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Strategic Investment Advisory Group

# AI-conscious asset allocation: Portfolio construction in a capital investment boom

# Common attributes of past capex booms are relevant today

## Key elements of historical capital investment booms

| | Railroad network | Telephone network | Petroleum refining and distribution | Interstate Highway System | Fiber optic cable network |
|---|---|---|---|---|---|
| **Timing** | 1830s to 1880s | 1870s to 1930s | 1860s to 1920s | 1950s to 1990s | 1990s to 2000s |
| **Key industries displaced** | • Horses<br>• Carriages<br>• Ships<br>• Canals | • Mail<br>• Telegraph | • Whaling<br>• Transport (later) | • Railroads<br>• Regional transit | • Copper wire<br>• Telephone and cable networks |
| **Level of intra-industry competition** | Intense | Limited | Limited | None | Intense |
| **Major failures among early leaders** | Yes | No | No | No | Yes |
| **Emergence of a monopoly and regulation** | No | • AT&T monopoly<br>• Break-up in 1980s | • Standard Oil monopoly<br>• Break-up in 1911 | Federal/state ownership | No |
| **Consolidation among key firms** | Yes | Yes | Yes | No | Yes |
| **High ongoing capital expenditures** | Yes | Yes | Yes | Yes | Yes |
| **Long-term productivity gains** | Yes | Yes | Yes | Yes | Yes |

Source: J.P. Morgan Asset Management; data as of July 31, 2026. For illustrative purposes only.

# Capital investment booms often follow a consistent pattern

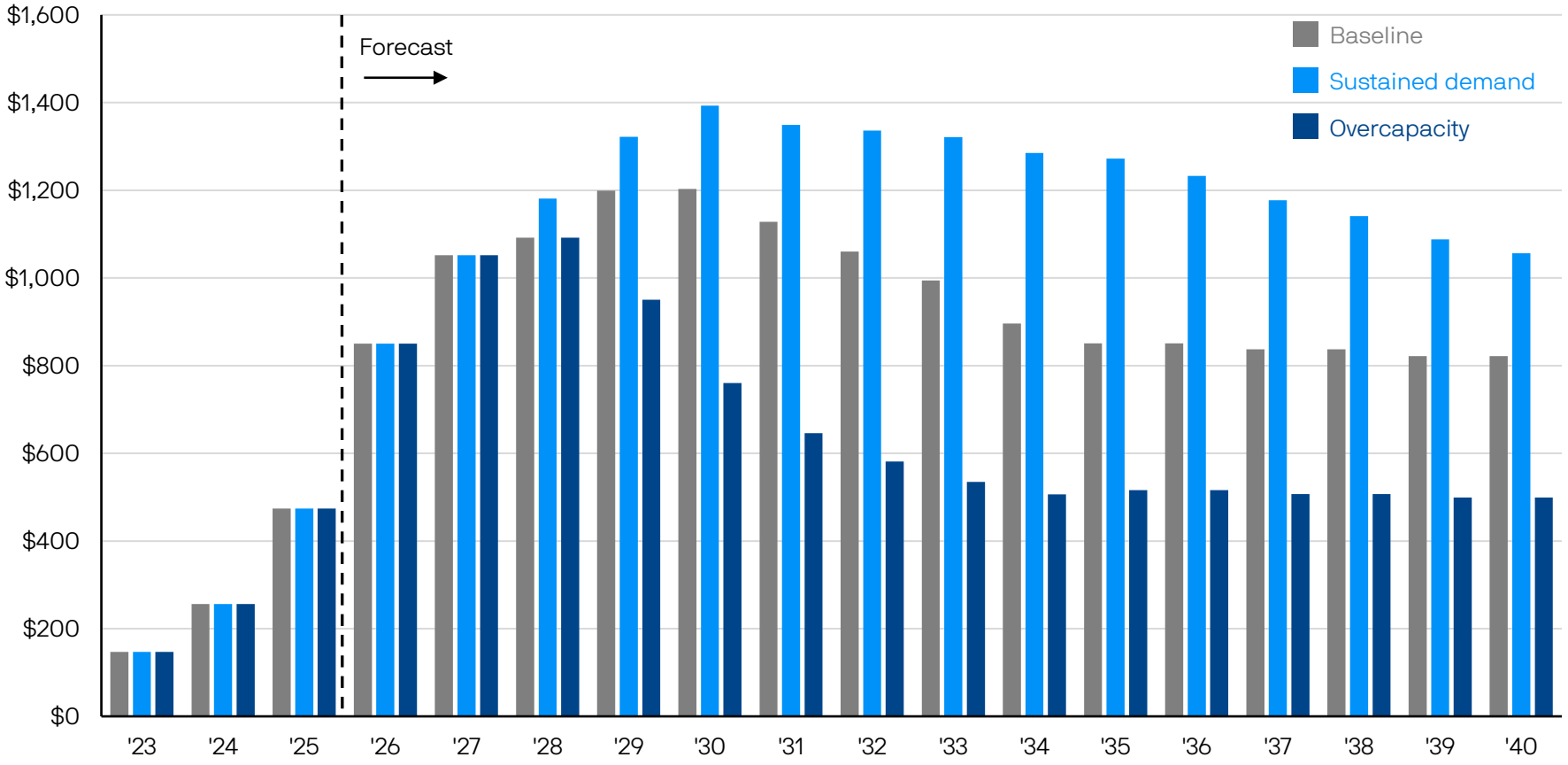
## Phases of capital investment booms

| | | |
|---|---|---|
| PHASE 1: ORIGIN STORY | **A new solution to an old problem** | A viable solution to a longstanding and significant economic barrier or inefficiency is identified, attracting the interest of entrepreneurs and investors. |
| PHASE 2: BUILD-OUT | **Aggressive capital investment** | Firms compete aggressively to establish dominance, raising large amounts of capital from investors to build out the necessary infrastructure – often in parallel to one another. |
| PHASE 3: REALITY CHECK | **Reality check on high expectations** | Optimism over the growth rates and the scale of the opportunity collides with the reality of fierce competition, the high cost and/or scarcity of capital, and/or broader economic weakness. |
| PHASE 4: SHAKE-OUT | **Elimination of weaker competitors** | Weaker enterprises are unable to meet lofty expectations and run into difficulty raising fresh capital. Often, they go bankrupt or are acquired by other firms at a discount. |
| PHASE 5: VIABILITY | **Reorganization and rationalization** | Following a period of consolidation, operators are able to maintain more stable and profitable business models with sustainable capital structures. |
| PHASE 6: BROAD ADOPTION | **Residual benefits to society** | As access expands, costs fall, and new use-cases emerge, the new technology fosters improvements in productivity and sustainably higher growth rates. |

Source: J.P. Morgan Asset Management; data as of July 31, 2026. For illustrative purposes only.

# In the AI build-out, we see a range of potential outcomes for AI capital spending

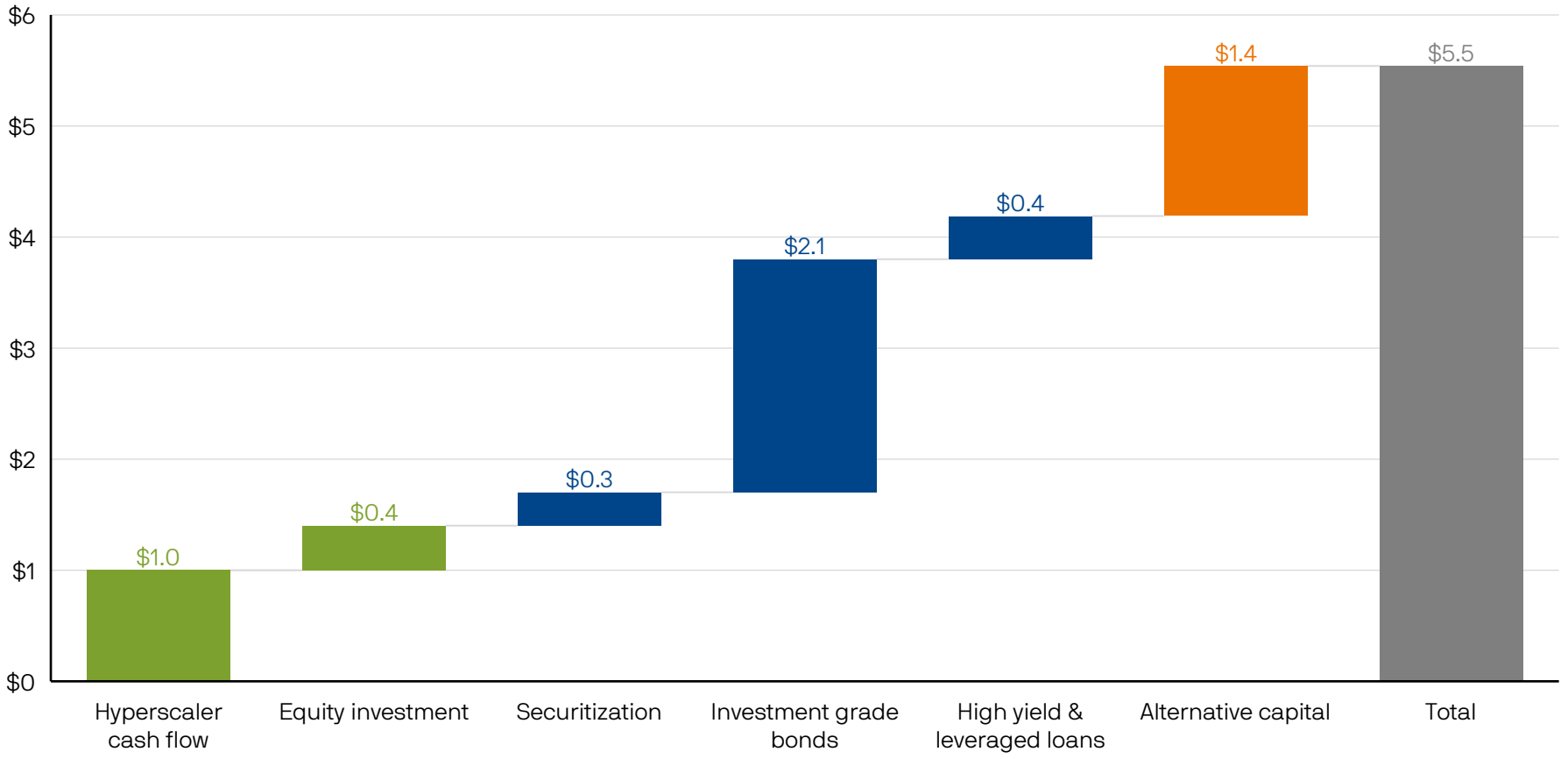
Total U.S. AI capital expenditure (USD billions)




Source: Company reports, J.P. Morgan Asset Management; data based on availability as of July 31, 2026. Anchors to projections of spend from the top five hyperscalers and an assumption of capex for neocloud, enterprise and government AI infrastructure. Baseline: spending normalizes around $800B as the initial buildout matures. Sustained demand: capex remains above $1T as agentic AI and robotics extend the cycle. Overcapacity: returns disappoint or efficiency accelerates post-2029, limiting the pace of reinvestment, and spending corrects by roughly 45% of peak.

# The full scope of capital markets are funding the AI build-out

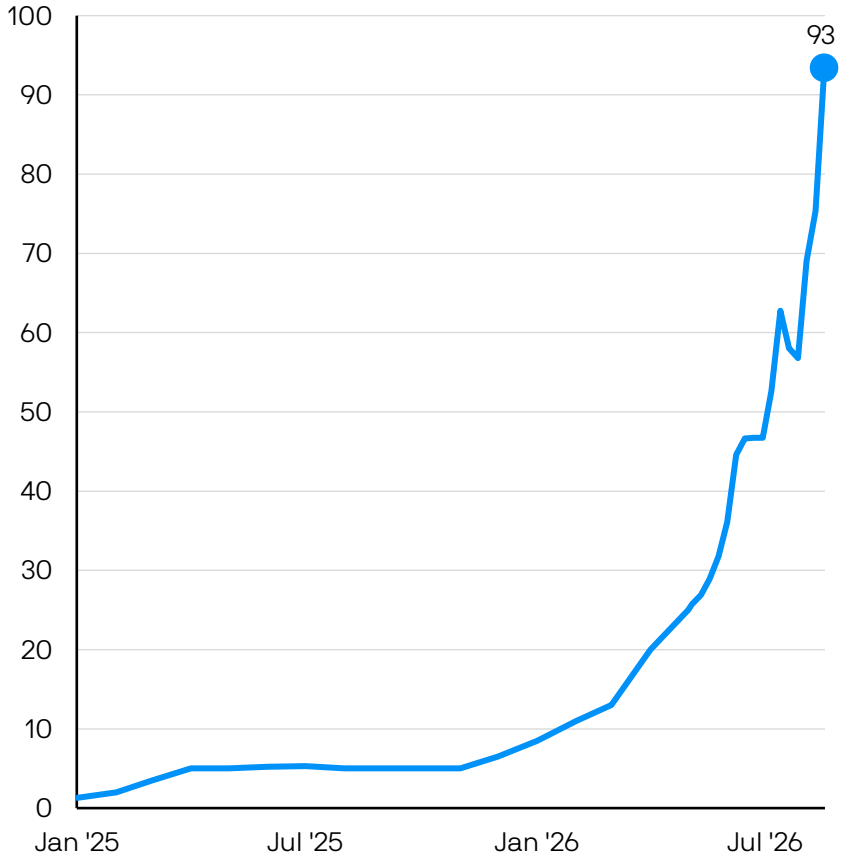
## Expected total AI capex investment through 2030 (USD trillions)



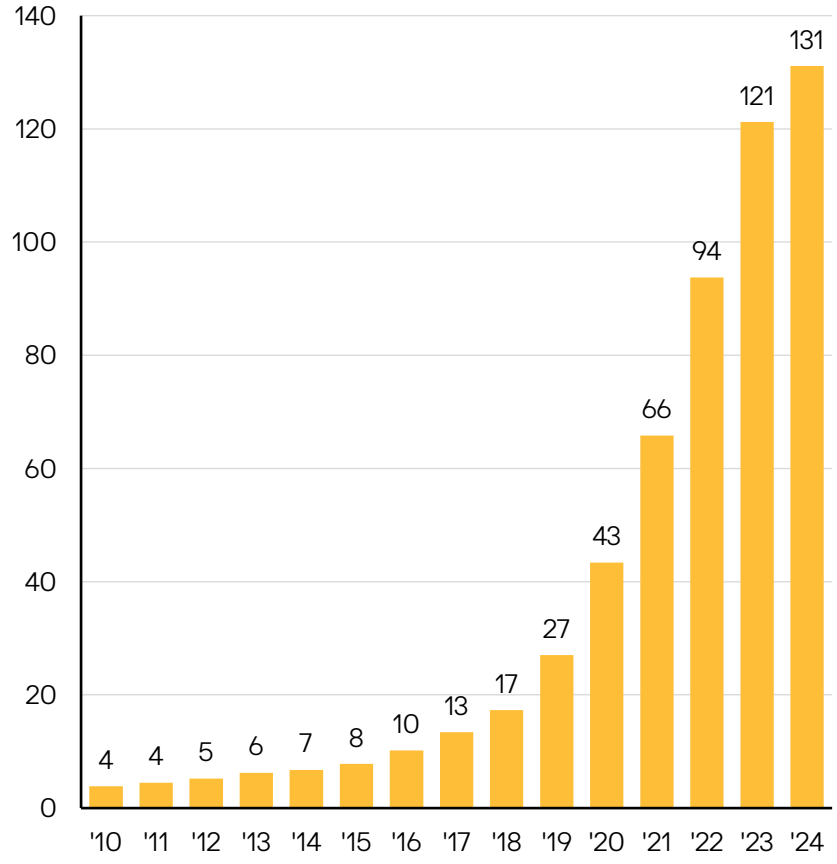

Source: J.P. Morgan Global Research, J.P. Morgan Asset Management; data based on availability as of July 31, 2026. All funding forecasts come from the 2026 "AI Capex 2.0: If You Build It, They Will Finance It - Updated Growth & Capital Markets Forecasts" research report published by J.P. Morgan Global Research. Alternative capital includes private credit, real estate funds, infrastructure funds, REITs and government funding. Figures may not sum to total due to rounding.

# AI usage and innovation continue to grow

## OpenRouter weekly tokens processed (trillions)



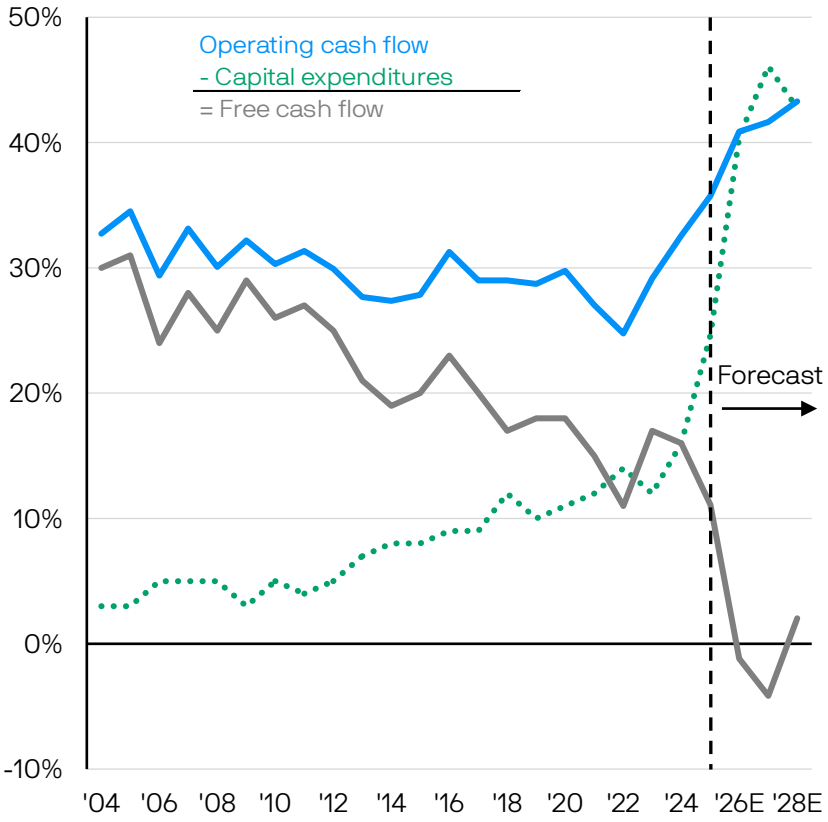

## AI patents granted worldwide (thousands)



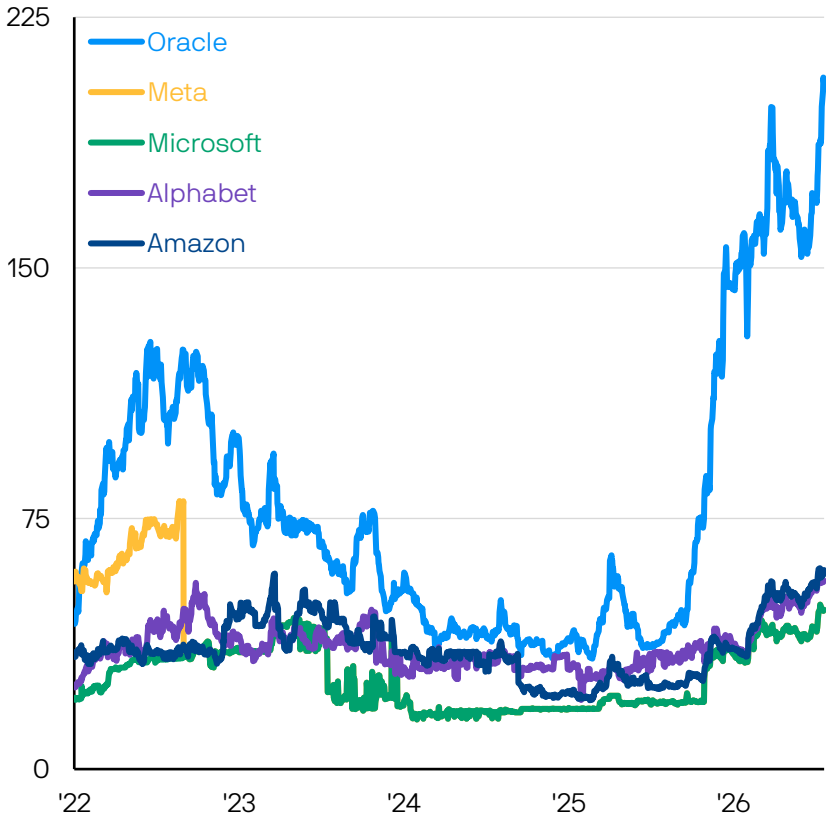

Source: J.P. Morgan Asset Management. (Left) Source: OpenRouter, Google (I/O keynotes and quarterly earnings calls); data as of August 17, 2026. OpenRouter is an independent model-routing API platform that lets developers toggle between models. A token is a unit of text, generally about three-quarters of a word, that AI models read and generate. (Right) *Stanford University Human-Centered Artificial Intelligence – The 2026 AI Report*; data as of April 2026.

# Hyperscalers have drawn on their revenue streams and balance sheet strength to fund AI capex

## Hyperscalers' cash flow and capex as a percent of sales



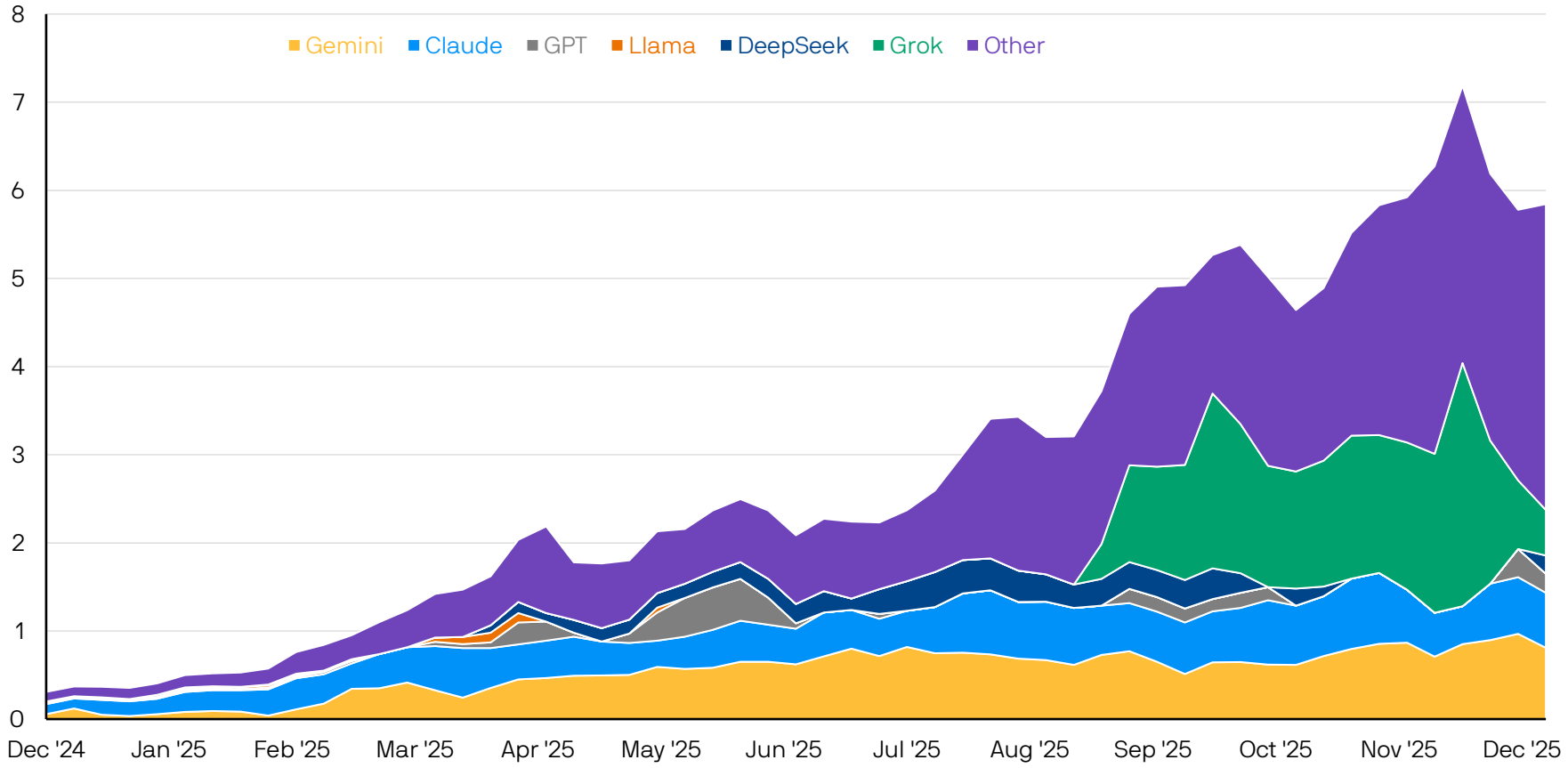

## Five-year credit default swaps (bps)




Source: Bloomberg, J.P. Morgan Asset Management. (Left) Data as of July 31, 2026. Data for 2026, 2027 and 2028 reflect consensus estimates. Capex shown is company total. Hyperscalers are the large cloud computing companies that own and operate data centers with horizontally linked servers that, along with cooling and data storage capabilities, enable them to house and operate AI workloads. (Right) Data as of July 22, 2026.

# AI model usage remains broadly distributed

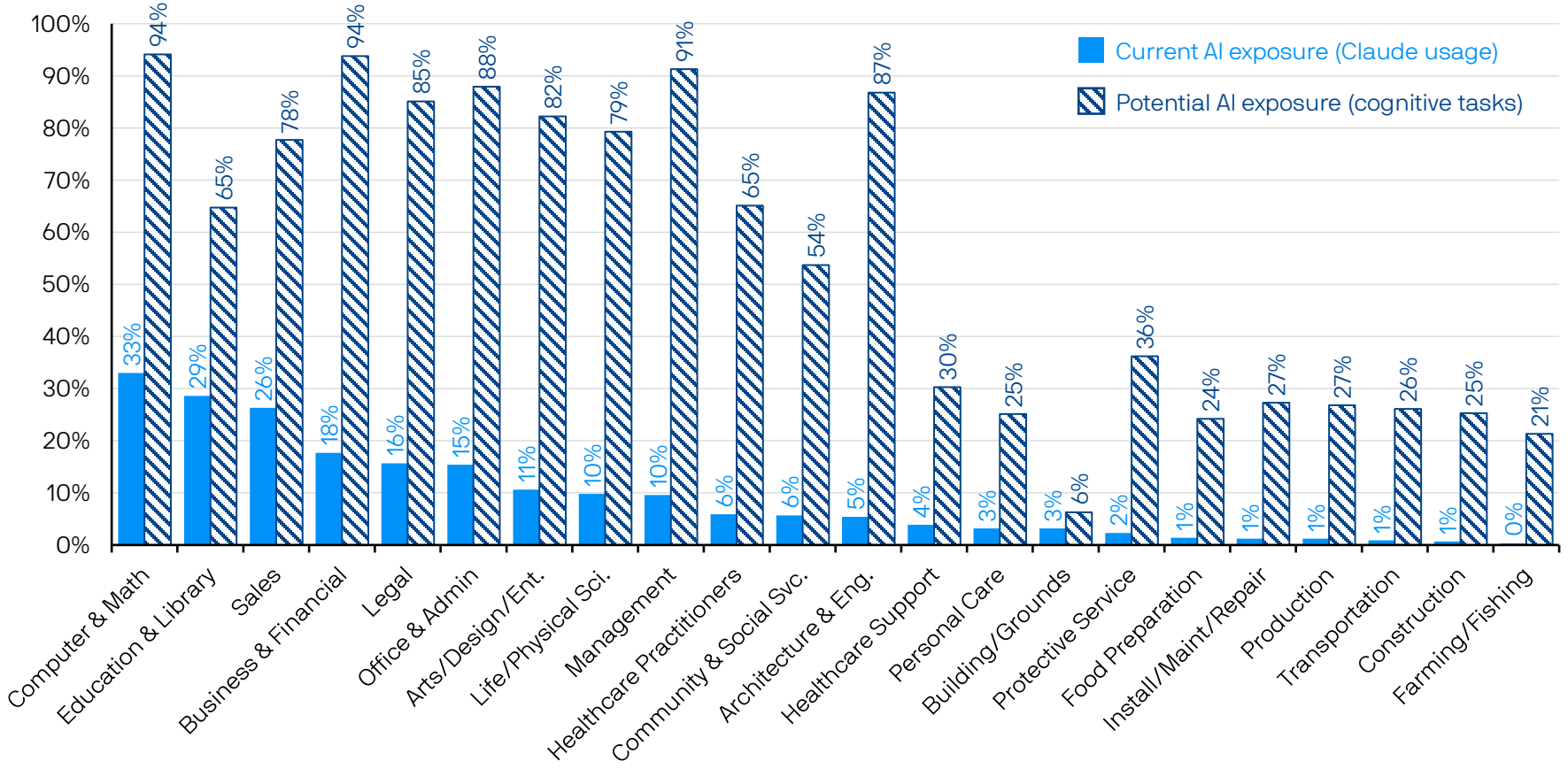
## Token consumption through OpenRouter API calls (trillions of tokens)




Source: OpenRouter LLM Ranking Leaderboard, J.P. Morgan Asset Management; data as a of December 31, 2025.

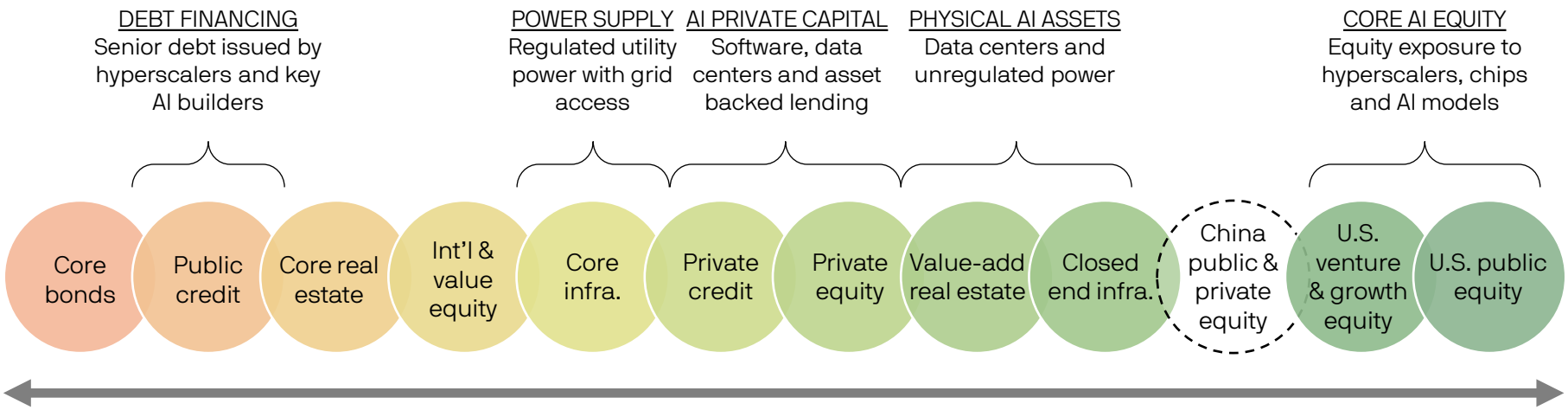
# AI usage is growing, but it is still well below its potential

Share of an occupation's current and potential tasks exposed to AI (percent)




Source: Anthropic Economic Index, Eloundou et al. (2024), O*NET, Bureau of Labor Statistics, J.P. Morgan Asset Management; data as of May 31, 2026. Potential exposure is the share of an occupation's tasks that large language models, paired with complementary software, could perform with meaningful time savings, from Eloundou, Manning, Mishkin and Rock (2024). Current exposure is the share of tasks with observed, work-related Claude usage, as published by Anthropic.

# Exposure to AI is distributed broadly across asset classes




**Defensive asset classes**

Emphasis on low-AI risk and long-term productivity benefits

Potential long-term benefits from:

- Limited direct AI exposure during the boom
- Global and sector diversification
- Declining unit cost of AI
- Productivity and non-inflationary growth

**AI within diversified privates**

Spreading out AI risks across multiple asset classes

Exposure to the full AI capital raise:

- Data center development
- Behind-the-meter power
- Asset backed financing (chips)
- Utility scale grid power

**Concentrated AI exposure**

Momentum driven with high risk from winners and losers

Near term outlook dependent on:

- U.S. leadership in AI technology
- Ongoing hyperscaler subsidy
- Access to debt and equity markets
- Growth of the user base

Source: J.P. Morgan Asset Management; data as of July 31, 2026. For illustrative purposes only.

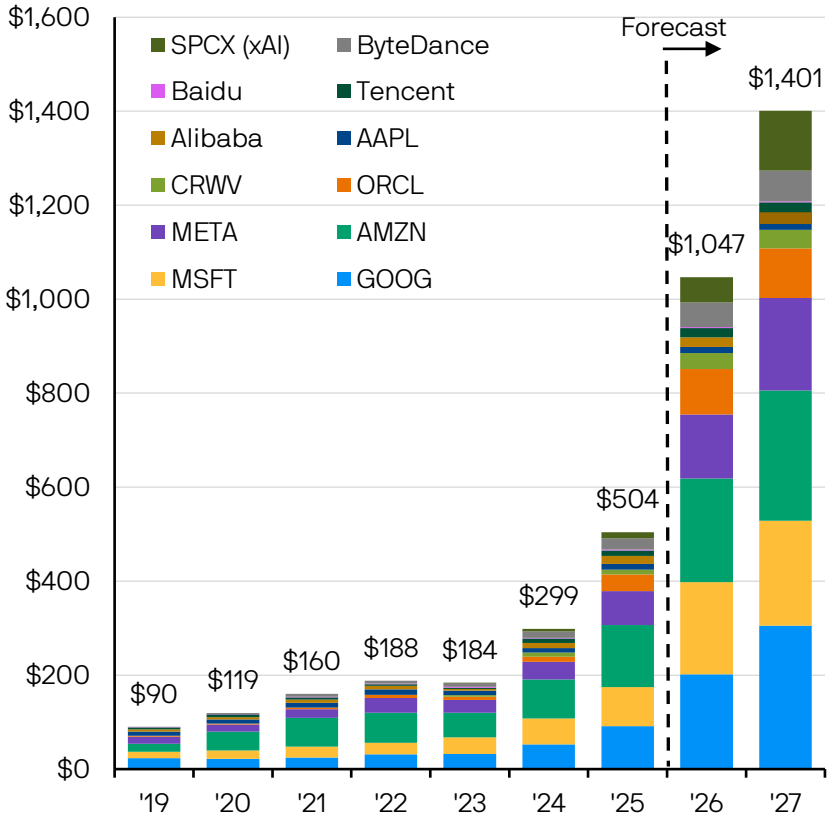
# Key access points to the AI opportunity set

| | Benefits | Risks |
|---|---|---|
| U.S. large cap public equity | Liquid, low cost access to scaled players across the AI ecosystem | High valuations and risk concentration in AI markets |
| Growth equity | Later stage access to private firms with scalable business | Higher valuations and reduced portfolio diversification |
| Venture capital (VC) | Early access to AI innovators and disruptive business models | Surge in new business formation may be a challenge |
| China public equity & VC | Parallel AI ecosystem to the U.S., with differentiated characteristics | Government intervention and geopolitical risks |
| Closed-end infrastructure | Primary access point for direct exposure to data centers | Untested data center business model and illiquid fund structure |
| Value-add real estate | Building data center "shells" and converting legacy properties for AI | Real estate represents only a small portion of data center value |
| Private credit | Financing multiple elements of the AI build-out at attractive yields | Concentrated exposure to sectors and firms facing disruption |
| Core infrastructure | Regulated grid power delivery to AI firms under long term contracts | Pushback from regulators and ratepayers over costs |
| International & value equity | Low AI intensity with long-term benefits from AI efficiencies | Limited participation in the key elements of AI upside |
| Core real estate | Very low AI exposure outside of localized office/residential gains | Long-term impact of AI on real estate usage is unknown |
| Corporate debt | Quality borrowers issuing paper at attractive all-in yields | Asymmetric risk and the scale of debt issuance are concerns |
| Core fixed income | Very low AI exposure outside of investment grade credit | Impact of AI on inflation and rates could be a concern |

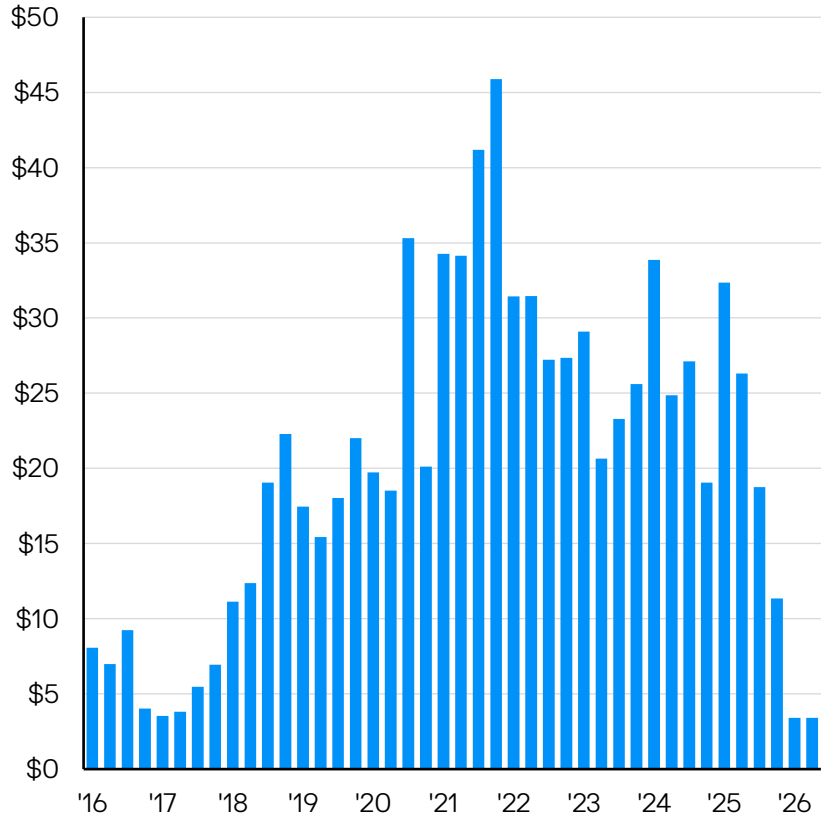
Source: J.P. Morgan Asset Management; data as of July 31, 2026. For illustrative purposes only.

# Hyperscaler capex keeps rising, but recent stock moves reflect investor concerns about their cash flow

## Cloud and hyperscaler capex (USD billions)

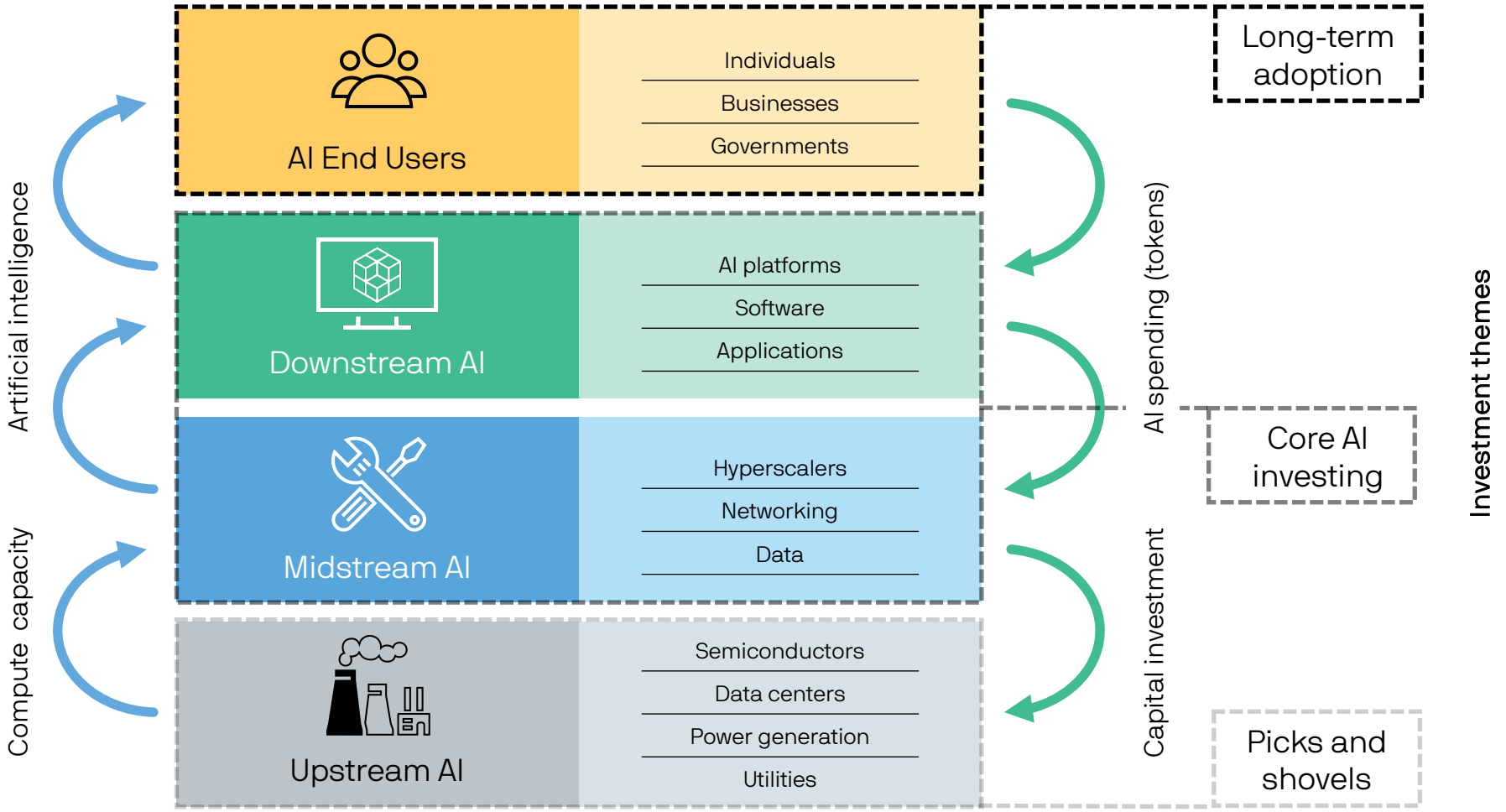



## Hyperscaler quarterly share buybacks (USD billions)




Source: Bloomberg, J.P. Morgan Asset Management. (Left) Data as of August 20, 2026. All of the forward-looking numbers here are based on Bloomberg Consensus estimates, aside from ByteDance which is private and based on Goldman Sachs' estimates as of June 30, 2026. (Right) Data as of March 31, 2026. Hyperscalers include Amazon, Google, Microsoft, Meta and Oracle.

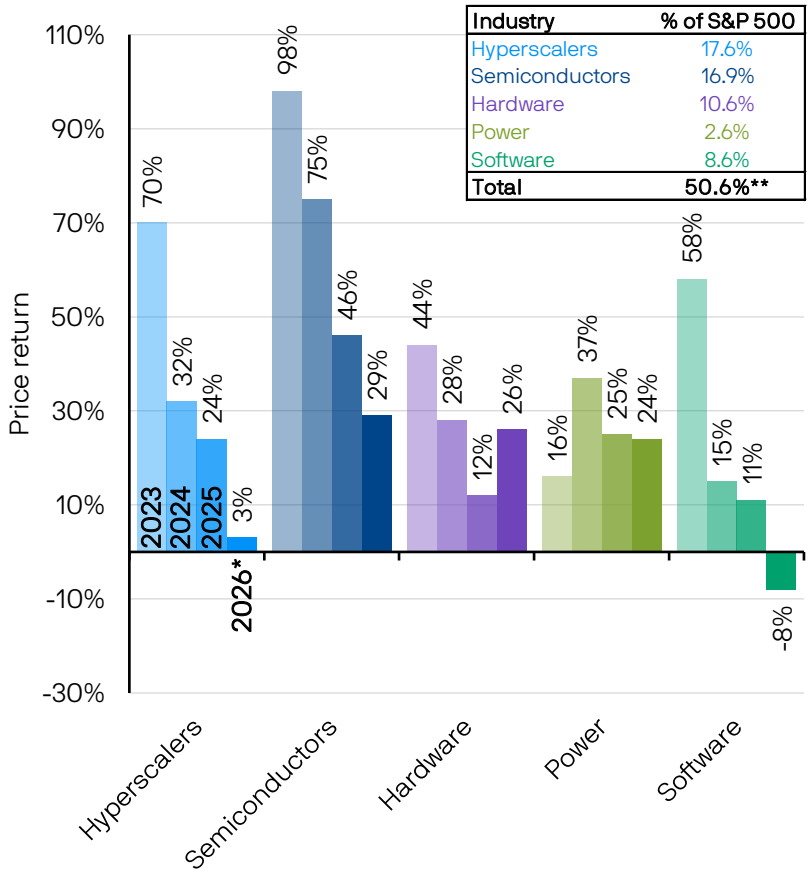
# Aligning investment themes with the AI value chain



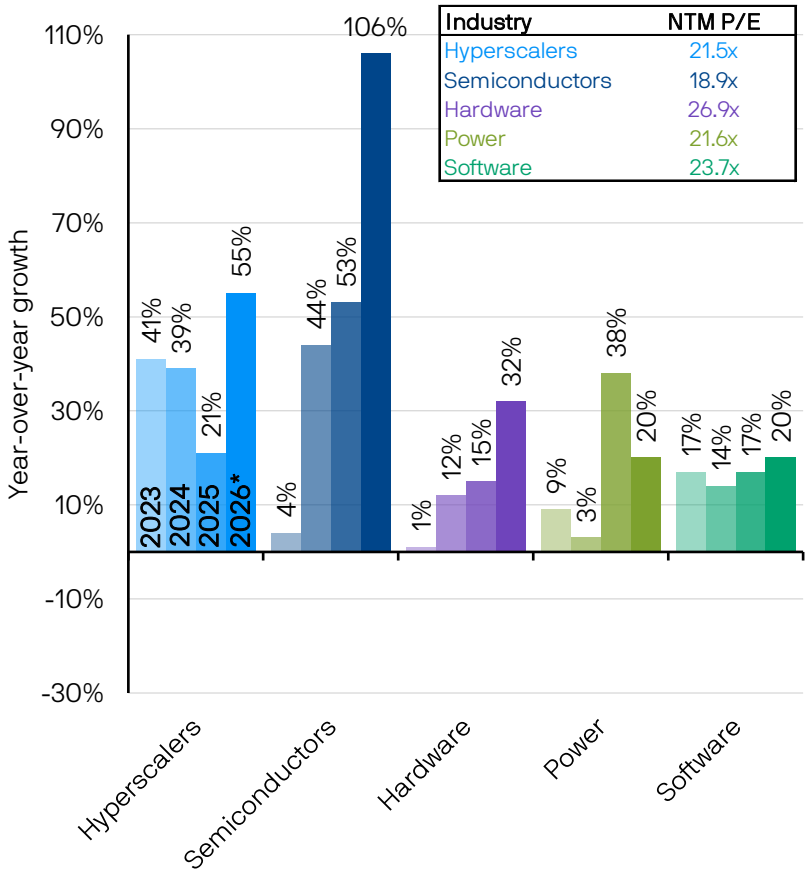

Source: J.P. Morgan Asset Management; data as July 31, 2026. For illustrative purposes only.

# The sector mix of AI winners has shifted in recent years

## AI-related industry performance (2023 – Now)



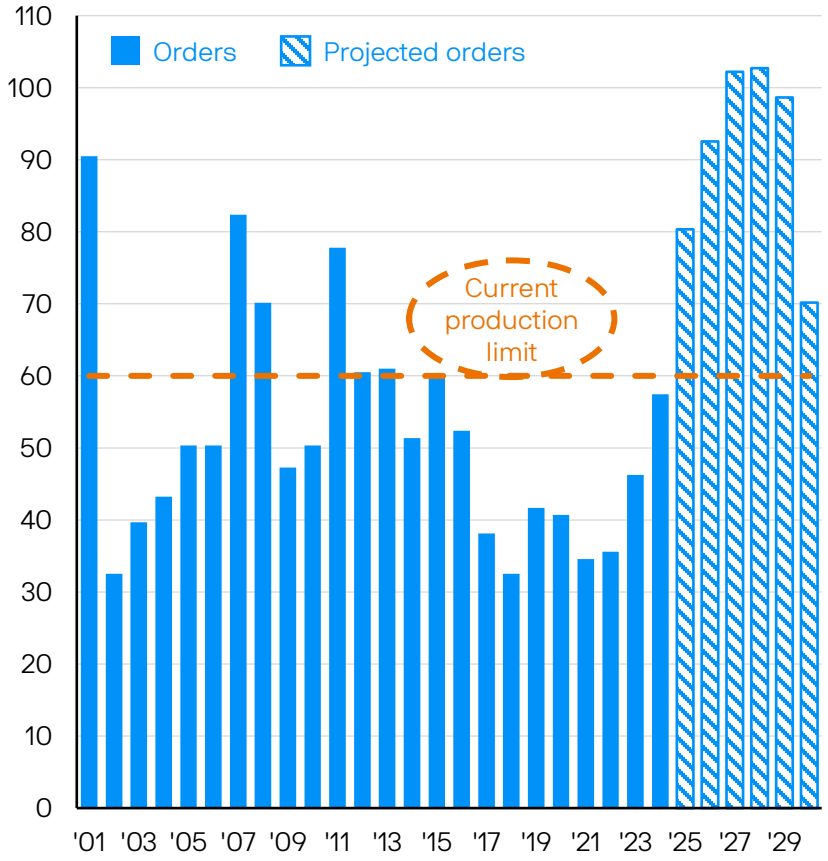

## AI-related industry earnings growth and multiples



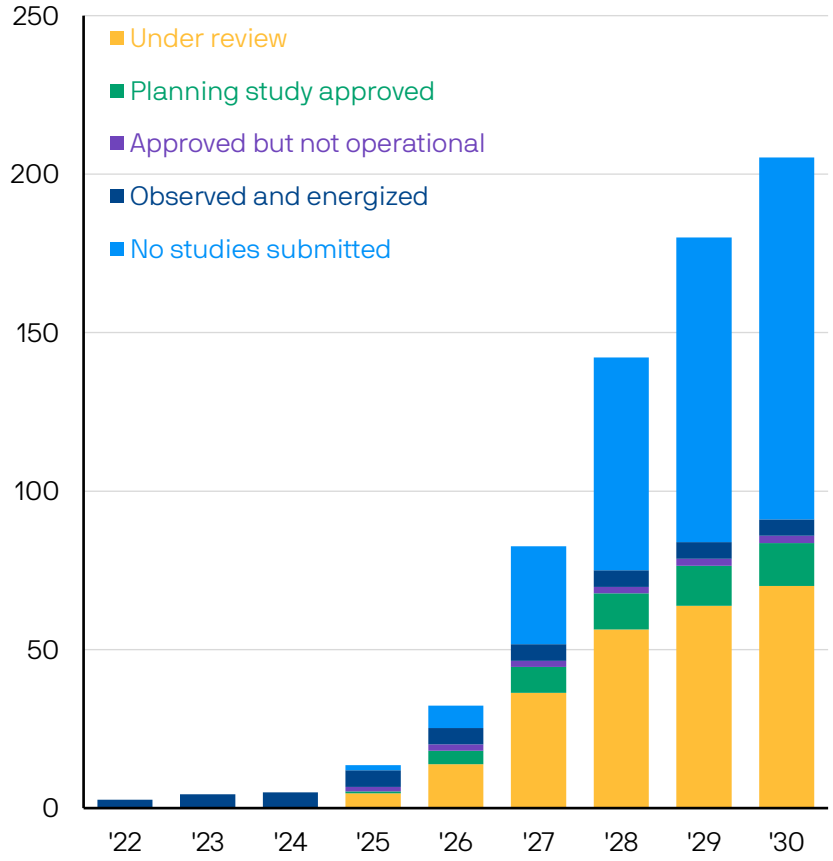

Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management; data as of July 31, 2026. *2026 price return is year-to-date, and earnings growth reflects 2026 consensus estimates as provided by FactSet. Hyperscalers is a market-weighted composite of AMZN (Sector = Con. Disc, Industry = Broadline Retail), GOOGL/GOOG (Comm. Svcs., Interactive Media & Scvs.), META (Comm. Svcs., Interactive Media & Scvs.), MSFT (Info. Tech., Software) and ORCL (Info. Tech., Software). The remaining categories are based on GICS Industries. **Total percentage in the S&P 500 does not double count hyperscalers that fall in additional categories.

# The utilities industry may be at the start of an AI-driven electricity supercycle

## Global gas turbine orders (GW)




## ERCOT large load interconnection requests (GW)




Source: J.P. Morgan Asset Management. (Left) Bloomberg News; data as of October 2025. (Right) ERCOT; data as a of October 2025.

# A framework for assessing AI disruption

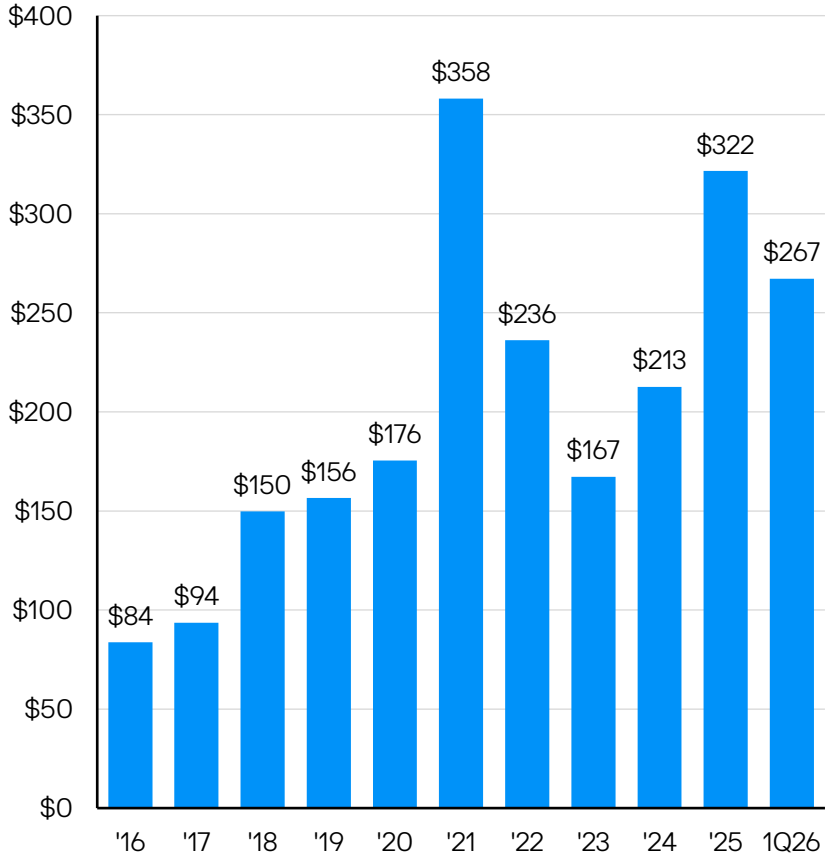
## Key pillars

| Factor | Description |
|---|---|
| **Substitutability** | Measures how easily AI tools can substitute the company's primary value proposition<br>• Higher risk: simple, commoditized information products<br>• Lower risk: complex, or highly specialized offerings with human oversight |
| **Switching costs** | Assesses integration depth, workflow embeddedness and switching barriers<br>• Higher risk: low integration, minimal lock-in<br>• Lower risk: mission-critical systems, regulatory requirements, deep workflow integration |
| **Data moat** | Evaluates the uniqueness and defensibility of data assets<br>• Higher risk: publicly available or easily replicable data<br>• Lower risk: proprietary, structured, validated or exclusive datasets |
| **Regulatory and trust barriers** | Protection from compliance requirements and trust factors<br>• Higher risk: unregulated, low trust requirement products<br>• Lower risk: highly regulated industries requiring accountability and verified accuracy |
| **AI integration capability** | Measures willingness to transform, adopt AI and integrate into product stack<br>• Higher risk: those with legacy technology and/or slow innovation cycles<br>• Lower risk: organizations with strong tech capability, active AI development, proven track record |

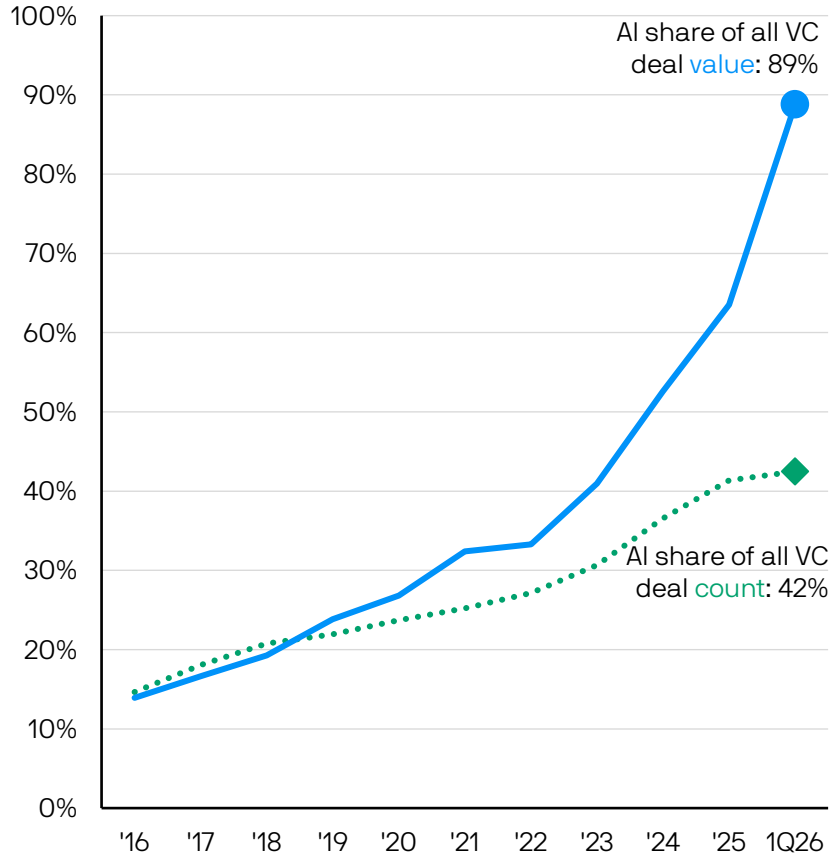
Source: J.P. Morgan Asset Management; data as of July 31, 2026. For illustrative purposes only.

# The venture industry is on pace for record deployment in 2026

## U.S. VC capital deployed (USD billions)




## AI share of all U.S. VC deal activity




Source: Pitchbook, J.P. Morgan Asset Management; data based on availability as of March 31, 2026.



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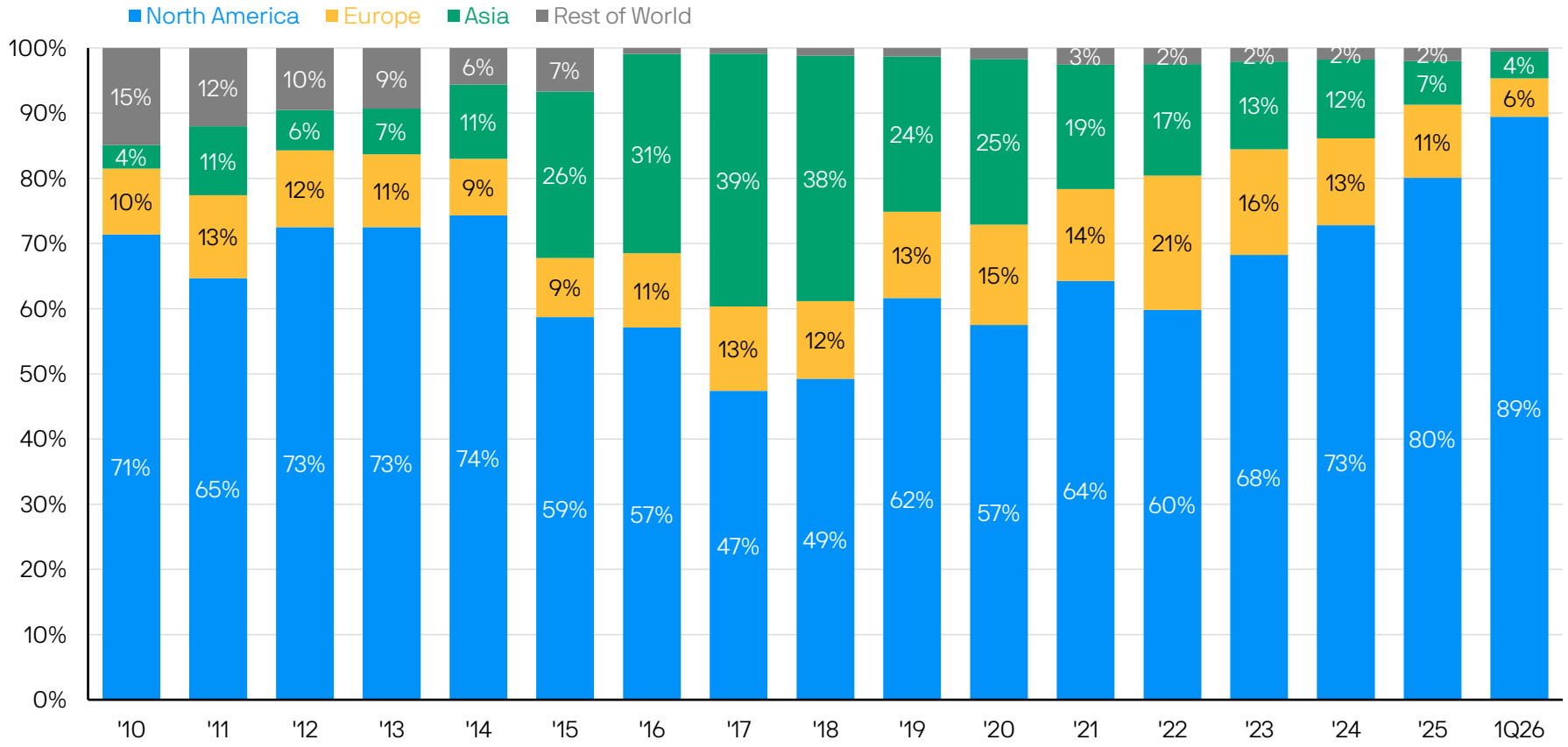
# The U.S. claims the lion's share of global VC deals in AI and machine learning

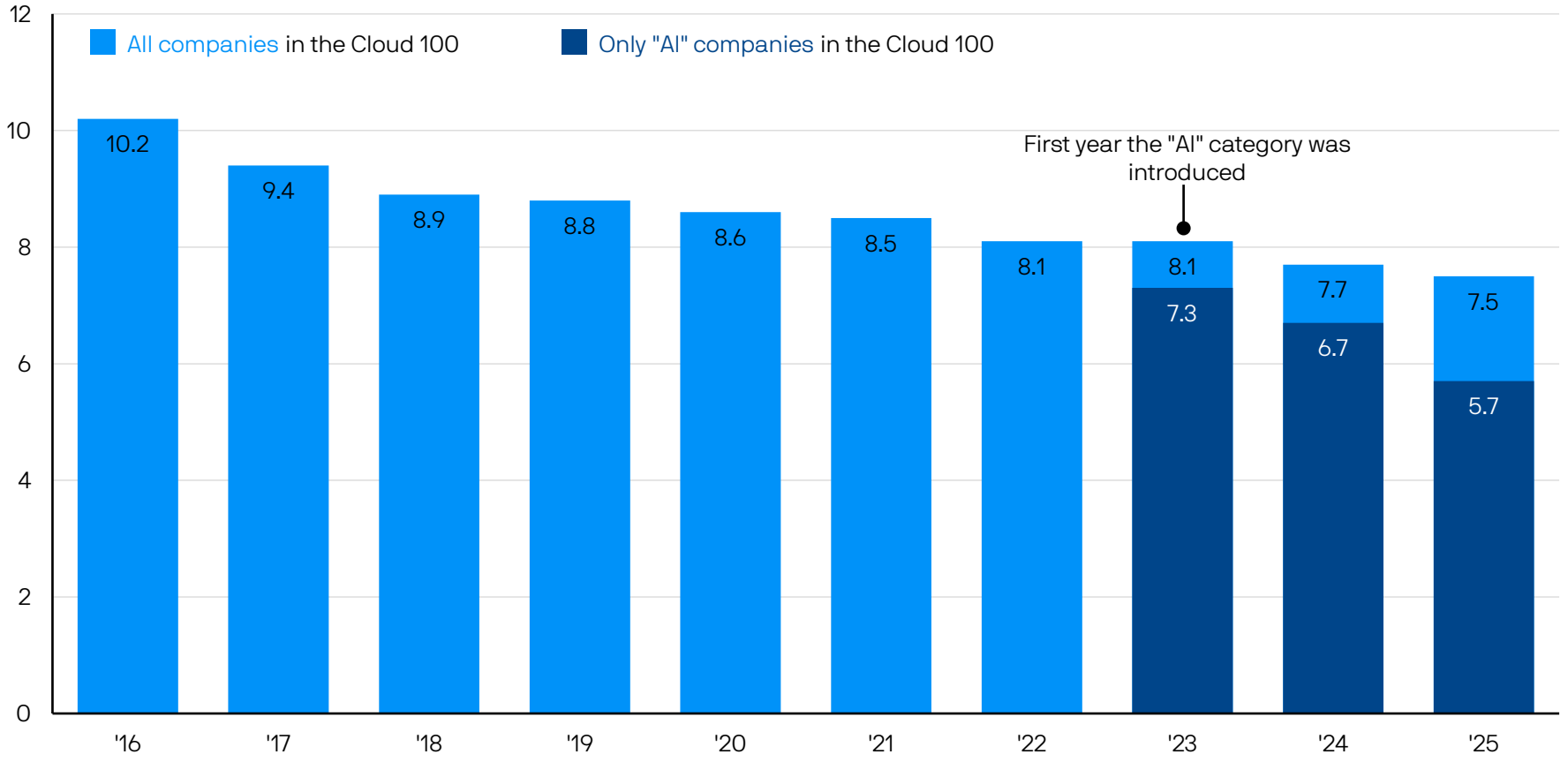
## Global AI and machine learning venture capital investment by region




Source: Pitchbook, J.P. Morgan Asset Management; data based on availability as of March 31, 2026.

# Revenue growth at AI start-ups has accelerated

## Average years to USD 100 million annual recurring revenue ("centaur status")




Source: Bessemer Venture Partners' *The 2025 Cloud 100 Benchmarks Report*; J.P. Morgan Asset Management; data as of December 31, 2025.

# The AI build-out is increasingly debt-driven

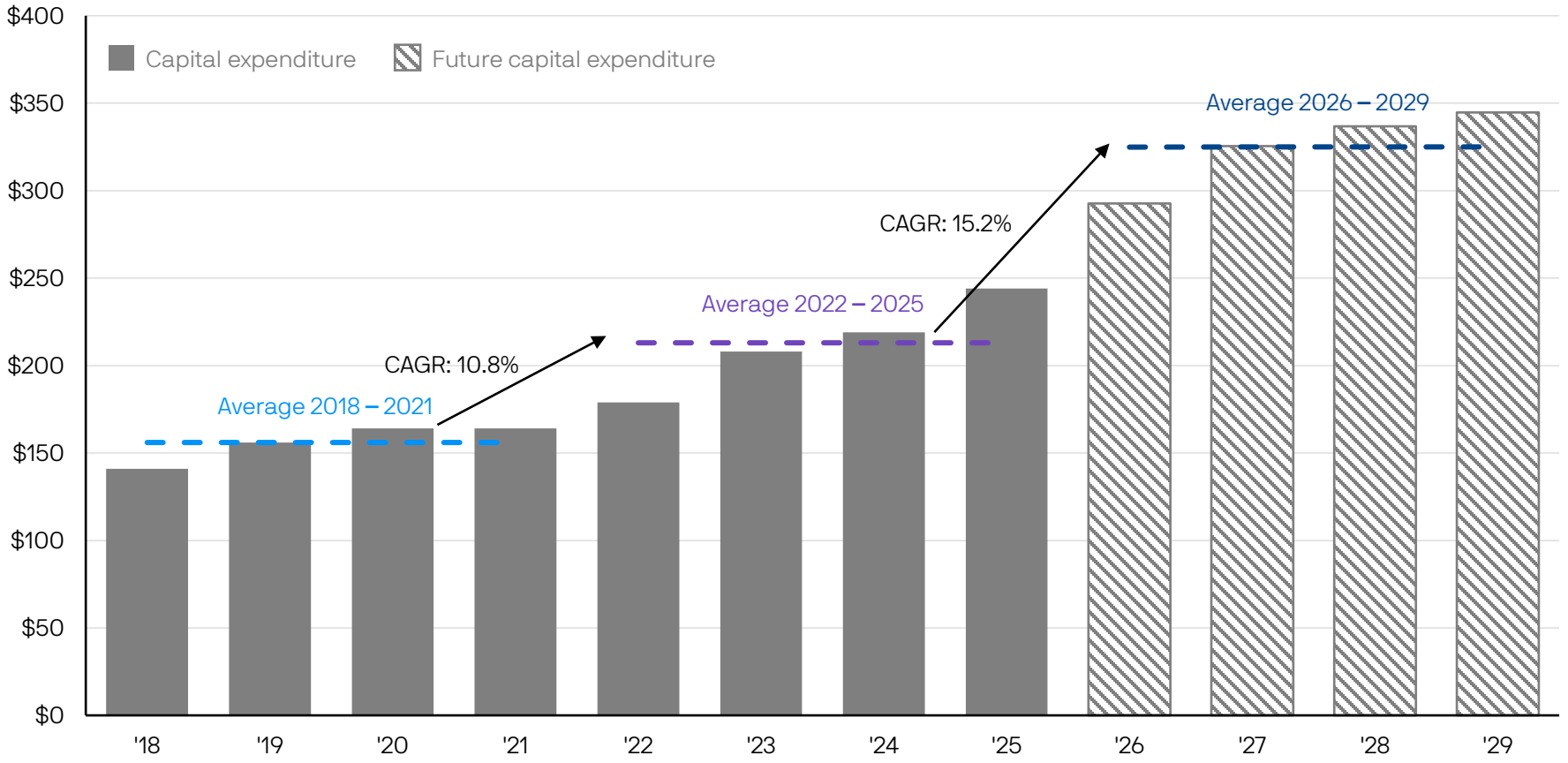
## Hyperscaler bond issuance (USD billions)

| 2021 | 2022 | 2023 | 2024 | 2025 | 2026 (estimate) | 2027 (estimate) |
|---|---|---|---|---|---|---|
| $30 | $34 | $14 | $17 | $109 | $280 | $300 |

Source: J.P. Morgan Asset Management; data as of August 27, 2026.

# Power demand from data centers is transforming the utilities sector

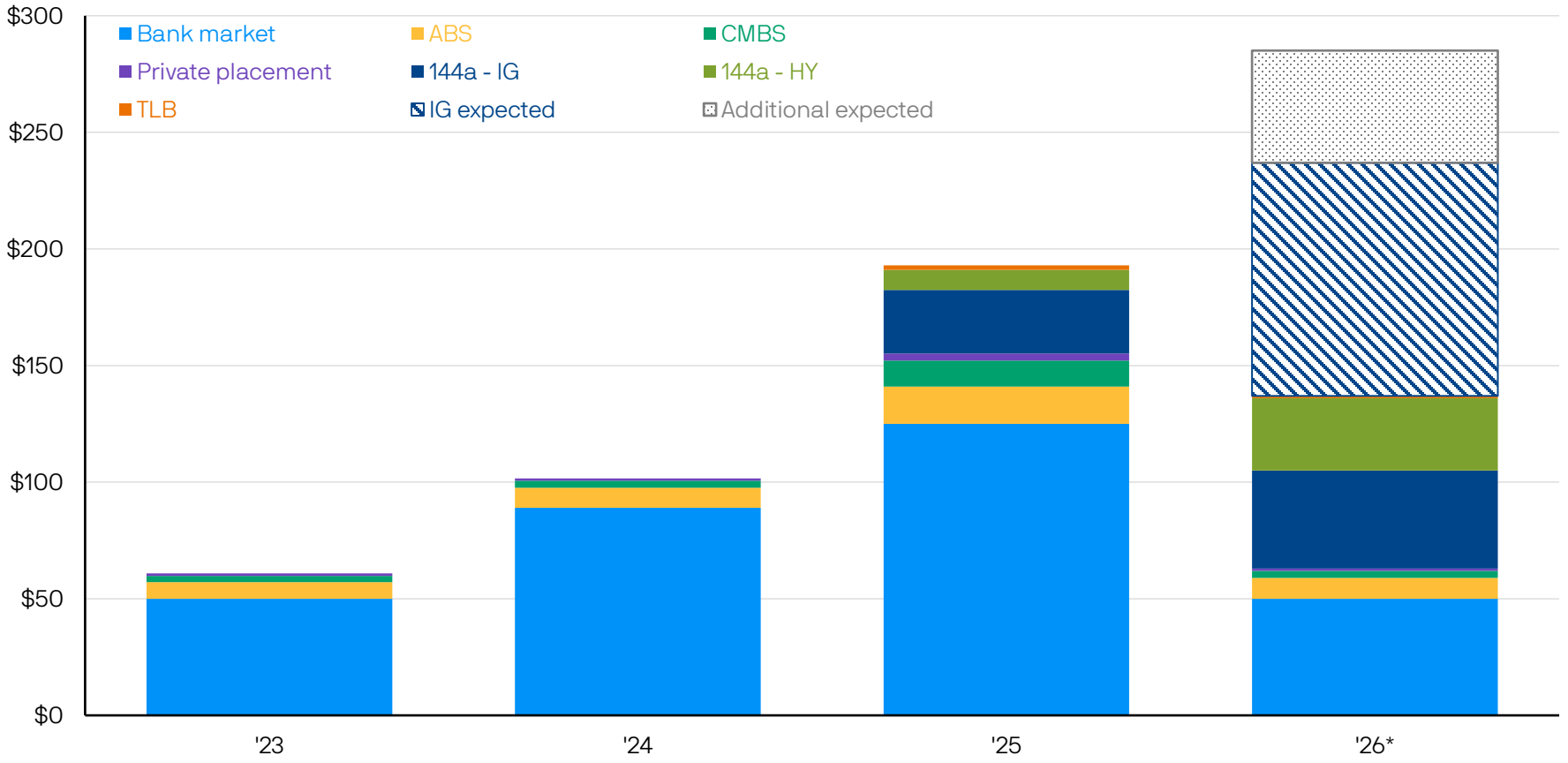
North America investor-owned regulated utilities capital spending (USD billions)




Source: Standard & Poor's, J.P. Morgan Asset Management; data as of May 1, 2026.

# Once financed with bank construction loans, data centers now draw in capital across the debt spectrum

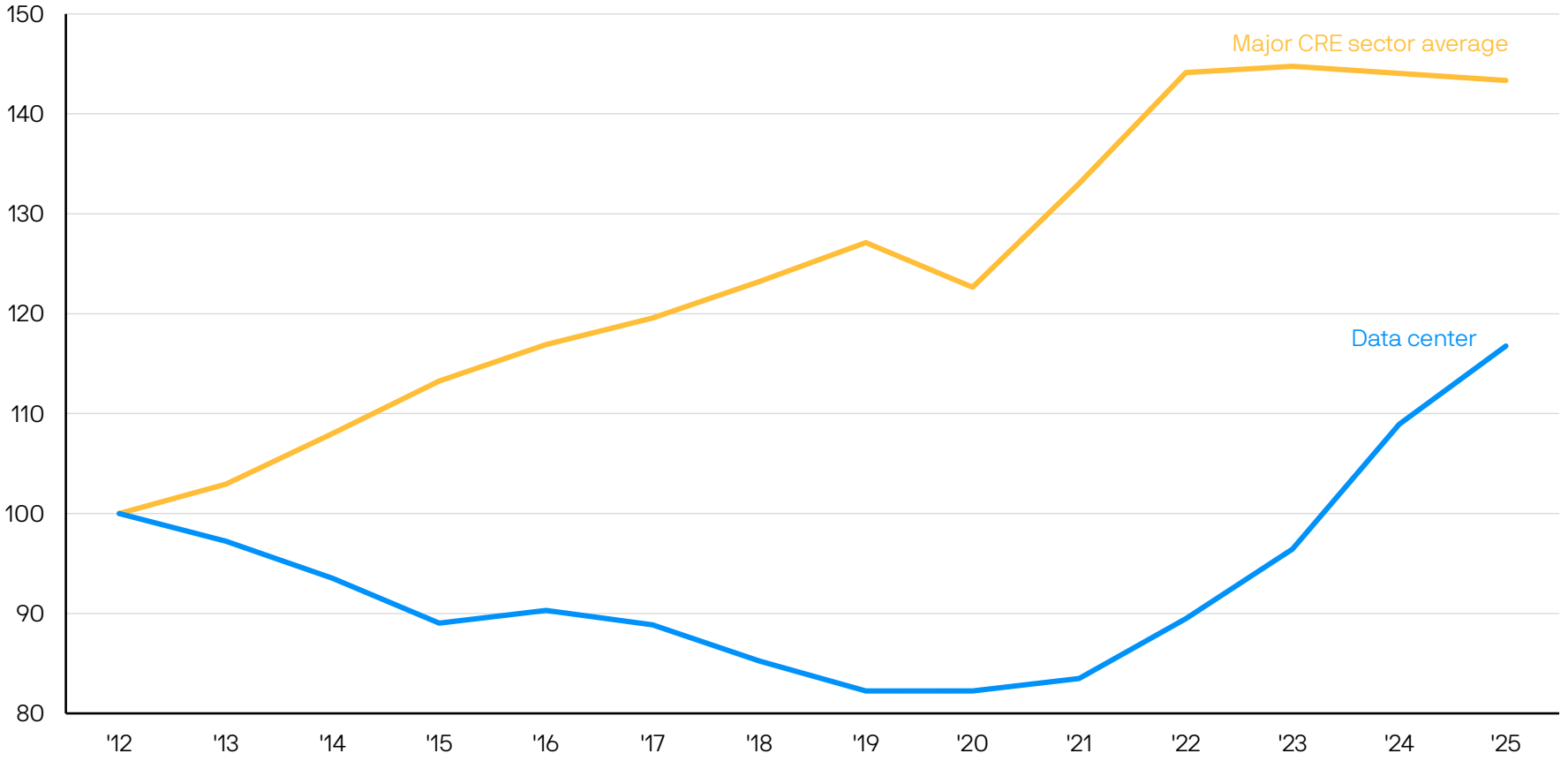
## Data center financing (USD billions)




Source: J.P. Morgan Asset Management; data as of August 27, 2026.

# Historical performance of data centers has been mixed

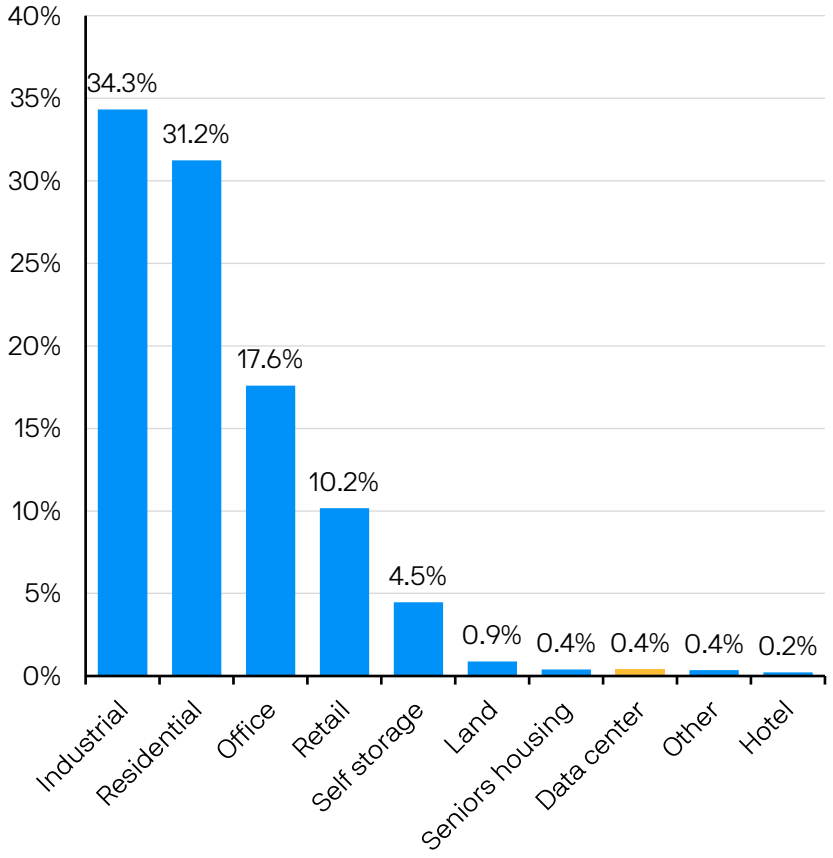
Market revenue per available foot, indexed to 100 in 2012



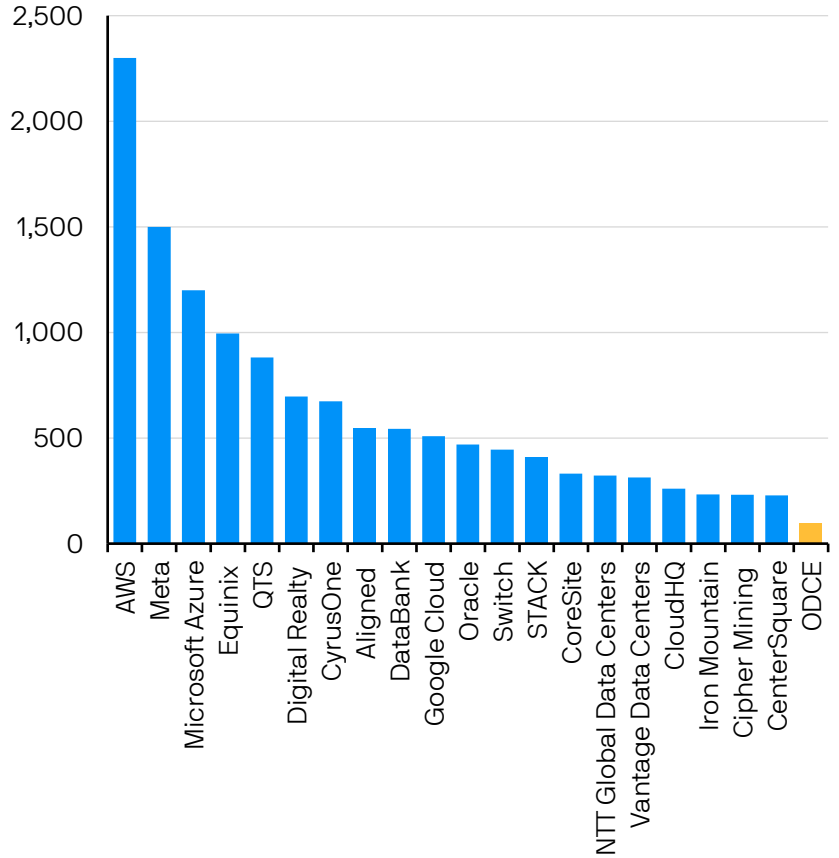

Source: Green Street Advisors, J.P. Morgan Asset Management; data as of December 31, 2025.

# Open-end core real estate funds have limited data center exposure

## NFI-ODCE sector weights



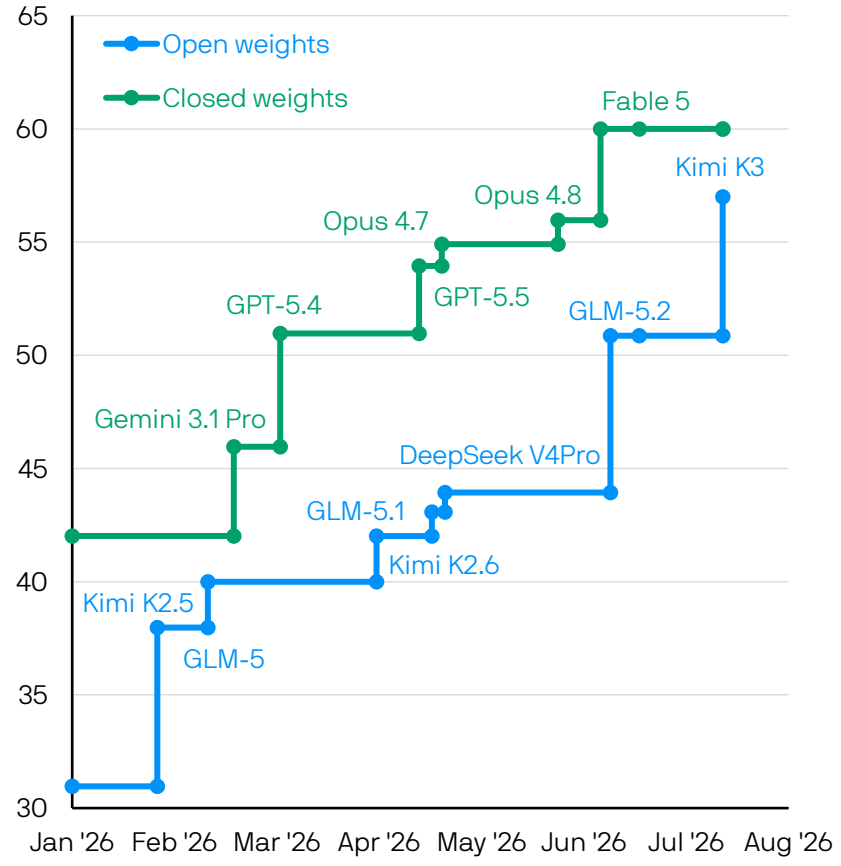

## IT capacity for top 25 data center companies (MW)



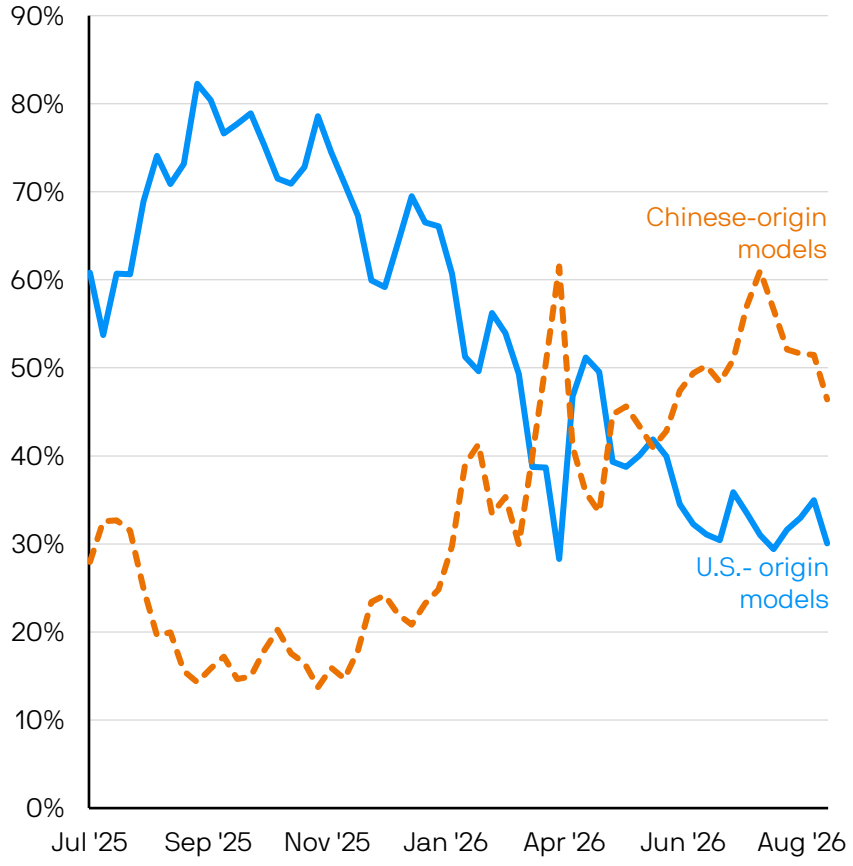

Source: J.P. Morgan Asset Management. (Left) NCREIF ODCE; data based on availability as of May 29, 2026. (Right) NCREIF ODCE, Green Street Advisors, ABI Research; data based on availability as of May 29, 2026.

# Chinese AI models are close behind top U.S. performers, and are seeing growing adoption

## Artificial Analysis Intelligence Index scores



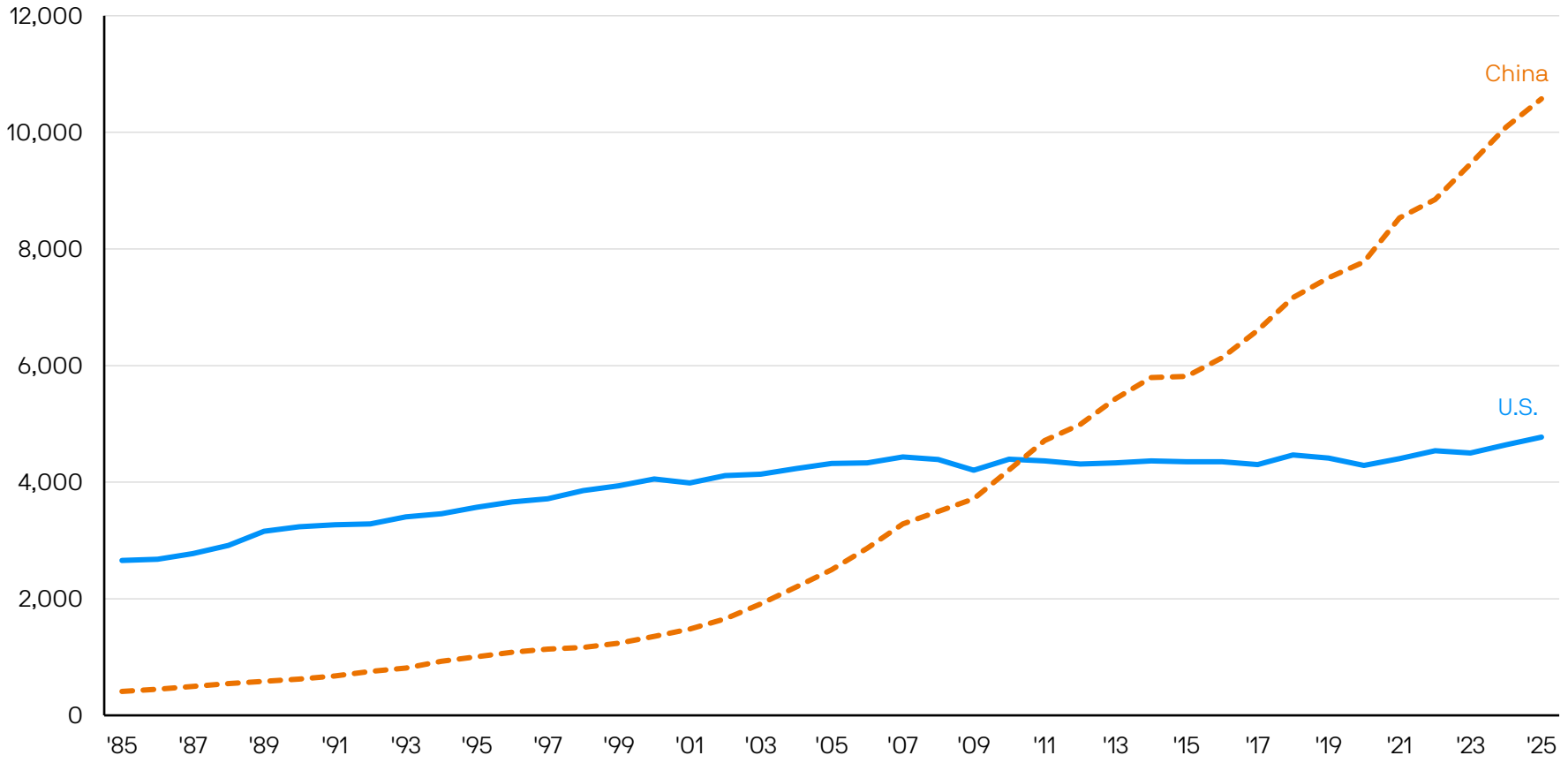

## Weekly share of tokens processed on OpenRouter




Source: J.P. Morgan Asset Management. (Left) Liquid AI, Maxime Labonne, Artificial Analysis; data as of July 17, 2026. (Right) OpenRouter; data as of August 17, 2026. OpenRouter is a developer-facing service that routes API (application programming interface) requests across hundreds of models, so its usage skews toward developer and agentic workloads. It under-represents enterprise workloads, which mostly run on the major cloud platforms or directly with a model developer, such as OpenAI or Anthropic. Weekly data, July 13, 2025 to August 17, 2026.

# China generates more electricity than the U.S.

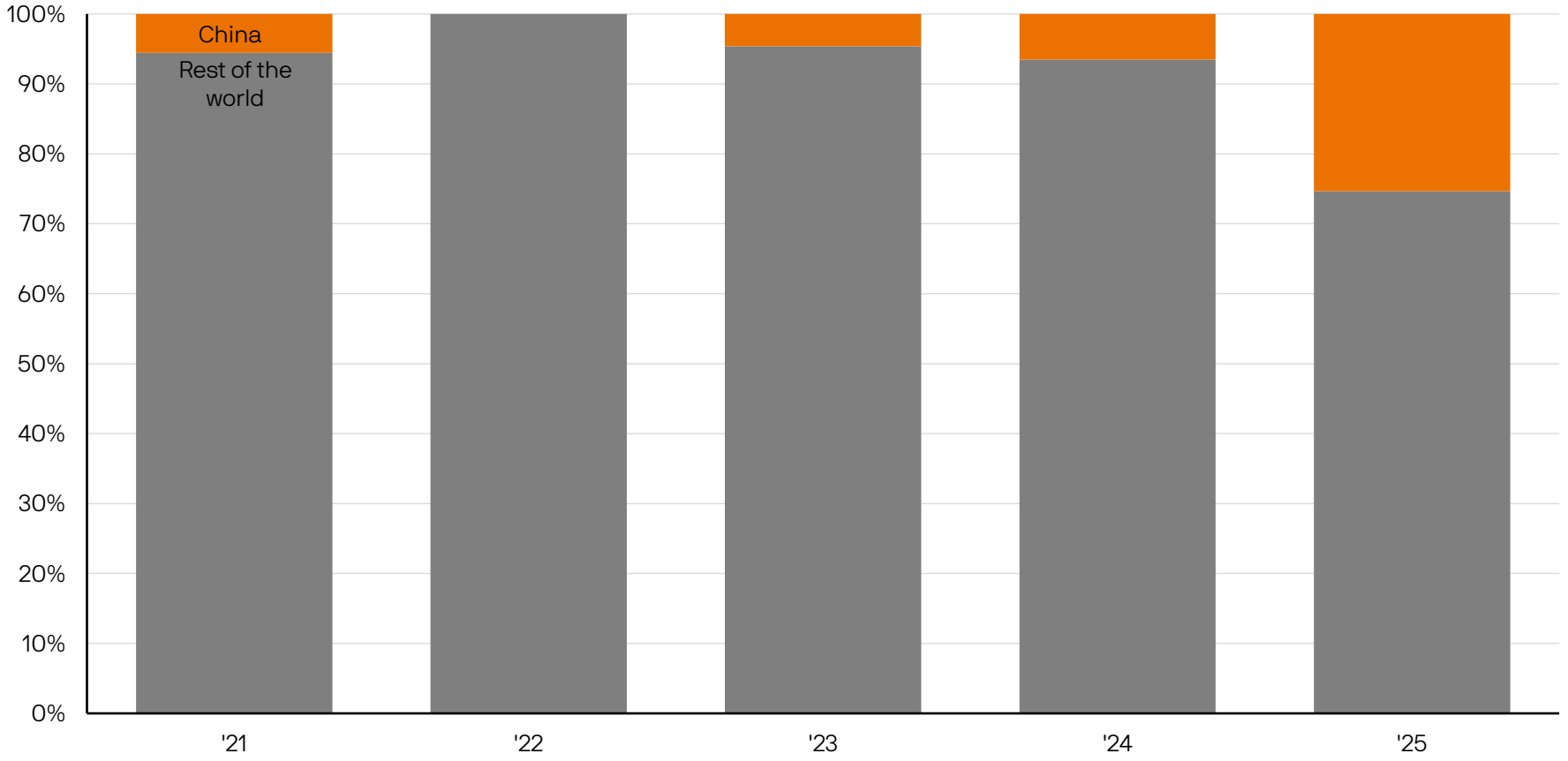
Electricity generation (TWh)




Source: Energy Institute, J.P. Morgan Asset Management; data as of June 30, 2026.

# The role of Chinese chips in LLM training is modest, but growing

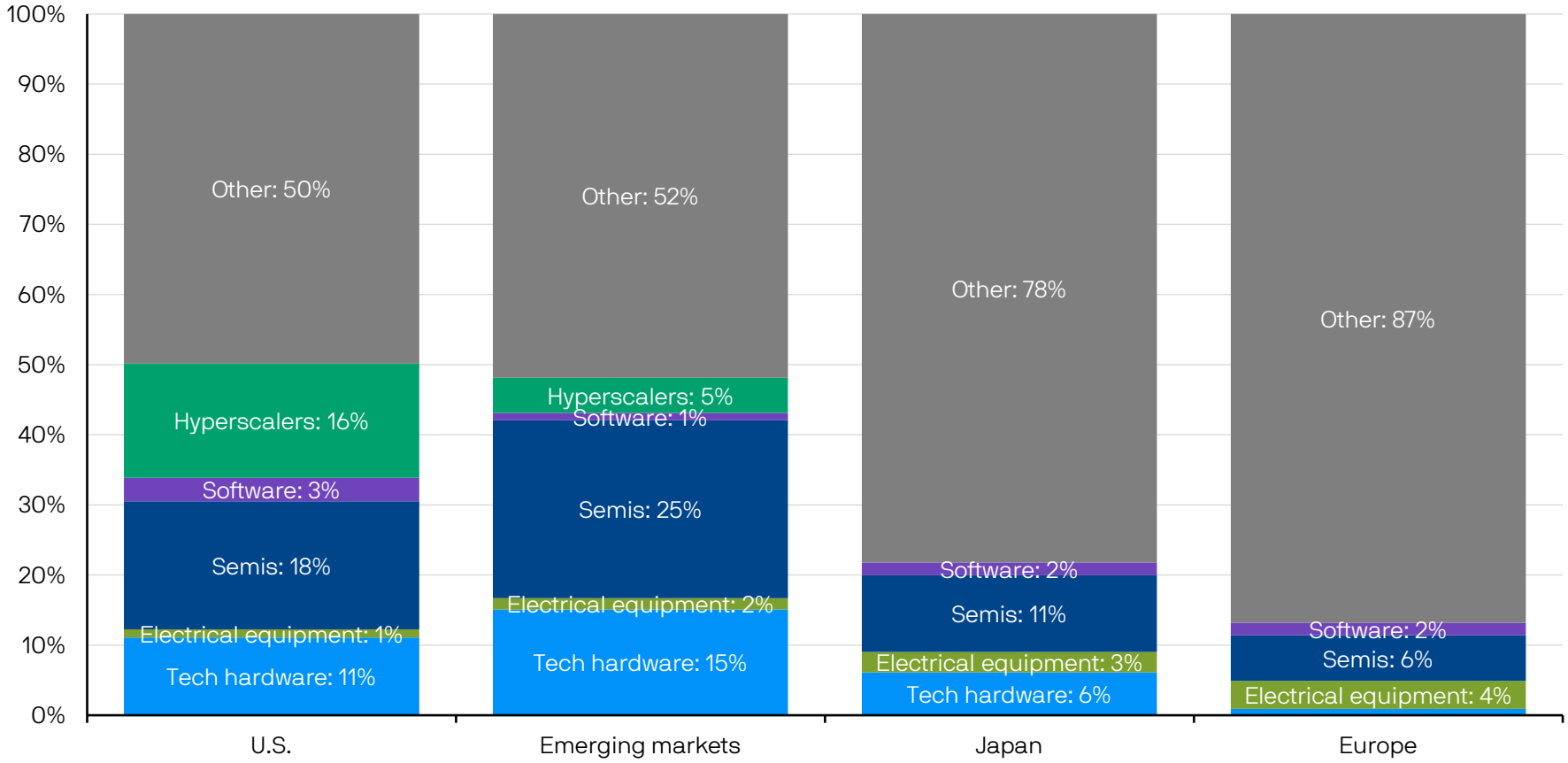
Origin of chips used to train Chinese LLMs as a share of total models trained



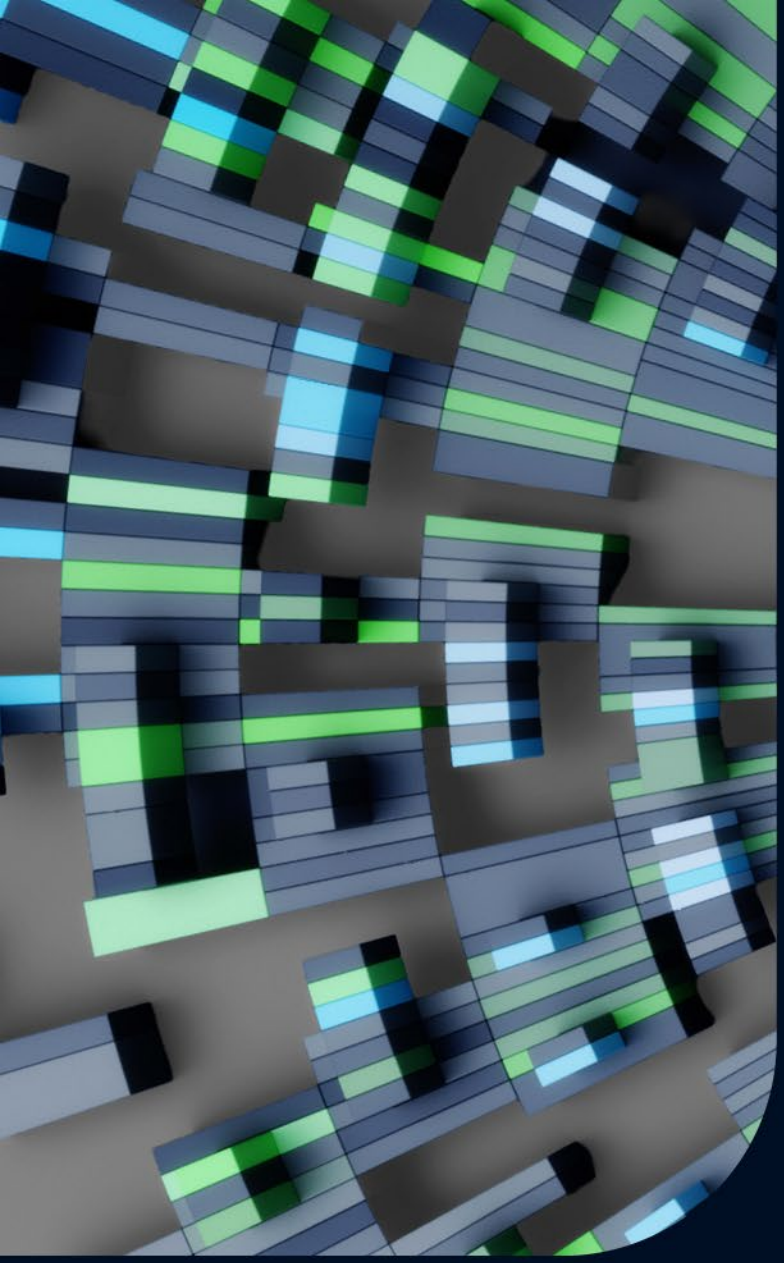

Source: EpochAI, J.P. Morgan Asset Management; data as of July 2025.

# The size and composition of AI-related sectors varies greatly across global equity markets

## Equity index exposure to AI-related industries as a percent of total market cap




Source: LSEG Datastream, MSCI, S&P Global, J.P. Morgan Asset Management; data as of July 31, 2026. MSCI indices are used for EM, Europe and Japan, US: S&P 500. US hyperscalers include Alphabet, Amazon, Meta, Microsoft and Oracle. EM hyperscalers include Alibaba and Tencent. The US software weight is adjusted to exclude Microsoft and Oracle given they are counted as hyperscalers.



# Appendix

Historical case studies of capital investment booms

# Growth of the U.S. rail network

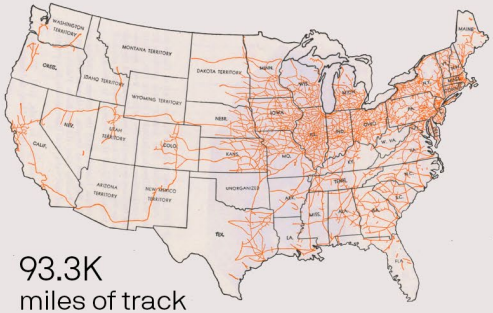
**1860**
Rail service begins

30.6K
miles of track

**1870**
"Iron horse" runs

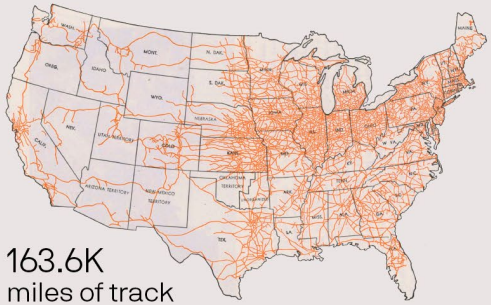
52.9K
miles of track

**1880**
Rail service in all union states



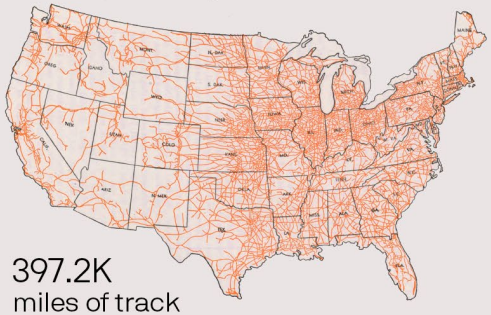
93.3K
miles of track

**1890**
Rail service expansion



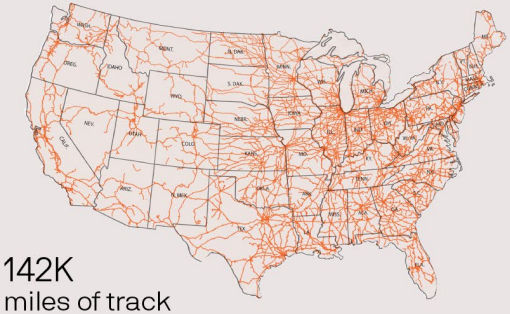
163.6K
miles of track

**1950**
Increase by the numbers



397.2K
miles of track

**TODAY**
Rail service streamlined



142K
miles of track

Source: *American Railroads: Their Growth and Development*, Association for American Railroads, January 1950.

# Key characteristics of the railroad boom

| Descriptor | Key question |
|---|---|
| Origin | After emerging in the United Kingdom, railroad technology rapidly spread to the United States where geographic scale made the technology incredibly valuable. |
| Scale of investment | Peak investment reached 6% of GDP in the 1870s and an estimated 180 million acres of land grants were issued by the U.S. federal and state governments. |
| Duration | The railroad build-out took 60-70 years, peaking in the 1870s. |
| Key players | Initially, many smaller operators competed to establish commercially viable routes where geography was favorable. Consolidation gradually reduced the number as economies of scale became a key factor. |
| Sources of capital | Railroads raised large amounts of public capital in debt and equity markets, with support from government subsidies. |
| Nature of competition | Initially open competition, with increasing regulation as the scale of railroad operations grew and competitors consolidated. |
| Competitive end state | Passenger and freight rail were subject to local monopolies while competition increased near major urban centers and port facilities. |
| Market reaction | At their peak in 1881, railroads represented 66% of U.S. stock market capitalization. |
| Extent of business failures | Widespread bankruptcy was a defining characteristic of the railroad boom, as the need for huge capital investment created debts that could not be serviced in economic downturns. |
| Residual infrastructure | The rail system and its right-of-way is still in existence and would be impossible to build today. |
| Residual productivity/growth | By some estimates, the development of the railroads increased U.S. GDP by 25%. They facilitated decentralized manufacturing and industrialization. Farming in the Midwest and ranching in the West became profitable. |
| Disruptions | Except in localized cases, river and canal shipping became rapidly obsolete. |

Source: J.P. Morgan Asset Management; data as of July 31, 2026. For illustrative purposes only.

# The long distance and regional telephone system

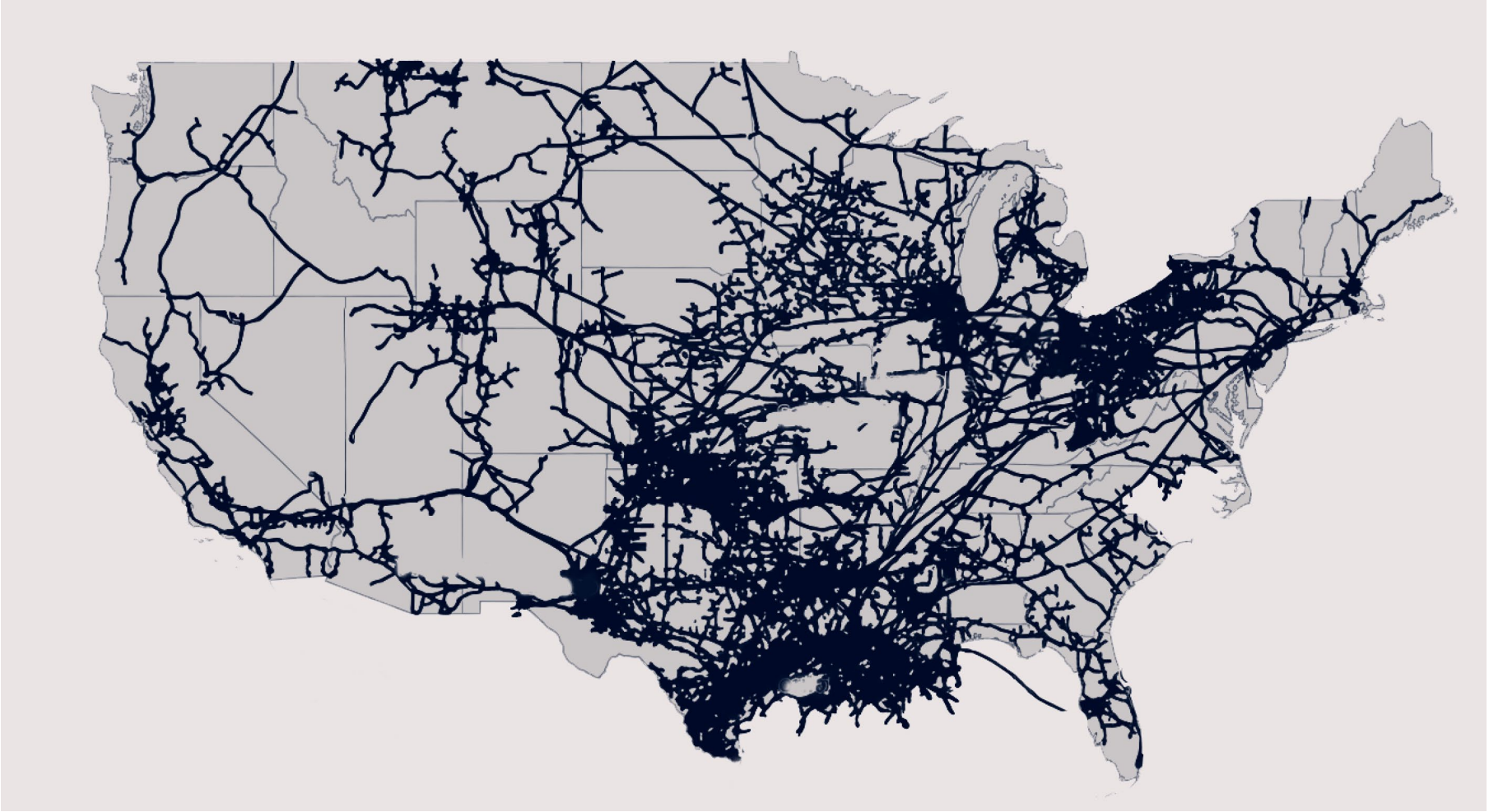

Source: M. D. Fagen, ed., A History of Engineering and Science in the Bell System: The Early Years (1875–1925), vol. 1 (New York: Bell Telephone Laboratories, Inc., 1975).

# Key characteristics of the telephone system build-out

| Descriptor | Key question |
|---|---|
| Origin | Telephone service piggybacked on the success of the telegraph, quickly replacing code-based transmission with voice transmission. |
| Scale of investment | Hundreds of billions of dollars were spent to build and maintain the telephone network, often reaching 3%-4% of GDP on an annual basis. |
| Duration | 60-70 years |
| Key players | One: AT&T |
| Sources of capital | Public debt and equity |
| Nature of competition | Very limited. With few exceptions, the entire U.S. was using the AT&T local and long distance network. |
| Competitive end state | Monopoly. Eventually, AT&T split up into a series of geographic regional monopolies; there was little competition at the consumer level. |
| Market reaction | AT&T eventually became the most valuable company in the world by market capitalization, and a massive issuer of investment grade bonds. |
| Extent of business failures | Limited due to AT&T's monopoly |
| Residual infrastructure | Significant, capital-intensive infrastructure including long distance and local networks, undersea cables, and switching technology. |
| Residual productivity/growth | The productivity advantages provided by instantaneous low-cost communication are exceptionally large. AT&T's research arm, Bell Labs, developed many groundbreaking technologies including the transistor, laser and solar cell. |
| Disruptions | Legacy communication systems disappeared almost immediately, and the barrier to entry limited competition and innovation. Longer term consequences include higher prices for connectivity, long distance calling, and a lack of choice in equipment. |

Source: J.P. Morgan Asset Management; data as of July 31, 2026. For illustrative purposes only.

# Oil and gas pipelines in the U.S.



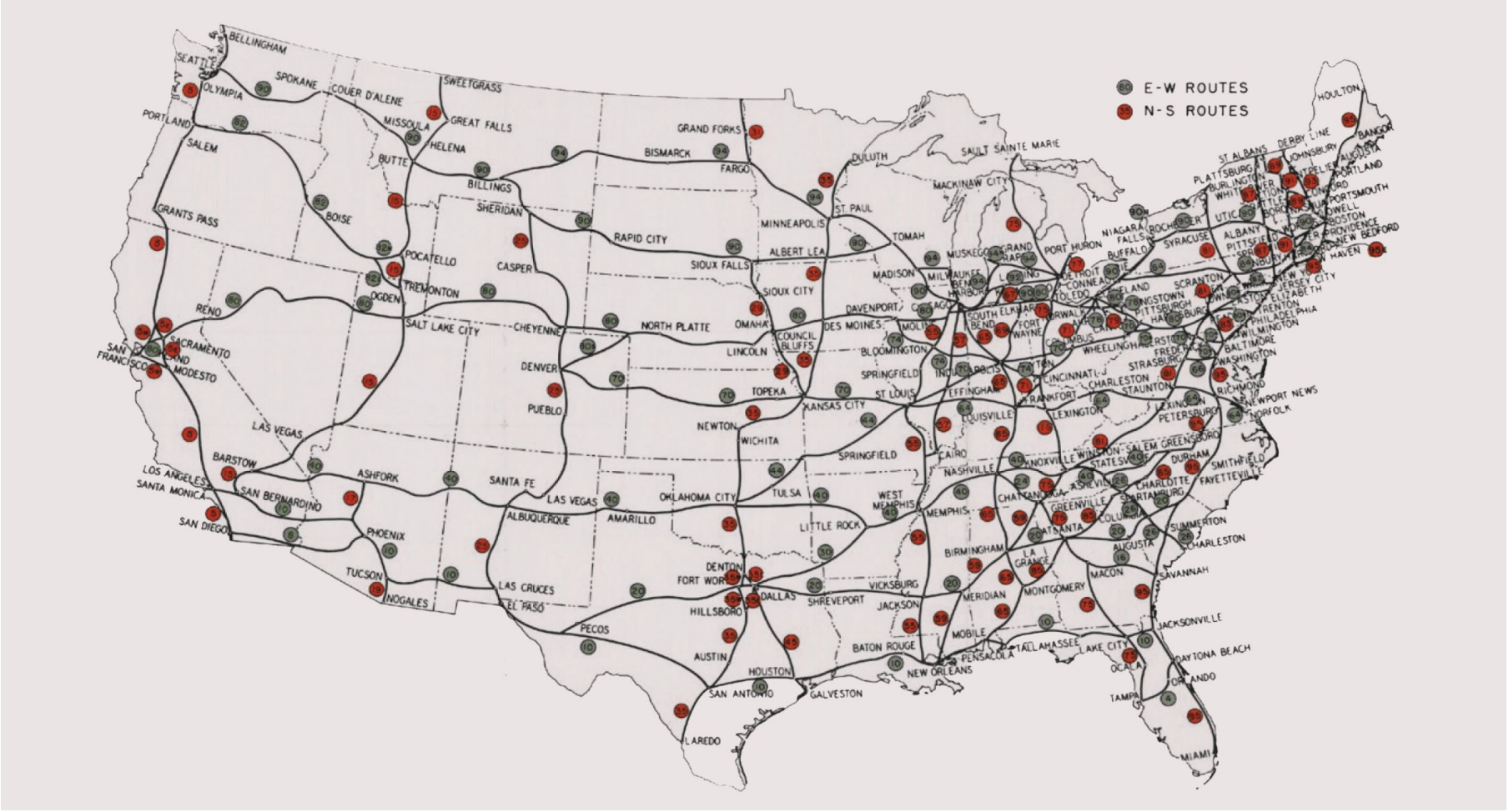
Source: U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration. National Pipeline Mapping System (NPMS). Accessed July 31, 2026. https://www.npms.phmsa.dot.gov

# Key characteristics of the petroleum boom

| Descriptor | Key question |
|---|---|
| Origin | Petroleum emerged as a replacement for costly lighting and heating energy sources in the second half of the 19th century. |
| Scale of investment | Investment in oil and gas has grown steadily over time, though the economy's oil intensity has diminished as efficiency gains and electrification have taken hold. |
| Duration | The industry emerged into something resembling its modern form between 1880 and 1930. |
| Key players | Upstream production has remained a fragmented industry. Downstream production was consolidated under Standard Oil and subsequently shifted to a small number of oil majors with limited direct competition. |
| Sources of capital | Standard Oil was formed as a private partnership and never listed its shares on any stock exchange. Other oil companies raised capital in the public equity and debt markets. |
| Nature of competition | Limited. A monopoly under Standard Oil, and subsequently a highly regulated business with limited direct competition. |
| Competitive end state | Limited competition across large, well-capitalized refining and distribution companies. Speculative upstream drilling and extraction. |
| Market reaction | Standard Oil was the largest company in the world at the time of its breakup—valued at over USD 1 billion (estimated value of USD 1 trillion today). |
| Extent of business failures | Upstream drilling is subject to booms and busts based on access to producing fields and prevailing market prices. Downstream refining and distribution are generally highly profitable and there have been few, if any, business failures. |
| Residual infrastructure | The infrastructure of the oil and gas industry requires an enormous amount of ongoing capital investment. Major facilities/assets (pipelines, tankers, refineries, storage) have long working lives. |
| Residual productivity/growth | The widespread availability of a steady supply of concentrated, portable energy allowed for the development of the automobile, airplane, diesel trucks and locomotives. |
| Disruptions | Whaling and candle-making for lighting were displaced rapidly by kerosene, which in turn was displaced by electricity. Personal transportation and airlines eventually displaced passenger railroads for long-distance travel, though not for freight traffic. |

Source: J.P. Morgan Asset Management; data as of July 31, 2026. For illustrative purposes only.

# The U.S. interstate highway system



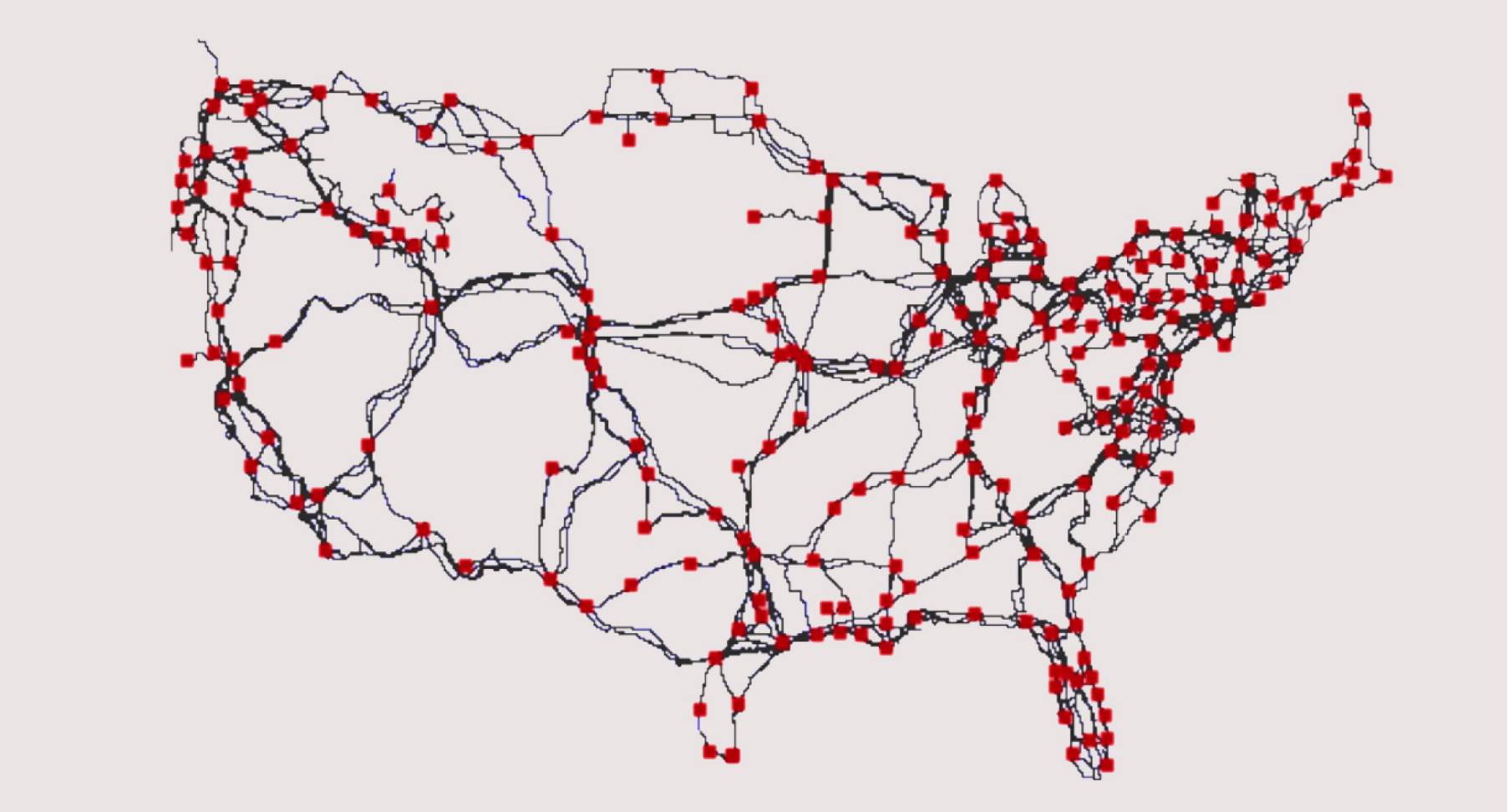

Source: Elisheva Blas, "The Dwight D. Eisenhower National System of Interstate and Defense Highways: The Road to Success?," The History Teacher vol. 44, no. 1 (November 2010): fig. 1 (appendix), 134.

# Key characteristics of the interstate highway system buildout

| Descriptor | Key question |
|---|---|
| Origin | The federal government initiated a massive capital investment project to create a nationwide interstate highway system. |
| Scale of investment | In current dollars, more than USD 600 billion was spent on the system and there are extensive ongoing maintenance costs. |
| Duration | 30-40 years |
| Key players | The project was initiated and designed by the Federal Highway Administration, with state agencies leading the contracting and supervision. |
| Sources of capital | Gas taxes and public debt |
| Nature of competition | None. The interstate highway system is effectively a government monopoly. The construction bidding process was competitive. |
| Competitive end state | Monopoly. Technically the individual states "own" their portions of the interstate network, with costs shared between federal and state authorities. In rare cases, privately financed toll roads compete with existing interstates. |
| Market reaction | No public securities were issues specifically to fund the highway system. |
| Extent of business failures | None. |
| Residual infrastructure | The system represents more than 44,000 miles of highways |
| Residual productivity/growth | Estimates of the multiplier effect of highway spending range from 1.8X to 6.0X, and some estimates suggest that the system is responsible for roughly one quarter of overall productivity growth during the period of its construction. |
| Disruptions | Decline in passenger rail, higher levels of pollution and greenhouse gas emissions associated with automobile traffic, destruction of some urban neighborhoods and increased suburban sprawl. |

Source: J.P. Morgan Asset Management; data as of July 31, 2026. For illustrative purposes only.

# Fiber-optic cable network



Source: Ramakrishnan Durairajan et al., "InterTubes: A Study of the US Long-haul Fiber-optic Infrastructure," in Proceedings of the 2015 ACM Conference on Special Interest Group on Data Communication (SIGCOMM '15) (London, United Kingdom, August 17–21, 2015), fig. 1, https://doi.org/10.1145/2785956.2787499.

# Key characteristics of the fiber-optic boom

| Descriptor | Key question |
|---|---|
| Origin | Deregulation of the telecommunications industry coincided with advances in fiber-optic cable technology. |
| Scale of investment | Hundreds of billions of dollars were spent to build out a fiber-optic network in parallel to the older copper wire network. |
| Duration | 10 years |
| Key players | Several large telecom firms, including WorldCom, Global Crossing, Nortel Networks, Qwest, and Lucent Technologies; suppliers including Cisco, Corning and JDS Uniphase. |
| Sources of capital | Public equity and debt |
| Nature of competition | Highly competitive. Telecom deregulation allowed wide-open competition across telephone, internet and cable providers. |
| Competitive end state | Low cost competition |
| Market reaction | Fiber-optic investment and valuations reached a peak within a few years and collapsed quickly. Shareholder and bondholder losses were extreme. |
| Extent of business failures | Numerous companies failed and others lost much of their peak equity values. |
| Residual infrastructure | The extent and durability of fiber networks established in the late 1990s remains operational today. |
| Residual productivity/growth | The modern internet could not exist without the massive capacity of the fiber-optic network created between 1996 and 2001. The scale of the network could only have arisen from a capital boom in which multiple companies competed for total dominance. |
| Disruptions | Legacy cable and dial-up internet were disrupted. |

Source: J.P. Morgan Asset Management; data as of July 31, 2026. For illustrative purposes only.

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