will be critical. First, their strategy of maximizing computation power must pay off. If the Chinese focus on leaner, more efficient models continues to deliver comparable quality at a fraction of the price, the US risks building costly overcapacity. In such a scenario, revenue and earnings projections would fall far short of expectations, potentially triggering a US equity bear market.

Second, energy requirements matter. Large US models consume vast amounts of electricity. Ensuring a reliable supply of affordable, abundant power is essential and far from guaranteed.

Conclusion

AI tends to be overestimated in the short term and underestimated in the long term. While its potential is significant, current valuations, especially in private markets, look stretched, and expectations for revenue and earnings appear overly optimistic given risks of overinvestment and rising global competition.

For US AI stocks to keep delivering strong returns, three conditions must be met: profitable AI-driven business models must emerge, output quality must evolve toward genuine intelligence, and US hardware and model architectures must retain a clear edge while securing access to low-cost power. All three remain uncertain.

For investors, diversifying away from US AI into areas such as high-dividend strategies and emerging markets offers a more balanced way to capture long-term potential while mitigating short-term exuberance.

Glossary

Capex
Capex (capital expenditure) is the money a company spends to buy, build, or upgrade long-term assets like equipment, buildings, or infrastructure.

Compute
Compute (in AI) refers to the processing power (chips, servers, and energy) used to train and run AI models.

Dot-com period
Dot-com period refers to the late 1990s tech boom, when IT companies attracted massive investment and valuations surged, followed by a market crash around 2000–2002.

Hyperscaler
A hyperscaler (in AI) is a large technology company that operates vast cloud and computing infrastructure at global scale, enabling the training and deployment of advanced AI models.

Magnificent 7
Magnificent 7 refers to the group of seven dominant US tech companies (Apple, Microsoft, Alphabet, Amazon, Nvidia, Meta, and Tesla) that have driven a large share of stock market performance in recent years.

Private debt
Private debt refers to loans provided by non-bank lenders (such as private funds) directly to companies, typically outside public bond markets.

Private equity
Private equity refers to investments in companies that are not publicly traded, typically made by specialized funds that aim to fund or improve a company and sell it later at a profit.

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