NOMURA

Global Markets Research
23 October 2026

Global Memory

EQUITY: MEMORY

The unstoppable race

AI chicken game and scenarios for the memory market

What will big techs choose? We expect the race to continue

We believe that the AI industry (CSPs and AI labs) cannot avoid years of negative FCF, even if each investment cohort is significantly profitable. As long as investment growth exceeds ROIC, cash-out should run ahead of cash-in. Yet, these players still need to allocate scarce computing resources for training, research and in-house AI instead of near-term revenue. The fear is simple: if you fall behind, even the core business is at risk. It is a game of chicken which nobody can quit.

Shareholder pressure remains a concern. Big tech investors are not used to negative FCF and profitability dilution. With higher rates and heavy fund-raising now a reality, the concern has now spread to equities across the AI supply chain. How big tech responds to shareholder pressure will set the direction for supply-chain stocks, in our view.

Meta (META US, Not rated) provided the first answer. On 21 October, its 3Q FCF turned negative at -USD2.1bn, yet management signalled aggressive investment into 2027E and the board approved a new non-voting Class C share to fund it (*Meta 3Q26*). Alphabet (GOOGL US, Not rated; 28 Oct) and Amazon (AMZN US, Not rated; 29 Oct) will report next week.

We assume three scenarios for consideration:

1. **The race continues (we expect ~75% likelihood):** investments would be held, debt would rise for several years, and shareholders would accept it. A drag may happen on big tech shares, but the semiconductor super-cycle should persist.
2. **Slowdown (~20% likelihood):** capex would be cut as a compromise with shareholders. Memory shortage would ease or oversupply risk would rise. But memory makers have already fixed 2027F volumes and price bands in October, and supply is far short of planned demand; hence, 2027F is effectively locked in, in our view. Decommitment would trigger deposits worth 50–100% of annual demand value as a penalty. From 2028F, rising supply and power limits may loosen the market; 2028F volumes and prices will also be pre-set via LTAs (long-term agreements) with fixed volume and limited upside/downside for pricing during 2027F. How much the new LTA structure stabilises the market is still unclear, but it is likely to guarantee floor margin that is at least higher than the market may expect. A capex cut by big tech companies would hit supply-chain stocks in the short term, but it would be very positive over the mid- to long-term if the memory industry proves that it can self-adjust supply when demand slows down, considering the much depressed memory stock valuation (Oct 22 report: *What if earnings meet, but stock price remains flat?*).
3. **Funding failure (~5% likelihood):** major big techs' bond or equity issuance fail. The most damaging case would be a potential hard landing or financial stress, but it is still a low probability.

Power is the other variable. If power runs short before chips, produced chips will remain as inventory and demand will get adjusted. Delays are already real: a Sightline Climate survey sees 30–50% of 2026 planned capacity at risk of delay. Still, projects are highly likely to be live by 2027E alone, which already exceeds market expectations; 2028E and beyond remain uncertain to some extent, compared to the market forecast. Big techs are expanding outside the US, but the scale and speed of that shift, and Middle East geopolitics (data centers outside the US were physically attacked in the 2026 Iran war) are risks, in our view. *(Continued in the next page)*

Research Analysts

Asia Pacific Technology

CW Chung - NIHK
cwchung@nomura.com
+852 2252 6075

Korea Technology

Eon Hwang - NFIK
eon.hwang@nomura.com
+822 3783 2318

YJ Kim, CFA - NFIK
yj.kim1@nomura.com
+82237832332

Production Complete: 2026-10-23 12:15 UTC

See Appendix A-1 for analyst certification, important disclosures and the status of non-US analysts.

Fig. 1: Scenarios and implications for semiconductor demand

Scenario	Likelihood (our est.)	Trigger	Implication for semiconductor demand
Base: race continues	~75%	- Strong AI demand growth holds - External funding continues	- Super-cycle persists even as chip revenue growth slows from very high base
Downside 1: orders adjust on power delays	~20%	- Wider data center delays - Chip inventory increases	- Demand deferred but not lost - Temporary air pocket possible - Big tech expected to accelerate overseas builds
Downside 2: slowdown under shareholder pressure	~5%	- Dilution and rising financing burden hit share prices - Slower cloud growth - FCF deficits and rating pressure	- Weaker demand eases chip shortage or creates oversupply - Memory price cuts and supply discipline to guard against hard landing - Downsdie for semiconductor equipment

Source: Nomura research

1. AI industry CEOs are committed: compute goes to in-house research, even ahead of revenue

Despite the shortage of compute, CEOs are implementing their own model training and research ahead of near-term revenue. Currently, research compute does not generate earnings. They are choosing future competitiveness over near-term returns, and the bill shows up in cash flows.

Fig. 2: How AI industry CEOs allocate compute

Company	Comment by	Key remarks
Google	Sundar Pichai	- Frontier model compute comes before cloud revenue - Research compute is non-negotiable and drives "recursive self-improvement" - Cloud revenue would have been higher without constraints (1Q26) - Significant computing power to train Gemini 4 (2Q26)
Microsoft	Satya Nadella, Amy Hood	- Had all new GPUs gone to Azure, growth would have topped 40% (Jan 2026) - Capacity goes first to in-house products such as Copilot
Meta	Mark Zuckerberg	- "Compute per researcher" is the key edge - Capacity pre-built; if superintelligence is late, it goes to ads and recommendations - Aggressive investment flagged for 2027E (3Q26)
Google Deepmind	Demis Hassabis	- Even testing new ideas take large-scale compute
Open AI	Sam Altam	- Twice the compute, twice the revenue

Source: TrendForce, iTiger, StartupHub, company earnings call, Nomura research

2. Demand outruns supply beyond 2027: buyers and makers echo the same

Both the sides confirm the shortage: buyers (hyperscalers) and makers (TSMC [2330 TT, Buy]), and the same diagnosis comes from opposing interests; hence, it carries weight, in our view. Investments in data centers that will go live next year were decided two to three years ago; since then agentic AI has created new demand, and the shortage remains severe. In the LTA negotiations concluded in October, next year's supply volumes were fixed and prices rebounded; hence, the risk is limited, and an acute shortage is a given, in our view.

Fig. 3: Compute supply-demand remarks (from 2026 earnings calls)

Company	Speaker (date)	Key point
TSMC	C.C. Wei, CEO (15 Oct)	- AI demand still exceeds current supply capability - Working to narrow the gap
Amazon	Andy Jassy, CEO (30 Jul)	- Even with 2026 capex raised to USD220bn, cannot meet all 2026-27 demand - Demand already booked for 2028 is striking
Microsoft	Amy Hood, CFO (29 Jul)	- Azure demand continues to exceed available capacity - Still capacity-constrained
Alphabet	Anat Ashkenazi, CFO (23 Jul)	- Operating in a supply-constrained environment - Adding third-party capacity in Q3

Source: Company earnings call, Bloomberg Finance L.P., Nomura research

3. The key is the patience of AI companies' shareholders and boards: FCF has already turned negative

We believe the commitment is already visible in cash flows. Alphabet posted its first-ever quarterly negative FCF in 2Q26, Amazon's trailing 12-month FCF is negative, and Meta's 3Q26 FCF turned to -USD2.1bn. Microsoft still has room, but currently expects negative FCF. Rising debt and new equity are unavoidable across the industry for the next two to three years, in our view.

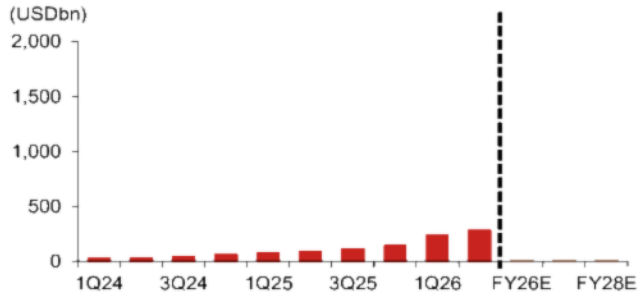
Fig. 4: Hyperscalers' cash flow and investments

From the latest reported quarters (all financials in USDbn)

Company	Fiscal period	OCF*	Capex*	FCF*	2026E capex guidance
Alphabet	2Q26 (Apr-Jun)	39.1	44.9	-5.9	195-205
Meta	3Q26 (Jul-Sep)	32.8	34.9	-2.1	135-145
Amazon	TTM (Jul 2025-Jun 2026)	161.4	169.0	-7.6	~220
Microsoft	4Q26 (Apr-Jun)	55.4	35.8	19.6	~175 (FY27)

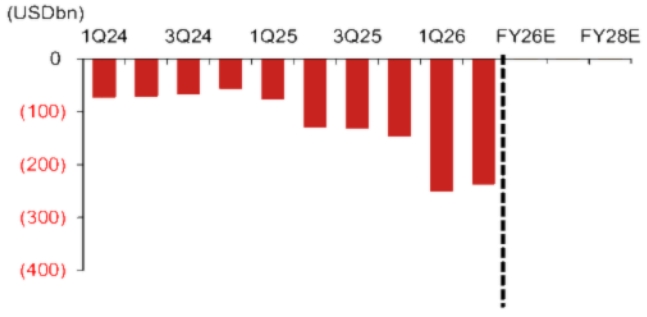
Note: (*) For companies that announced only some of OCF, capex, and FCF: non-disclosed line items were calculated based on the formula of "OCF – Capex = FCF."
Source: Company earnings call, Bloomberg Finance L.P., Nomura research

Fig. 5: Nine major semiconductor companies' combined net cash



Note: Nomura estimates for Samsung Electronics (Buy), SK Hynix (Buy), Kioxia (Buy), and TSMC (Buy); Bloomberg consensus estimates for Micron, Sandisk, Nvidia, AMD, and Broadcom
Source: Company data, Bloomberg Finance L.P., Nomura estimates

Fig. 6: Seven major data center companies' combined net cash



Note: Combination of Bloomberg consensus estimates for Microsoft, Google, Amazon, Oracle, Meta, Coreweave, and Nebius.
Source: Company data, Bloomberg Finance L.P., Nomura research

When short of cash, they turned to outside funding. Alphabet raised USD49.6bn in June through common stocks and mandatory convertible preferred. Meta issued USD24.9bn of bonds in 2Q26 and has bought back no stocks this year (USD26.2bn in the same period last year). 2Q26 recorded the most follow-on equity offerings in five years, according to Wall Street Horizon.

Why the market cares now. The commitment is not new, but the funding source is. Through 2025, operating cash flow covered capex. In 2026, new equity and bonds fill the gap, and with buybacks halted, shareholders bear the cost directly. It is a first for Alphabet and Meta, and higher rates add to the concern – it is common for high-growth industries, but is new to the big tech shareholders.

Our view: shareholders cannot stop either. If shares slump, boards face a choice: stop investments to protect FCF and fall behind the AI race, or absorb the deficit and keep running. Management's answer is clear: according to Zuckerberg, CEO of Meta, underinvesting is riskier than overinvesting (*Storyboard18*, *Bloomberg*).

Meta's board has answered too. On the unanimous recommendation of a special committee of independent directors, the company approved a non-voting Class C share (effective January 2027). The stated purpose is to fund AI investments and keep founder leadership (*Meta 3Q26*). We believe it is the first case of a board choosing to stay in the race, and building a funding tool, under shareholder pressure. And it supports scenario 1.

A prisoner's dilemma for shareholders too. If everyone slows together, industry FCF would improve. If one slows alone, a rival would take your place. With no trust in the other side, each keeps investing, and the equilibrium is "everyone continues."

Hence, we believe the race cannot stop. Shareholder pressure is more likely to slow capex growth than to halt it. What actually can stop the race is not shareholders' will, but closed funding markets. **This is the largest latent downside for semiconductor demand, and markets are already pricing this risk, starting with marginal players, in our veiw. Having said that, it is not likely a systematic risk yet, and the capacity can be taken over by other competitors or customers.**

Fig. 7: Why a coordinated slowdown by hyperscalers is unlikely?

Reason	Detail
No coordination mechanism	- Competitors cannot agree to slow this race, which is all-or-nothing game (that involves not only future opportunities but also current main businesses as well)
Competitors outside the market	- Chinese firms are not facing such shareholder pressure
Core business pays	- Profits from Meta ads, AWS, Azure, etc. are growing - Cash generation differs widely, so the strongest balance sheet should win (as witnessed during the historical railway boom)
Founder control	- At both Meta and Alphabet, founders hold strong voting power - Outside shareholders can hardly change the course

Source: Nomura research

4. The payoff: "stop and lose the future" vs. "keep going and chips benefit"

This race is a game of chicken. Stop first and you lose the future; or, go all the way and you absorb years of negative FCF. Meanwhile, that spending becomes the semiconductor industry's revenue.

Our view: big techs' FCF deficit and chipmakers' profits are two sides of the same coin. How long the cycle runs depends on big techs' decisions; if the race continues, it can last for years.

5. Risk check: what if power runs short before chips?

After shareholder patience, the next variable is power. If power runs short before chips, chips would pile up as inventory and orders adjust. The alternative is to expand outside the US. Capital is already moving, but the scale and speed of overseas expansion and the Middle East geopolitics are risks to watch, in our view.

Fig. 8: The power bottleneck: remarks and data

Comment by:	Detail
Nadella	- The problem is not chips but buildings to plug them into (warm shells) - Chips can end up in inventory
Pichai	- Power, HBM, TSMC, and 2,000+ components are interwined - Bottlenecks are possible
Jassy	- Doubling power capacity by end-2027E vs. 2025
Sightline Climate	-16GW+ planned for 2026E (~3x of 2025), of which 30-50% could slip (26% slipped in 2025) - Up to 11GW shows no sign of construction - Delays, not cancellation, may dominate

Source: Fortune, Data Center Dynamics, Sightline Climate, Nomura research

Our view: power shortages will defer and reshape chip demand rather than cut it

1. **Near-term adjustment possible:** power shortage could mean delayed chip deliveries. Inventory build-up could reduce next-quarter's orders, and could be a real downside risk even if the race continues. We would be tracking this through our data center project tracker.
2. **Performance per watt gains value:** with power capped, the latest chips and high-capacity HBM (high-bandwidth memory) become more valuable, and replacement demand for older GPUs may emerge, in our view.

Fig. 9: Data center expansion outside the US

Region	Status and plans	Constraints
APAC (excl. China)	- Capacity from 16GW (2025E) to 49GW (2030E) - Shifting to emerging hubs such as Johor, Bangkok, and Kula Lumpur	- Power and land limits at established hubs (e.g. Singapore)
Europe	- Capacity from 16GW (2025E) to 38GW (2030E) - Nordics, Spain, and France as growth markets	- Power shortages at established hubs - Long grid connection queue - Long permission timeline
India	- 258MW added in 1H26 (+59% y-y); 1.8GW cumulative - 7GW+ expected by 2030E	- Securing reliable power and land
UAE / Saudi Arabia	- Up to 3GW combined additions by 2030E - First 200MW of UAE campus targeted for 2026E	- Physical attack risk (after Iran war) - US chip export approvals

Source: DayOne, Savills, Khaleej Times, S&P, Reuters, Nomura research

