

AI's Glass House: Faultlines Threatening the Rally

4 June 2026

The recent global sovereign bond sell-off, driven by renewed inflation risks from energy shocks and disrupted supply chains, has clouded the outlook of asset markets. US yields remain elevated, roughly 50bp above pre-war levels (two-year up ~60bp as on end-May 2026), even as AI rallies on new product launches, booming demand for high-bandwidth memory and infrastructure hardware. We identify key fault lines in the AI expansion – escalating input cost, heavier debt-funded capex in a scenario of rising interest rate, and growing energy imbalances – that could interrupt the market's presumed one-way upward move.

History shows surge in yield precedes equity bubble bursts: During every crisis and bubble burst episode since the 1990s, the benchmark US 10y yield on average rose 92bp from its TTM bottom before peaking. As on 1 June 2026, the yield rose 50bp from its TTM bottom with the potential to rise further *if* inflationary pressures in US become entrenched dislodging inflation expectations forcing Fed to toughen its stance on inflation, and lingering fiscal risks amplify as election and budgets come closer. This has the potential to pose potent challenges for current equity rally, which is led by AI and AI+ stocks.

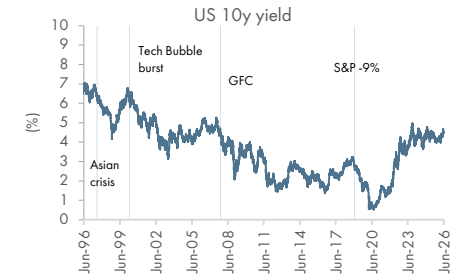
Rising yield can disrupt the AI rally as cost of capital rises: Latest volatility in the private credit market can amplify if short term rates move up if Fed points to rate hikes as SOFR acts as benchmark for private credit markets. As per the BIS, lending by private credit funds to AI-related sectors has grown rapidly, both in absolute terms and as a share of total private credit volume. Outstanding loan amounts have increased from near-zero to >USD 200bn as on CY25. The share of private credit loans to AI-related companies has increased from less than 1% of total outstanding loan volume to ~8%.

AI-driven corporate issuance is emerging as a meaningful source of duration supply in US fixed income. According to the Federal Reserve of Dallas, AI-related investment-grade issuance amounted to ~USD 190bn in CY25, 3.4x of CY24. As per S&P Global, data center debt issuance nearly doubled to USD 182bn in CY25 vs CY24. Our analysis shows capex by mega tech firms, including hyperscalers, has surpassed free cashflow, with capex/FCF ratio above 1x (the highest since CY95), indicating further borrowing needs on the pipeline.

Input price surge and accelerated hardware obsolescence mean additional funding needs: Higher power prices and input inflation is compressing margin with several projects needing stronger utilization and faster revenue ramp-up to hit target ROI. The IMF's January 2026 WEO warned that "frequent equipment upgrades (GPU refresh cycles) will squeeze profit margin requiring significant additional debt financing". If the hyperscalers, (at USD 700bn capex), were to reflect realistic obsolescence of hardware at three years instead of five, then depreciation cost would rise by USD 93bn, leading to additional debt financing. The second fault line runs through the semiconductor and memory supply chain. Memory prices have risen ~50% YTD through late CY25, with Trendforce projections pointing to a further doubling through CY26. Stripping out memory price inflation, and hyperscaler capex growth decelerates from ~80% in CY25 to ~40% in CY26.

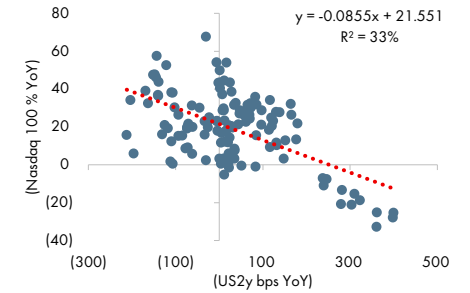
Energy is the most immediate physical constraint on AI expansion: Data center electricity consumption in US surged 17% in CY25, and the US Department of Energy estimates data centres could account for 6.7–12.0% of total US electricity consumption by CY28, up from ~4% in CY23. While the US has the investment intent to expand grid capacity, the mix is incorrect - too intermittent, year-long queues, with baseload firm power -- natural gas and nuclear are not expanding rapidly to match pace of data center demand. The EIA Annual Energy Outlook 2026 projects nuclear capacity to remain flat through the 2030s – despite nuclear being the only large-scale, firm, zero-carbon source capable of anchoring AI data center loads. The 241GW data centre project pipeline in the US is chasing ~86GW of annual new utility-scale electric generating capacity, defining grid tension of the AI buildout.

Rising yields can disrupt equity rallies/bubbles



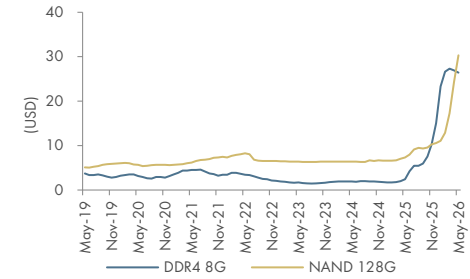
Source: CEIC, Elara Securities Research

Technology returns drop when US 2y yield goes up



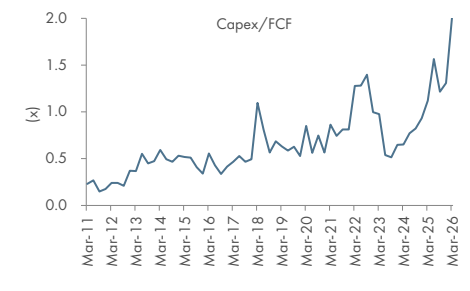
Source: CEIC, Elara Securities Research.

Memory price inflation a key risk on AI earnings



Source: CEIC, Elara Securities Research

AI megacap firms capex outpacing free cashflow at record pace, necessitating borrowing



Source: Bloomberg, Elara Securities Research

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AI infrastructure buildout cost for 100MW up 17% in a year

Building and running a 100MW AI data center in CY26 needs an estimated USD 4,545mn in one-time capital expenditure – up 15.9% from USD 3,920mn in CY25 – with IT equipment (GPU and servers) alone accounting for ~53% of total capex. On top of this, recurring operating expenses are up ~35% YoY, driven by two inputs: electricity, whose share of opex has crossed the 50% threshold on the back of surge in Pennsylvania-New Jersey-Maryland Interconnection (PJM) wholesale power prices, and hardware maintenance & refresh, which is inflating at 27% annually, as DRAM prices double and GPU refresh cycles compress from five years to 2-3. Critically, power and RAM & chips together account for >82% of total cost, meaning cost structure of AI infrastructure is exposed to two volatile input markets - energy and semiconductors - over which hyperscalers lack pricing control.

Exhibit 1: Stylized Cost breakdown of a 100-MW data center operations and buildout in US

Cost Component	Nature	Avg Cost (USD mn) – 2025	Avg Cost (USD mn) – 2026	YoY Change (%)	% Share 2025	% Share 2026	Impact on overall costs (pp)
IT Equipment – GPU & Servers (Chips)	Capex	2,100	2,400	14.3	53.6	52.8	7.6
Networking (InfiniBand & Ethernet)	Capex	255	280	9.8	6.5	6.2	0.6
Storage (All-Flash)	Capex	160	185	15.6	4.1	4.1	0.6
Cooling Systems	Capex	590	750	27.1	15.1	16.5	4.5
Power Infrastructure (UPS, Generators, Switchgear)	Capex	345	390	13.0	8.8	8.6	1.1
Shell & Core Construction	Capex	470	540	14.9	12.0	11.9	1.8
Total Capex		3,920	4,545	15.9			
<i>Power, RAM, Chips Capex</i>		<i>3,195</i>	<i>3,725</i>	<i>16.6</i>	<i>81.5</i>	<i>82.0</i>	<i>13.6</i>
Electricity / Power Costs (Power)	Opex	63	101	60.3	41.7	49.5	29.9
Cooling OpEx – water, maintenance (Power-adjacent)	Opex	27	30	11.1	17.9	14.7	1.6
Personnel & Facilities Management	Opex	23	26	13.0	15.2	12.7	1.7
Hardware Maintenance & Refresh – GPU & DRAM (RAM and chips)	Opex	30	38	26.7	19.9	18.6	5.0
Network & Connectivity	Opex	8	9	12.5	5.3	4.4	0.6
Total annual Opex	Opex	151	204	35.1			
<i>Power, RAM and Chips Opex</i>		<i>120</i>	<i>169</i>	<i>40.8</i>	<i>79.5</i>	<i>82.8</i>	<i>33.8</i>
Total Cost		4,071	4,749	16.7			
<i>Power, RAM and Chips</i>		<i>3,315</i>	<i>3,894</i>	<i>17.5</i>	<i>81.4</i>	<i>82.0</i>	<i>14.3</i>

Note: The numbers are averages of min-max approximate values and hence indicative. Source: JLL, CNBC, CK Chong, Elara Securities Research.

AI to keep a floor in inflation and hence yields: Studies from the Federal Reserve of St Louis suggest AI-related spend and developments are set to keep US inflation up 40bp on an average compared to no AI baseline for several years. Our estimates indicate electricity CPI contributed on an average 14bp in the past six months to headline inflation vs 9bp based on the CY18-19 trend. Also, the Computer Software and Accessories Index after consistent downtrend since CY18 has started to turn up – on an average of 4.1% MoM inflation vs -0.4% from CY18-October CY25.

...adding further challenges for the private credit market Latest volatility in the private credit market can amplify if short term rates move up if Fed points to rate hikes as SOFR acts as benchmark for private credit markets. The benchmark Secured Overnight Financing Rate (SOFR) has softened to 3.5% from its one-year peak of 4.5% (SOFR + 300-400bp = private credit lending rate). If the US Fed hints of the next move being a rate hike, the turmoil in private credit can amplify, challenging financing for AI & AI+ firms, leading to the dominos effect on AI & AI+ supply and value chain.

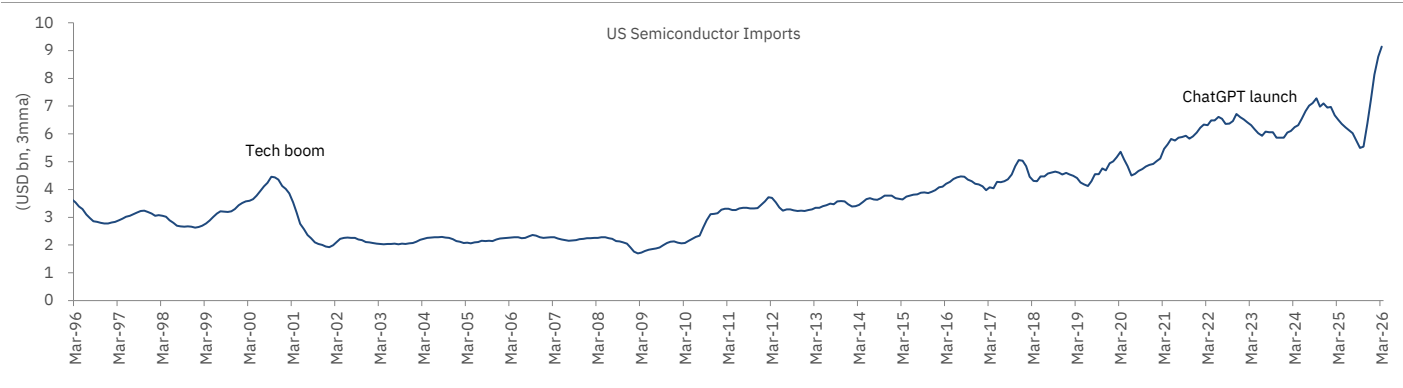
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Productivity gains of AI lacking: task-level micro evidence is promising; macro evidence is absent

The IMF’s April 2026 Executive Board discussion formalized concerns on AI’s return on investment (ROI). PwC’s 2026 CEO Survey found ~56% of CEO report no increase in revenue and no decrease in cost attributable to AI in the previous year, with a mere 12% reporting both benefits simultaneously. The Deloitte survey of 1,854 executives found AI ROI remains "elusive" for a majority. As per MIT study, despite USD 30–40bn in enterprise investment into GenAI, this report uncovers a surprising result in that 95% of organizations are incurring zero returns.

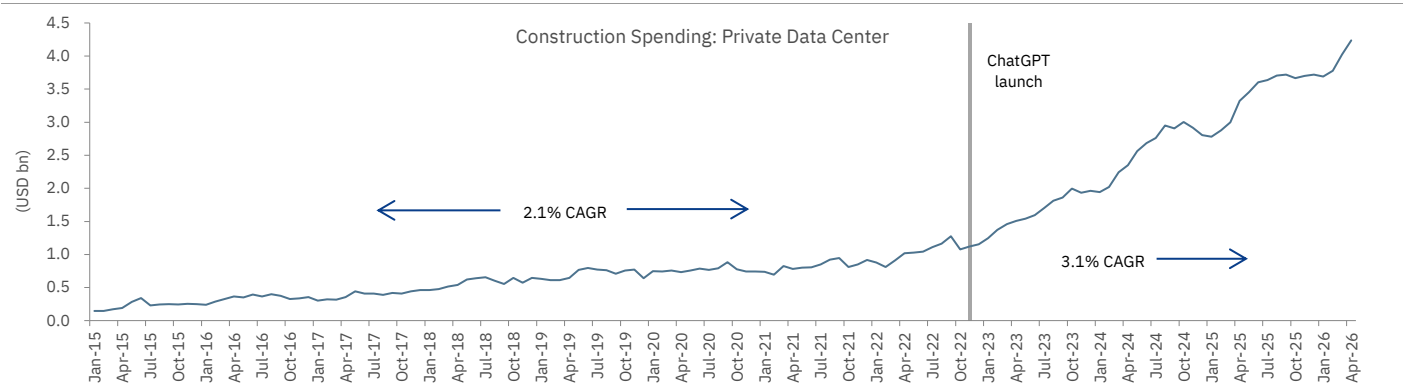
ECB Chief Economist Philip Lane’s keynote at the ECB-SAFE-RCEA conference in March 2026 is the most comprehensive Central Bank statement on AI ROI to date. Lane cited the Productivity J-Curve Framework (Brynjolfsson et al., 2025) directly – the formal academic argument that investments in a general-purpose technology initially reduce measured productivity as firms restructure processes and retrain workforce, with gains materializing only after a substantial lag. In the euro area specifically, ECB staff scenarios put annual Total Factor Productivity (TFP) gains at 0.2–0.4 percentage points, only if adoption is broad and fast – but a mere 7% of euro area firms currently use AI significantly. The unanimous message across the ECB, BIS, OECD, and PwC is structurally consistent: task-level micro evidence is promising; aggregate macro evidence is absent; and the distribution of returns is highly concentrated.

Exhibit 2: US semiconductor imports at a record high



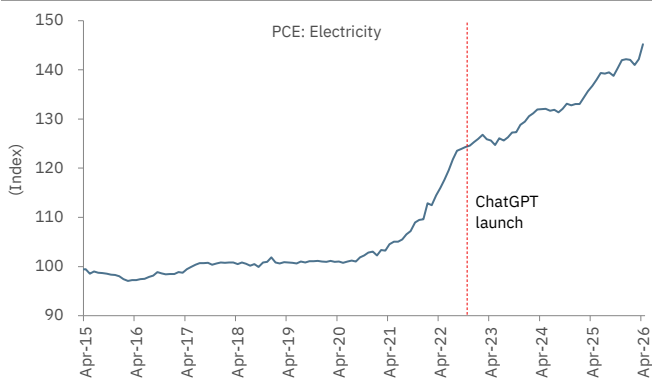
Source: CEIC, Elara Securities Research

Exhibit 3: Private data center construction in USA has picked pace post ChatGPT launch



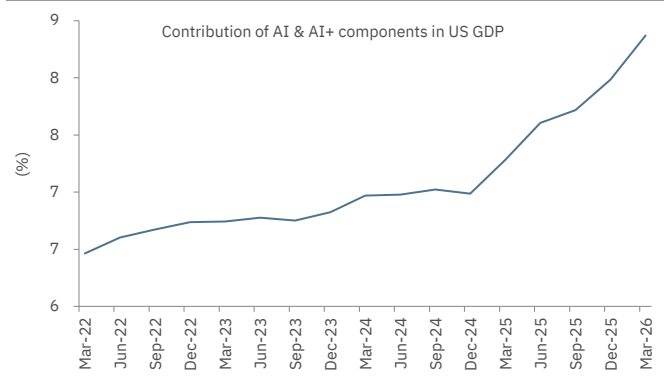
Source: CEIC, Elara Securities Research

Exhibit 4: Energy demand for AI/AI++ lead to a surge in electricity prices for US consumers



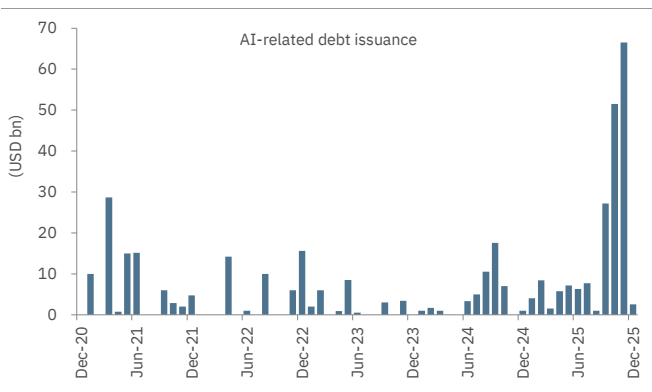
Source: CEIC, Elara Securities Research

Exhibit 5: Challenges to AI investments can pose a threat to US growth



Source: CEIC, Elara Securities Research

Exhibit 6: AI-related debt issuance surges in H2CY25



Source: Federal Reserve of Dallas, Elara Securities Research

Appendix

"Big Tech's capex growth may be far slower than it looks", Alistair Barr, Business Insider. Article attributed to RBC Capital Markets.

"Financing the AI boom: from cash flows to debt", Iñaki Aldasoro, Sebastian Doerr and Daniel Rees, BIS Bulletin.

Abbreviations

BIS	Bank for International Settlements
DRAM	Dynamic Random Access Memory
GPU	Graphics Processing Unit
PJM	Pennsylvania-New Jersey-Maryland Interconnection
SOFR	Secured Overnight Financing Rate
MW	Megawatt
GW	Gigawatt
RAM	Random Access Memory
UPS	Uninterruptible Power Supply
NAND	NOT-AND flash memory
EIA	US Energy Information Administration

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