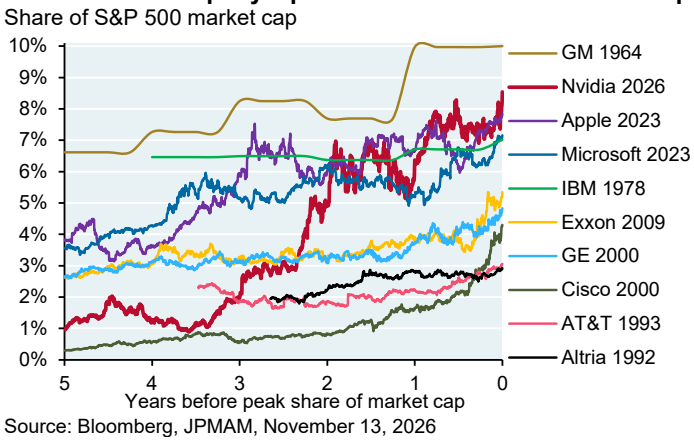
The Icarus Files: What's next for Nvidia and AI

Since 1960, there have been ten companies that shared the distinction of being the largest company in the S&P 500. Some held the perch for years (GE, GM, Exxon, Apple) while others got there just to look around for a bit before descending (Cisco held the title for just 3 days). But one company's rise to the top was faster than the rest: Nvidia which rose from 1% of the S&P 500 in December 2022 to 8.5% by May 2026. Nvidia then became a pace-setter with respect to innovation, profitability, vendor financing, support for open weight models and outspoken advocacy against the US risk-fencing China.

But like Icarus, Nvidia's CEO flew too close to the sun and the company's leadership will now change. Jensen was one of the last old school tech founders still in charge while AMD, Google, Microsoft, Apple and Amazon have transitioned to successor management teams. There's angst about this transition in some places; Brad Gerstner at Altimeter and Gavin Baker at Atreides sent a letter to Nvidia's board asking for a "deliberate process regarding the leadership of Nvidia that leaves all options on the table, including the return of Jensen Huang". But absent an about-face by the board, the implications for investors and the AI universe could be substantial. The repricing has been severe: Nvidia now trades at the lowest valuation among large AI stocks by a wide margin.

Rise to each company's peak share of S&P 500 market cap



Source: Bloomberg, JPMAM, November 13, 2026



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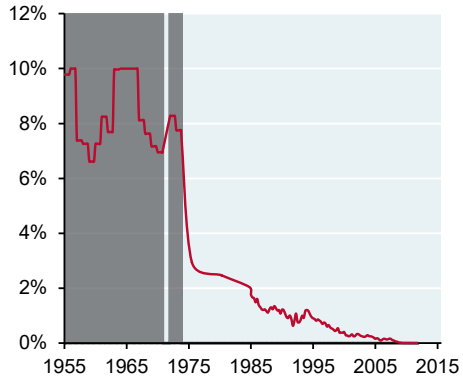
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Issue 1: The Icarus effect and the decline of most companies that became the largest in the S&P 500

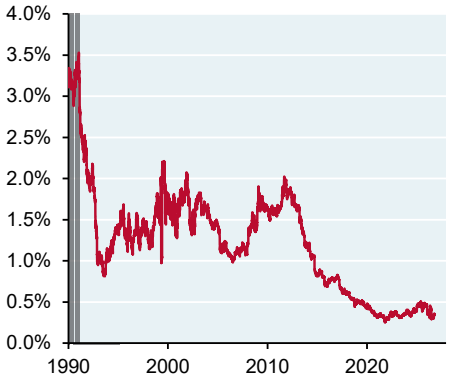
Until very recently, the Icarus effect was in full swing: companies that ascended to be the largest in the S&P 500 eventually returned to earth, with most declining to a small fraction of what they had once been. Only Exxon has sustained a market cap share of at 1%+. Some memorable moments include Cisco whose peak valuations reached a P/E of 200x and price to sales of ~35x; today market-leader Apple has a P/E of 39x and price to sales of 11x. GE was undone by the black box shenanigans of GE Capital which before the financial crisis represented 60% of GE profits and 50% of revenue. IBM fell victim to the personal computer and open-systems revolutions which disrupted its high-margin mainframe monopoly, leading the company to lose half its value from 1987 to 1993. Altria was known as Philip Morris at its peak, comprising the tobacco business, Miller Brewing, Kraft Foods and other subsidiaries. In the 1970's, GM cars got 10-12 mpg compared to 28-30 mpg for Japan and then the OPEC oil embargo hit. Note that AT&T figures are not entirely comparable due to divestitures in the 1980's.

General Motors
Share of S&P 500 market cap



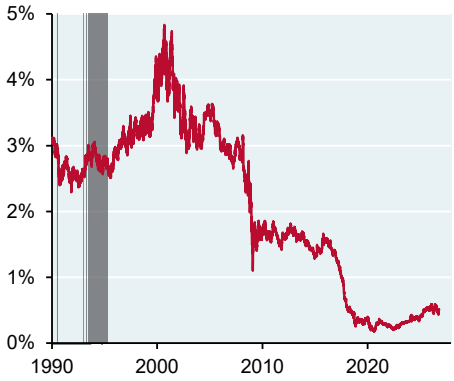
Source: BBG, JPMAM, Nov 13, 2026

IBM
Share of S&P 500 market cap



Source: BBG, JPMAM, Nov 13, 2026

General Electric
Share of S&P 500 market cap



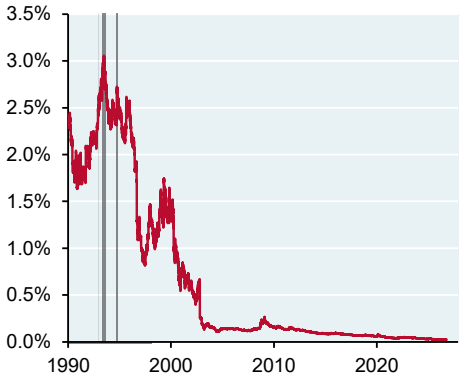
Source: BBG, JPMAM, Nov 13, 2026

Altria
Share of S&P 500 market cap



Source: BBG, JPMAM, Nov 13, 2026

AT&T
Share of S&P 500 market cap



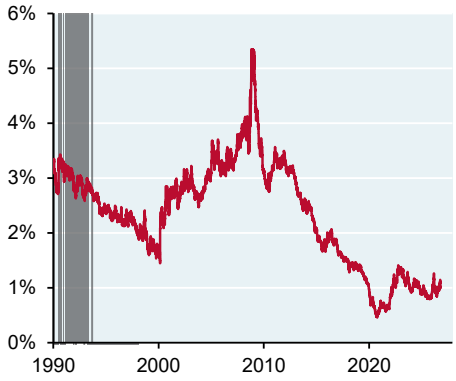
Source: BBG, JPMAM, Nov 13, 2026

Cisco
Share of S&P 500 market cap



Source: BBG, JPMAM, Nov 13, 2026

Exxon
Share of S&P 500 market cap



Source: BBG, JPMAM, Nov 13, 2026

In each chart, the gray bars denote the periods when that company was the largest in the S&P 500

Issue 2: Microsoft and Apple buck the Icarus trend; can Nvidia?

Microsoft (can we now refer to its Microsoft 364 product suite?) and Apple have avoided falling into the Icarus trap, at least so far. In the near term this is what I expect for Nvidia, which earned 83% of AI chip revenues from 2023-2025 with gross margins of 75% and operating margins of 66%. As shown in the bottom left chart, Nvidia now trades at a PEG (P/E to consensus earnings growth) ratio of just 0.2x, compared to much higher figures for other companies and sectors. Nvidia is wildly profitable; look at the bottom right chart. While hyperscaler free cash flow has been eroding due to a surge in capital spending which is now financed by debt, **Nvidia free cash flow margins have been sustained at extraordinarily high levels**. The semiconductor industry has very long test/design/build cycles, so Nvidia's cashflow dynamics should be maintained for some time.

But as we will explore, the competitive landscape may be intensifying for Nvidia, which in some ways is just as notable a risk for investors as its management change announced this week.

Microsoft
Share of S&P 500 market cap



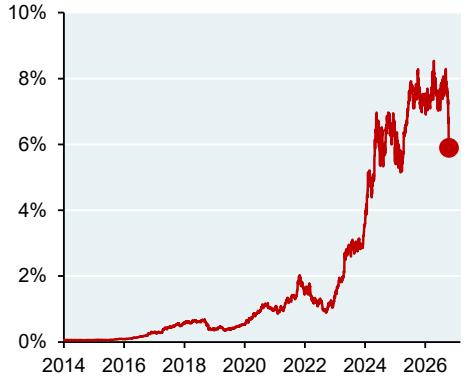
Source: BBG, JPMAM, Nov 13, 2026

Apple
Share of S&P 500 market cap



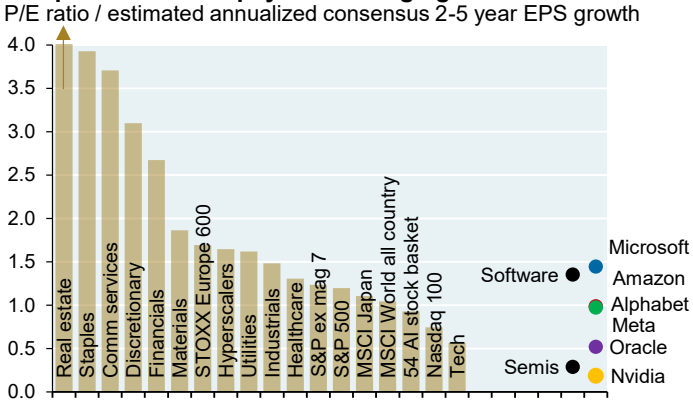
Source: BBG, JPMAM, Nov 13, 2026

Nvidia
Share of S&P 500 market cap



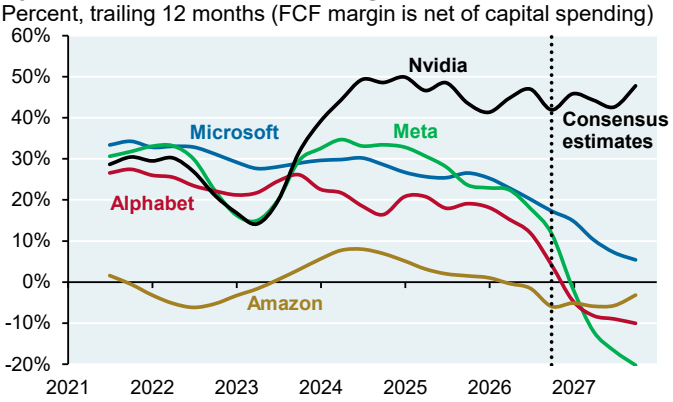
Source: BBG, JPMAM, Nov 13, 2026

The price investors pay for earnings growth
P/E ratio / estimated annualized consensus 2-5 year EPS growth



Source: Bloomberg, JPMAM, November 13, 2026

Hyperscaler free cash flow margins vs Nvidia
Percent, trailing 12 months (FCF margin is net of capital spending)

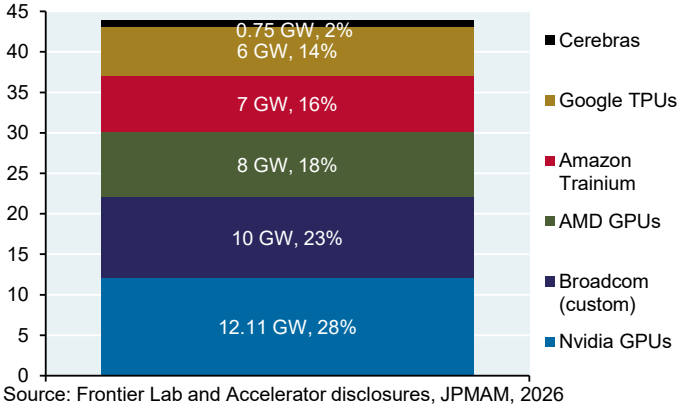


Source: Bloomberg, JPMAM, November 14, 2026

Issue 3: The competitive landscape for accelerators and Nvidia's reliance on Chinese open weight companies

This is the most important section of this note. Jensen is a tireless advocate of open weight models. One could argue that he needs to be, given the shift underway by the frontier labs to either their own chips or other providers. The next chart shows that Nvidia has only a 28% share of announced frontier lab compute agreements. For context, Nvidia had a 80-90% AI chip revenue share in 2024-2025 according to Silicon Analysts.

Major Frontier Lab announced compute agreements
GW, announced capacity with deployment 2026 or later



Source: Frontier Lab and Accelerator disclosures, JPMAM, 2026

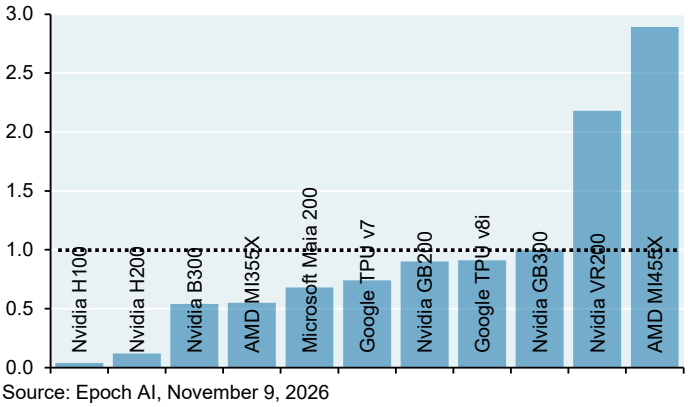
An **accelerator** is hardware designed to offload specialized compute-intensive workloads away from the CPU. There are two prominent kinds of accelerators, GPUs and ASICs (Google TPU, AWS Trainium, Microsoft Maia, Meta MTIA). GPUs are general purpose processing units that can process massive amounts of data simultaneously, while application-specific integrated circuits (ASICs) are specialized processors designed to handle more defined tasks. **Of the seven large users and purchasers of accelerators (the five hyperscalers and the two frontier labs), only SpaceX is not trying to build their own.**

Why are frontier labs expanding accelerator supply chains? There's evidence that some competitors may be closing the performance gap on inference workloads. Nvidia's Rubin Ultra series may change that when rolled out in 2027, but here are two notable observations. On the left, the inference performance per chip actually shows AMD at the top. The inference performance index is not just a measure of operations per second; it also takes into account memory and inter-chip communications which can matter more than arithmetic throughput[1].

This is consistent with what we heard from one of the frontier labs last week: a year ago it would have taken 6-12 months to onboard and start running models on AMD GPUs. The process was expensive and cumbersome given engineering required. Now, using their latest AI model to do the engineering, they can onboard new models on AMD GPUs in **just 3 days**. Nvidia's argument has always been that its superior tokens per watt and superior software ecosystem (CUDA) made switching uneconomic. AMD's results on the MI455X may have eroded at least part of that advantage. Based on the bar chart above, the economics (i.e., total cost of ownership normalized to output per GW) may be shifting as frontier labs vote with their feet.

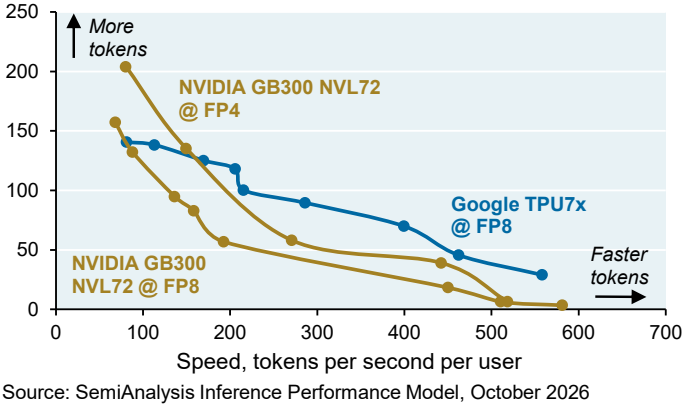
In the second chart, we show speed vs cost comparisons of Nvidia GB300's vs Google TPUs when run on Qwen 3.5 397B, a Chinese open weight model. Across all speeds except the slowest ones, Google's TPU looks better.

Modeled inference performance per chip
Inference performance index, GB300 equivalents



Source: Epoch AI, November 9, 2026

AI accelerator chips: token output vs speed for Qwen 3.5 397B, Token output per $ of cost, millions of tokens

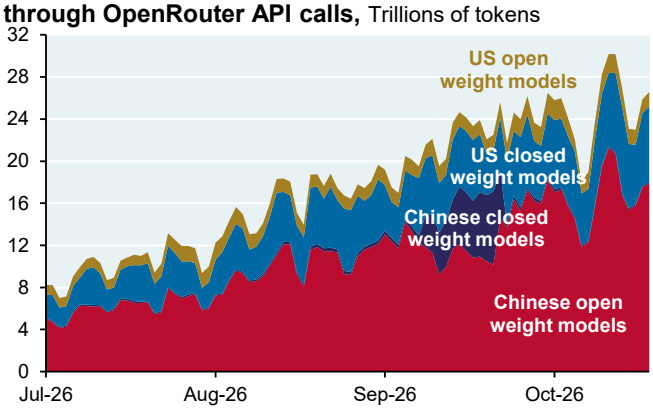


Source: SemiAnalysis Inference Performance Model, October 2026

[1] *"Inference Performance: changing the way we measure inference capacity"*, Epoch AI, Nov 9, 2026. One reason AMD's MI455X could rate higher: more high bandwidth memory content and higher peak memory bandwidth

One of Nvidia's core markets is the Chinese open weight model community, which as shown below, consumes the majority of tokens and whose performance continues to track improvements of closed frontier lab models.

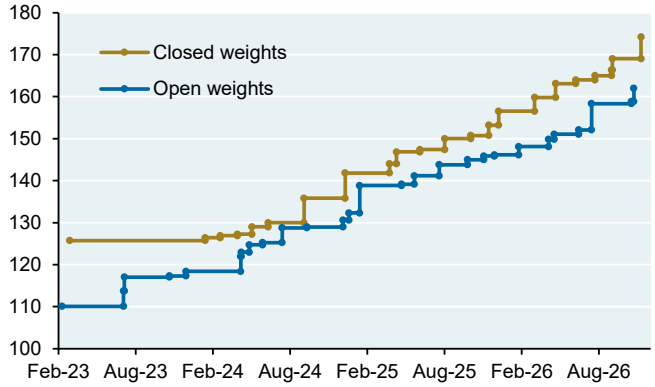
Daily token consumption for US and Chinese models through OpenRouter API calls, Trillions of tokens



Source: OpenRouter, JPMAM, October 27, 2026

Epoch capabilities index

Score



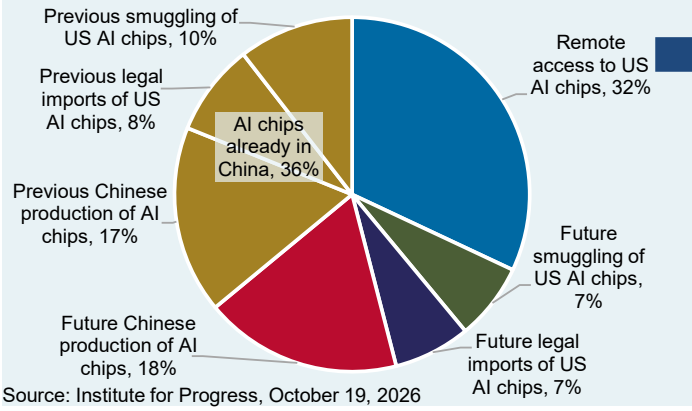
Source: Epoch AI, November 2026

Let's take a closer look at why/how Chinese open weight models are direct or indirect customers of Nvidia. The Institute for Progress published a report last month showing projections of China's compute by the end of 2027. Start with the pie chart on the left. A little more than one third of China's compute is inside China, having been produced there, imported there legally or smuggled in. Nvidia is a major supplier, willingly or not, to the latter two slices. Nvidia may also benefit from future importation of US chips legally (purple slice), and part of the smuggled green slice as well. Semianalysis estimates that 1.5 GW of restricted Nvidia chips have already ended up in China[2].

But the most interesting slice is the blue one: US chips that China accesses remotely, most of which reside in Southeast Asia. This is what the RASA bill is meant to address: the Remote Access Security Act, which passed the House 369-22 but has not come up for a vote in the Senate. The Act would allow the US to restrict Chinese companies from remotely using restricted chips in overseas data centers to train or run AI models. This would be no easy task: the US government would force Asian cloud providers to verify their customers and obtain licenses from the US gov't. Violators could face fines and lose access to future chips covered by US rules.

China's end of 2027 AI compute by source

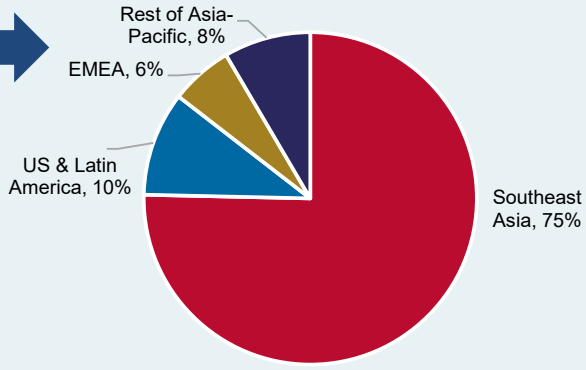
Percent of AI compute in H100 equivalents



Source: Institute for Progress, October 19, 2026

China's overseas AI compute by region in 2026

Percent of overseas AI compute in H100 equivalents



Source: Institute for Progress, October 19, 2026

[2] "*Nvidia and the World without Jensen*", Semianalysis, November 12, 2026. This article also goes into detail as to why proposed RASA chip restrictions on China are a bad idea. That's above my pay grade to opine on; in any case, the China hawks appear to have the upper hand right now in DC.

Let's be clear about something: Nvidia under Jensen's leadership was sharply at odds with political forces in the US that favor ring-fencing China[3].

- In an interview with Bloomberg on China, Jensen said "we must work with them in every possible way"
- In a conversation with podcast host Dwarkesh Patel, Jensen called it "lunacy" to worry about the Chinese Communist party and the PLA using advanced American hardware to execute AI cyberattacks
- In Jensen's conversation with Brad Gerstner, he declared the label "China hawk" a "badge of shame"
- Jensen and Nvidia lobbied against stepped-up export controls on AI chips as early as 2022, and were (according to critics) legally circumventing the purpose of those export controls with the A800 chip in 2022, the H800 in 2023 and the H20 in 2024
- Jensen continued to lobby against export controls throughout the Trump administration and continued his attempts to sell AI chips to mainland China and China-linked entities in Malaysia, Thailand and Singapore
- Congressional inquiries may begin with Megaspeed, a Singapore company with a large footprint in Malaysia that was identified by Culper Research in May 2026 as an Nvidia customer that is funded and controlled by Alibaba; Jensen visited Megaspeed every few months and was accompanied by representatives from Alibaba every single time
- In the years since Biden export controls took effect, the share of Nvidia's revenue billed to customers with Singapore addresses rose from 8% to 22%, and in July 2025 Nvidia stopped breaking out the figures entirely

On Nvidia, from Andrew Sharp (formerly of Stratechery) this week:

"While reaping the unbelievable rewards of US markets, laws and customers, Nvidia has not really behaved like an American company that's answerable to the American government. Instead, Huang continued selling chips to China at all costs and sought to substitute his own judgment for that of Congress, the White House and practically the entire US intelligence community…**What really drove the disconnect in DC was Jensen's assumption that US concerns about economic engagement with China were purely a function of vibes and misunderstandings, not sincerely held security principles and bitter lessons from the past 25 years**…Almost everyone with a security clearance leaves their time in government more concerned about China than they were when they began…"

Biden's Ambassador to the China Nicholas Burns said last year, "I went to China with hawkish views and returned to the US even more hawkish than when I arrived. I saw up close the true nature of its authoritarian government and its ambition to undercut the US at nearly every turn."

"*Lessons from the Front Lines of the US-China Relationship*", Nicholas Burns, Harvard Belfer Center, April 2025

Further reading:

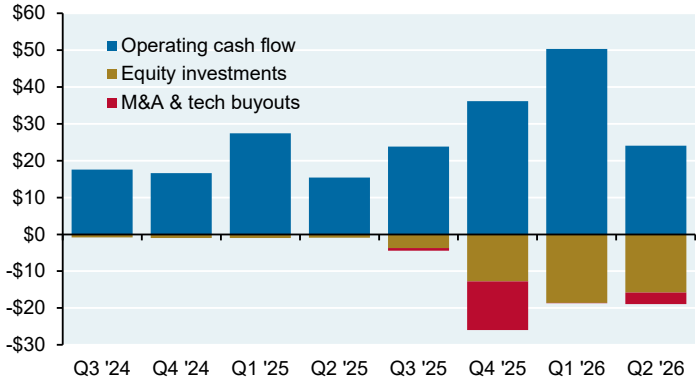
- "*Alice Huang linked firm Procured Banned Nvidia Chips in China*", Bloomberg, November 13, 2026
- "*How Jensen Huang Built the Backdoor Route That Keeps Beijing in the AI Race*", WSJ, November 15, 2026
- "*Lutnick Pushed to Weaken Chip Rules that Overlap with his Family Business*", NYT, November 15, 2026

[3] "*Jensen Huang was always going to lose*", Andrew Sharp, November 12, 2026 and "*Nvidia: the China Problem*", Culper Research, May 13, 2026. Culper wrote that it shorted Nvidia at the time, citing Nvidia's China exposure as the primary risk factor facing the company. Look at the report; it has a remarkable amount of information back in May 2026 on the relationship between Jensen and Alice Huang at Megaspeed.

Issue 4: Who are potential losers from a change in Nvidia's management?

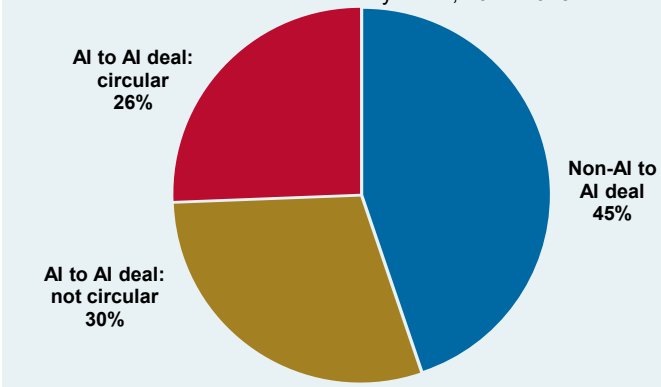
With Jensen at the helm, Nvidia became the leader in providing debt and equity capital to neoclouds and other AI companies, many of whom are loyal Nvidia GPU customers. As shown in the first chart, over the last three quarters, Nvidia spent 58% of its operating cash flow on equity investments and M&A. From Q1 to Q2 2026, Nvidia's off-balance sheet long term debt and lease liabilities rose from $214 bn to $422 bn, and when including land, power and shell guarantees, this figure rises to $530 bn. The AI vendor financing/investing trend is so pronounced that the Bank for International Settlements wrote a special report on the topic in October of this year ("*Circular Relationships Among AI Firms*"). As shown on the right, circular deals and other AI to AI deals represented more than 50% of all investments in AI firms from 2021-2025.

Nvidia's operating cash flow and its deployment
US$, billions



Source: Bloomberg, NVIDIA company filings, Q2 2026

Circular financing in AI
Share of investment deals in AI firms by value, 2021-2025

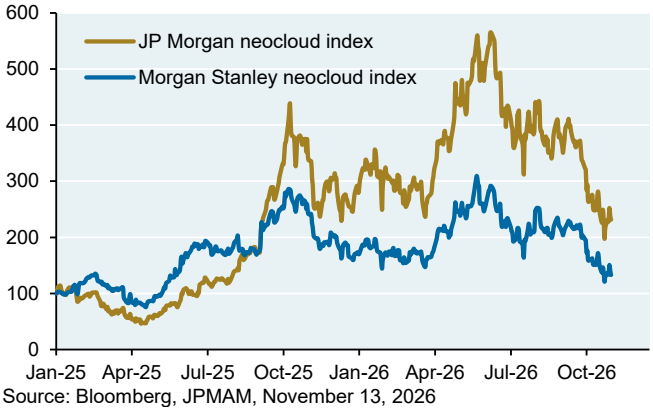


Source: BIS, JPMAM, October 1, 2026

It's too soon to tell, but a shift in NVIDIA's approach to vendor financing and acquisitions could negatively affect neocloud companies such as CoreWeave, Nebius, Applied Digital and IREN. The silver lining: neocloud valuations have already been hit hard this year, as you can see below. But there's more potential downside if NVIDIA substantially changes its stripes on this issue[4]. Nvidia's ability to lock up supply chains for memory and logic wafers may change as well (its supply chain moat), to the benefit of chipmakers like AMD and Broadcom.

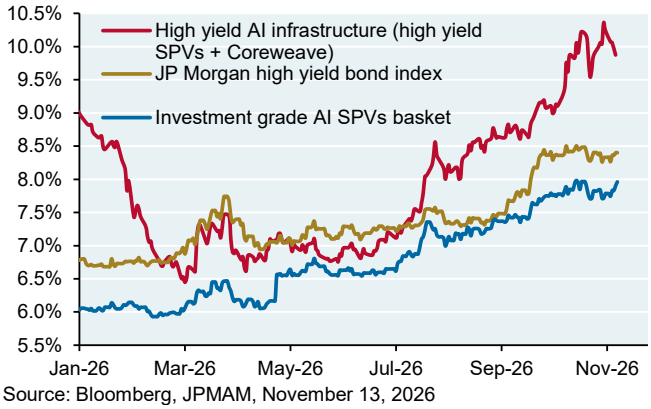
Other aftershocks. Yields on debt related to financing AI infrastructure (both HY and investment grade) have already been rising sharply this year as shown in the second chart. This has started to weigh on overall high yield markets as well. Any reduction in the deployment of Nvidia operating profits into the overall AI ecosystem could further weigh on the cost of capital for AI companies.

Neocloud basket performance
Total return index (100 = January 1, 2025)



Source: Bloomberg, JPMAM, November 13, 2026

AI infrastructure & SPV debt vs broader high yield index
Yield to worst, percent



Source: Bloomberg, JPMAM, November 13, 2026

[4] Nvidia's backstops often work as follows: it sells GPUs to neoclouds at full margin on day one, puts a floor under the buyer's revenue, and guarantees the buyer's lease or signs the lease itself so that operators without an investment-grade rating can still borrow at investment-grade pricing

Two last points on this topic:

[1] Nvidia has also spent capital supporting US open weight models via investments in Reflection, Thinking Machines and Poolside. This support, and support for its own Nemotron open weight model, could fade

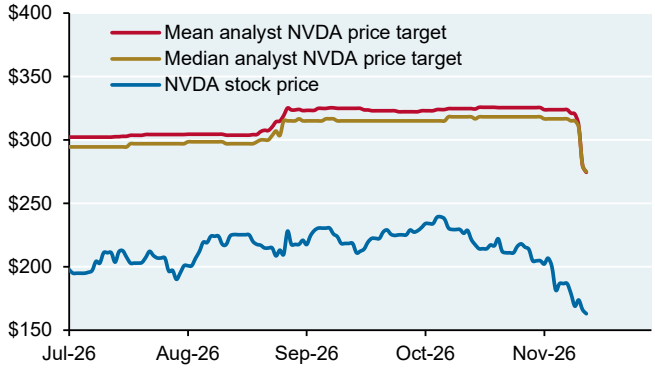
[2] If RASA should pass and be effective in cutting off Chinese models from US chips, Chinese companies will have even more incentive to develop their own accelerators, a topic we discussed at length in the 2026 Outlook. In 2026 already, Z.AI, DeepSeek and Meituan cited training and inference activity on Huawei Ascend NPUs

Issue 5: What do we know about analyst and investor reactions so far to Nvidia's decline?

Median and average sell side price forecasts for Nvidia implied a roughly 40% one year gain before the events of last week. These aggregated consensus price targets have declined a bit but include firms that have not adjusted their price targets yet. The table on the right shows the percentage change in Nvidia price targets for select sell side analysts that adjusted them in the last week.

As for retail investors, as a group they considered the 13% decline in Nvidia stock a buying opportunity as shown in the chart from JP Morgan's Equity Strategy and Quantitative Research Group. Retail buying also spiked in late February when Nvidia fell almost 10% after reporting Q4 revenues. The Nvidia free cash flow story is a powerful one, as we illustrated earlier, so I agree with the notion that Nvidia looks interesting for long term holders at 32% below its all-time high and with a PEG ratio of just 0.2x. Also: while debt financing in the AI universe has been climbing, given Nvidia's massive cash stockpile, its net debt to EBITDA ratio is still below zero (last chart).

Nvidia 1 year analyst price targets vs stock price
Price, US$



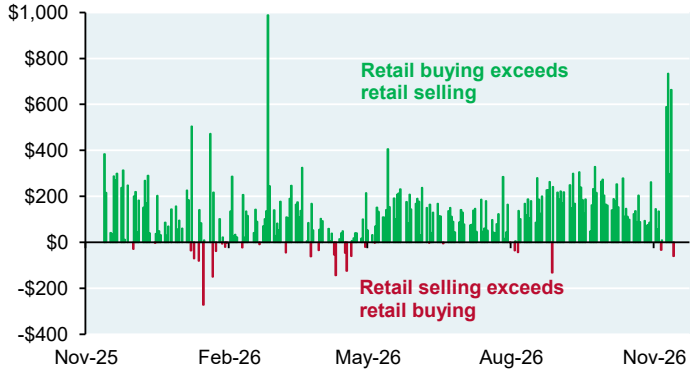
Source: Bloomberg, JPMAM, November 13, 2026

Nvidia 1 year analyst price targets

Firm	July 1, 2026 price target	Latest price target	Percent change
Baird	$500	$200	-60%
Evercore ISI	$413	$186	-55%
Bernstein	$315	$200	-37%
Citi	$300	$225	-25%
JP Morgan	$280	$215	-23%
Goldman Sachs	$285	$220	-23%
Morgan Stanley	$288	$267	-7%
Wells Fargo	$315	$300	-5%
UBS	$280	$300	+7%

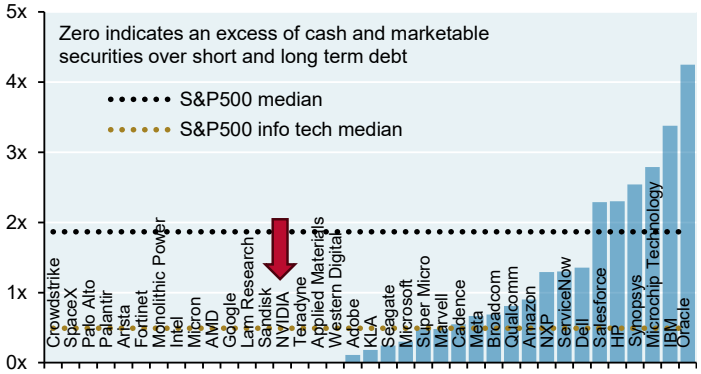
Source: Bloomberg, JPMAM, November 13, 2026

Daily retail imbalance in NVDA
US$, millions



Source: JP Morgan Equity Strategy & Quantitative Research, Nov 13, 2026

Net debt to trailing 12m EBITDA
Multiple; includes bonds, loans and hyperscaler SPV triple net leases

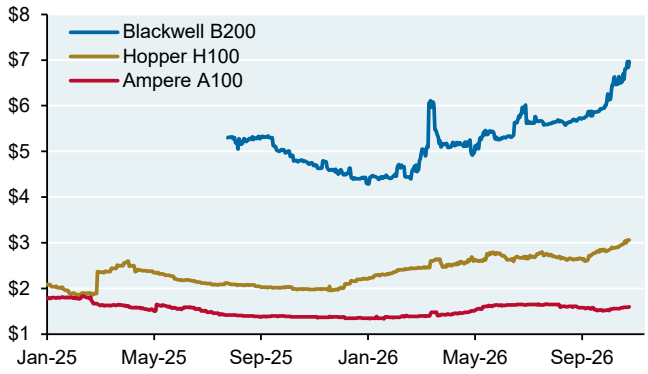


Source: Bloomberg, JPMAM, November 14, 2026

Issue 6: Important trends to monitor regarding the durability of the AI expansion

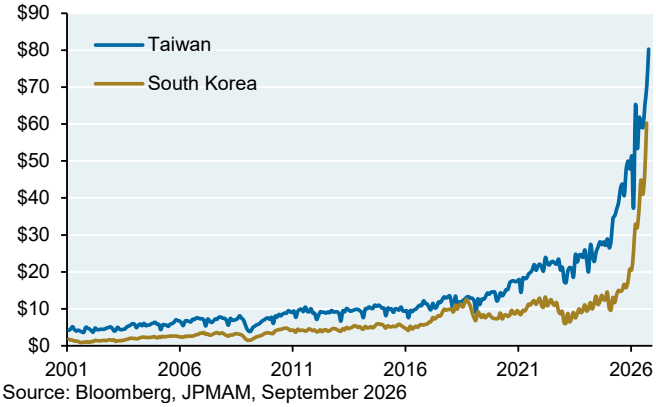
This has been an extraordinary week for a number of reasons. Some of you may experience a delay receiving this note due to the Microsoft outage, and as I write this, I face the prospect of being stranded given the FAA grounding of all planes in the continental US. But in volatile times, it also pays to step back and look at the big picture. We are still in the middle of the largest capital spending boom since the US railroads in the 1880's, and some markers we watch on AI demand still look healthy. Examples include the rising prices of legacy Nvidia GPUs which are still in heavy demand years after deployment, the continued increase in Taiwanese and South Korean chip/hardware exports and the sub-1% vacancy rate of US data centers.

Silicon Data GPU rental price indices
US$ per GPU-hour



Source: Bloomberg, JPMAM, November 12, 2026

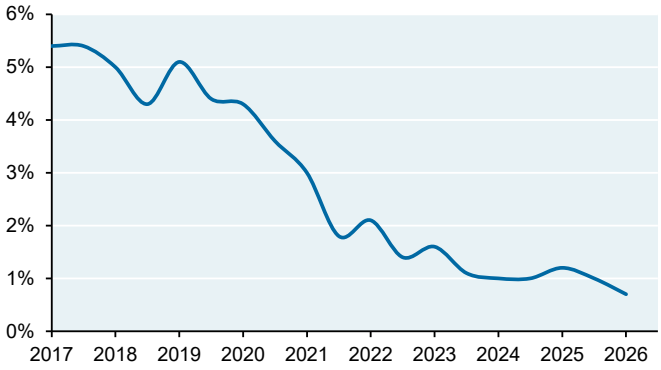
Taiwan and South Korea AI chips and hardware exports
US$, billions



Source: Bloomberg, JPMAM, September 2026

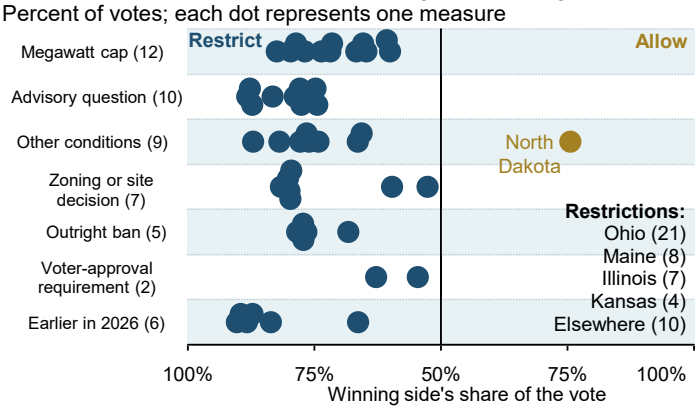
On the data center question, one of the unmistakable outcomes of the US midterms was the voter revolt. There was an almost universal desire for some kind of restriction (capacity cap, voter advisories, zoning and water use limits, funding of grid infrastructure costs, etc). Oddly enough, if this should translate in 2028 into a decline in the conversion of announced data centers into active ones, one of the beneficiaries could be Nvidia. The reason: if data center capacity becomes scarcer, owners of data centers might need to continually upgrade to better and more efficient chips in order to increase token output and revenues. While replacement GPU revenue may not match new build revenues, it could lessen the adverse impact of a changing world.

North American data center vacancy rates
Percent of existing capacity



Source: JLL, August 11, 2026

Local data center ballot measures by measure type
Percent of votes; each dot represents one measure



Source: Redbud Consulting, JPMAM, November 5, 2026

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