

The macro implications of the AI investment boom: US and Europe

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October 2026

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Key Debates

1

**Scale of AI
investment cycle?**

2

**Tracking the buildout
and constraints?**

3

**Where may the
benefits from AI
accrue?**

4

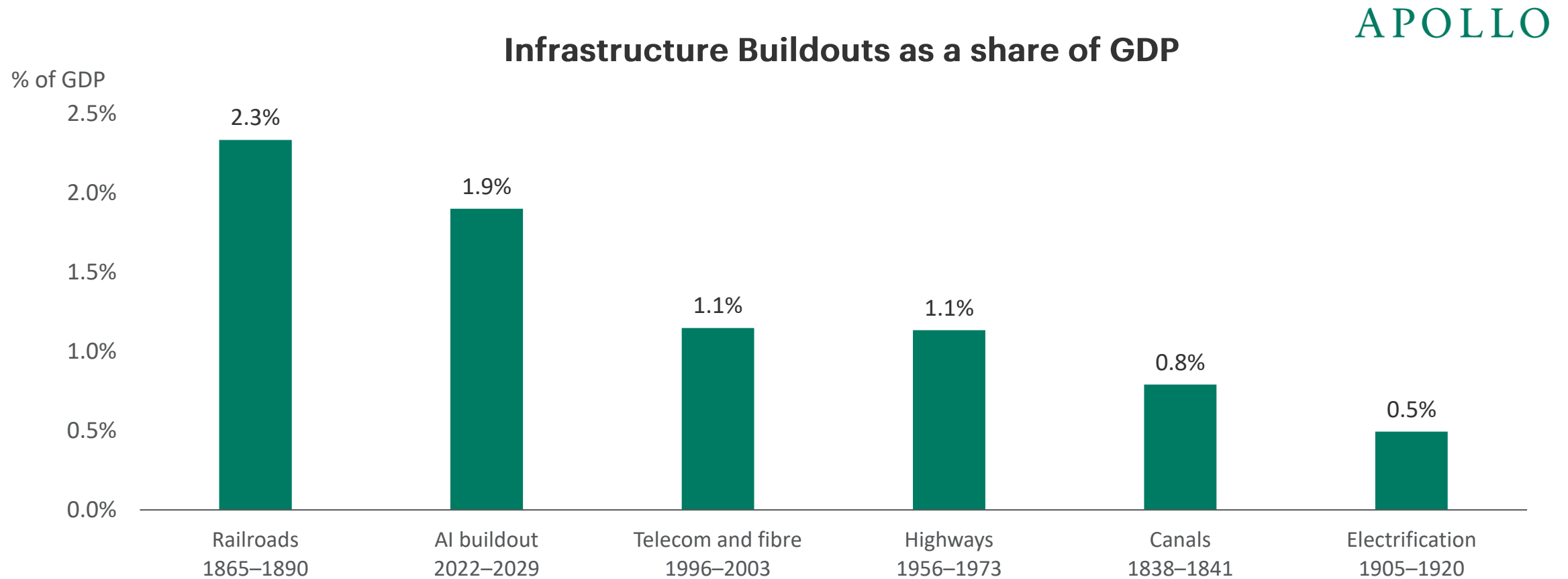
**Where is the
productivity payoff?**

5

Implications

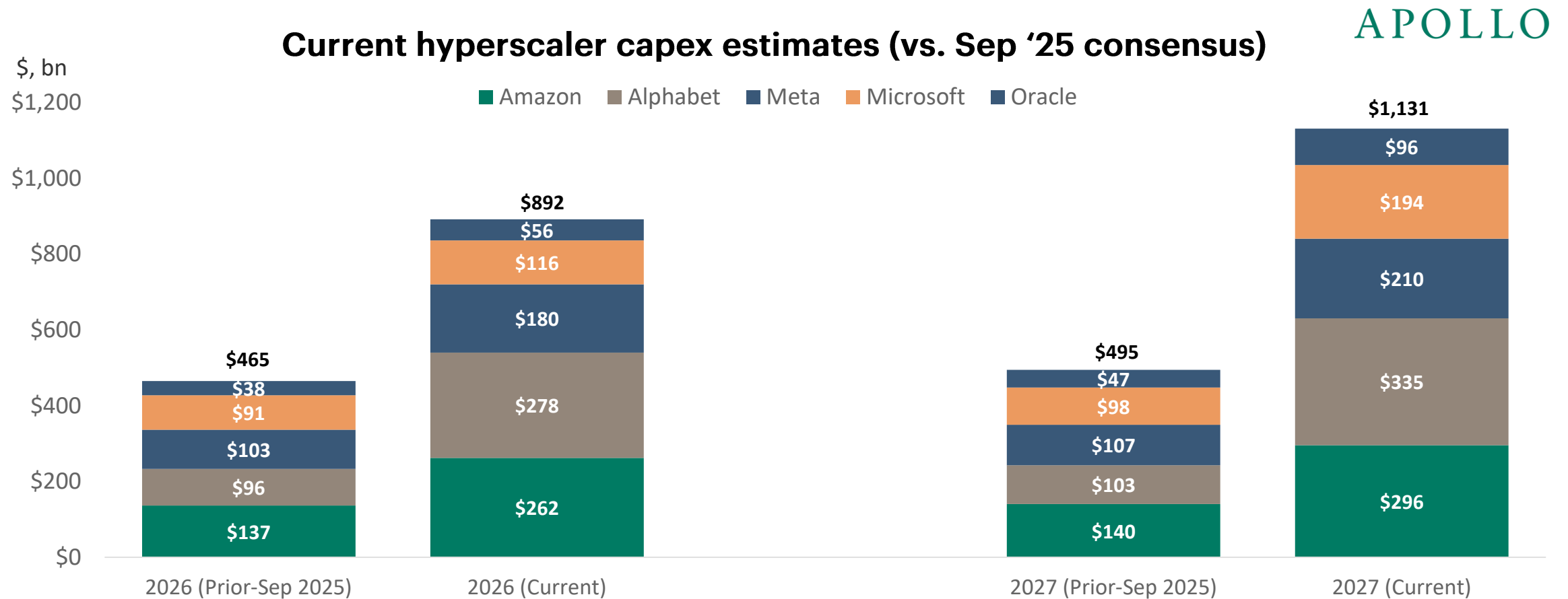
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AI capex is significant compared to some of the largest physical capital booms in history

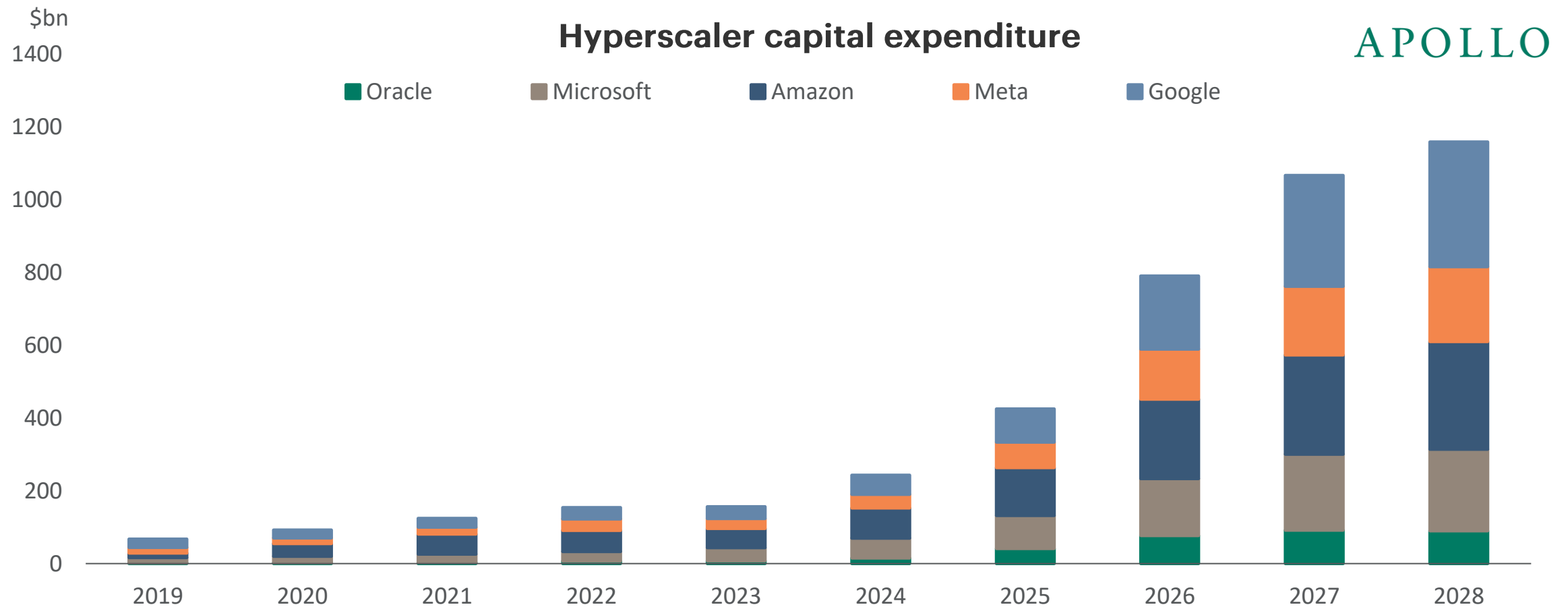


Source: NBER (Ulmer), U.S. Census Bureau, FHWA, BEA, MeasuringWorth, “Financing the AI Buildout” by Stijn Van Nieuwerburgh, Apollo Chief Economist. Note: Historical buildouts based on annual capital investment as % of nominal U.S. GDP. AI capital spending is proxied by average hyperscaler capex as a share of U.S. GDP over 2022–2029.

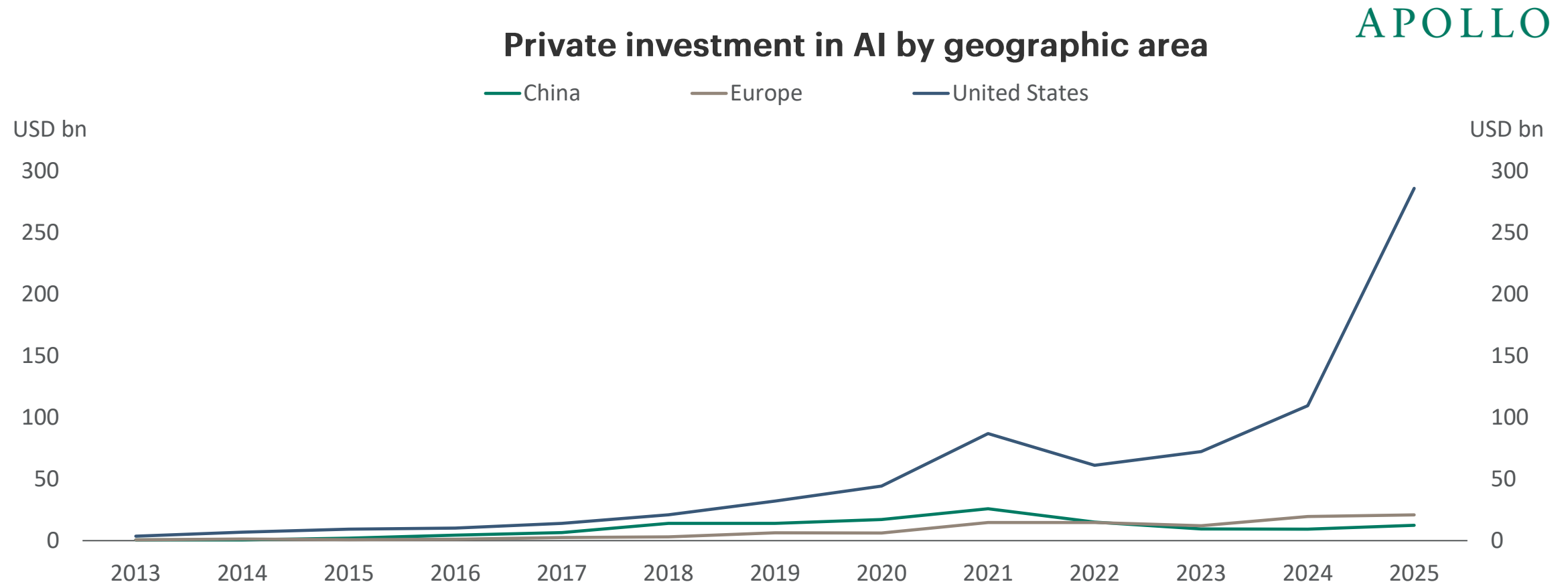
Expectations for hyperscaler capex in 2027 have doubled in the last 12 months



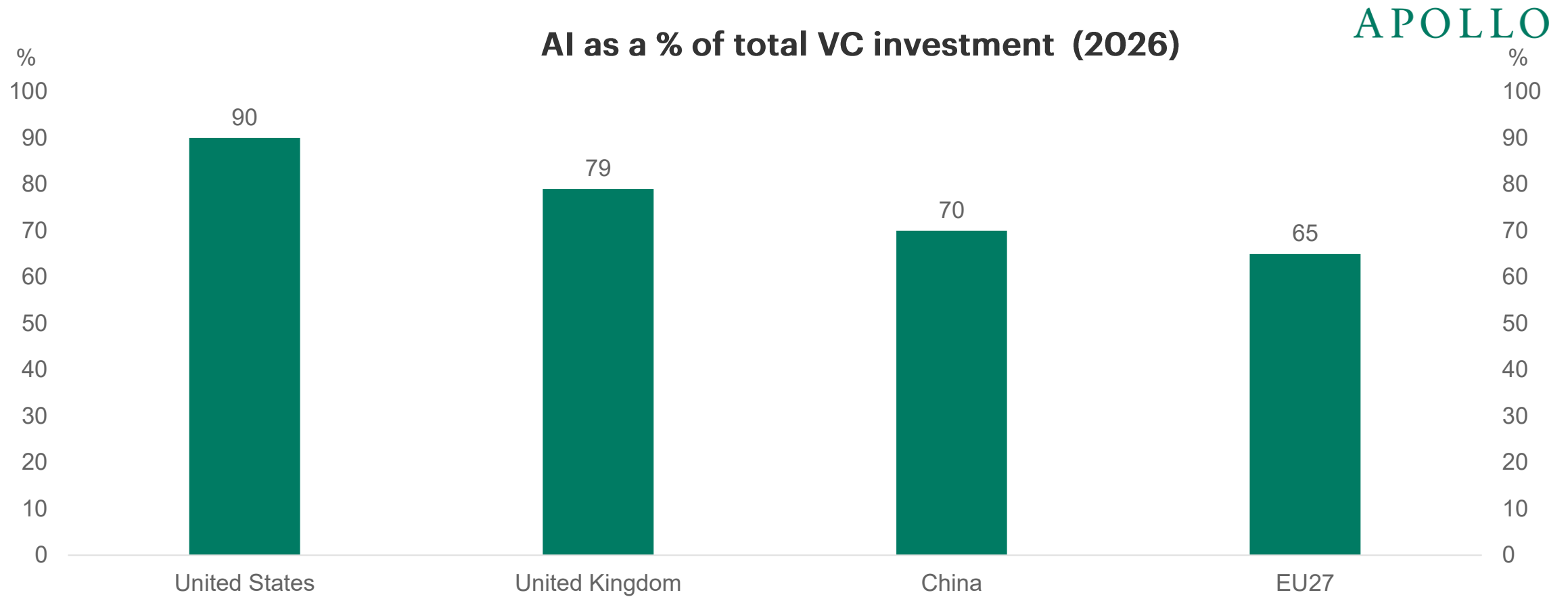
Hyperscaler capital expenditure is expected to scale further from here



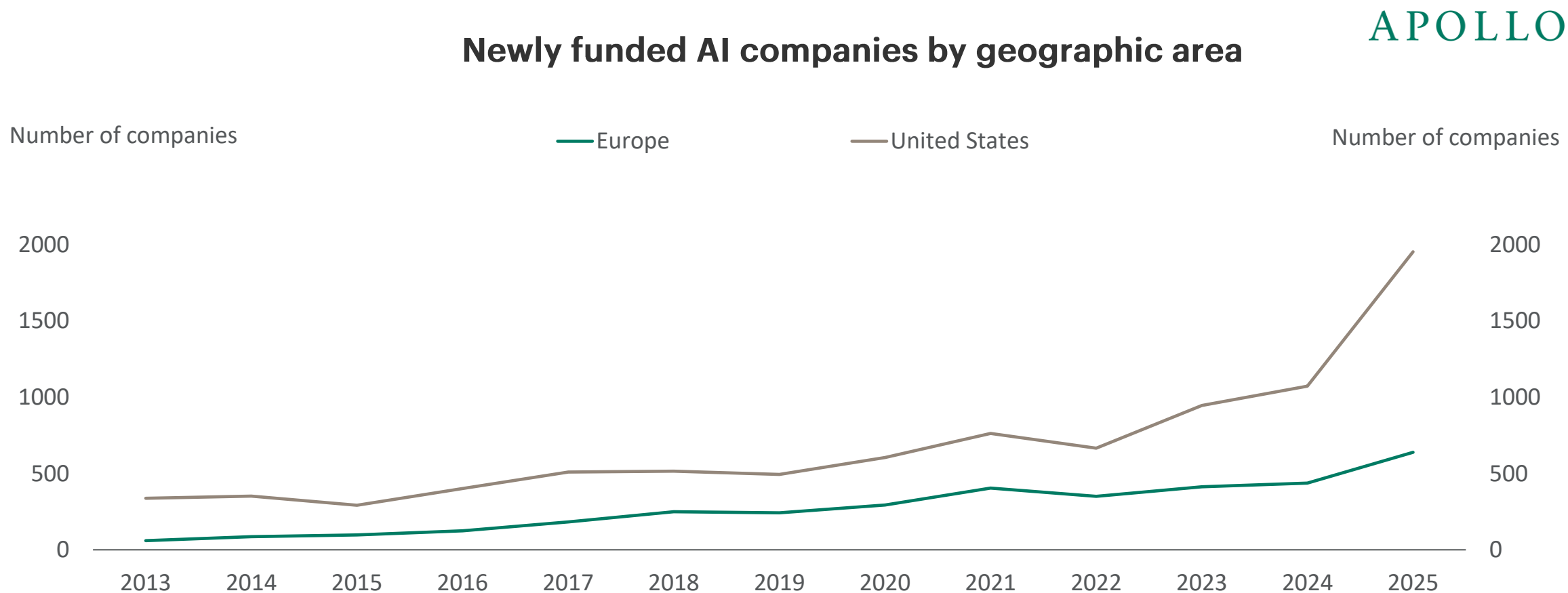
US private investment booming on AI buildout; Europe lags



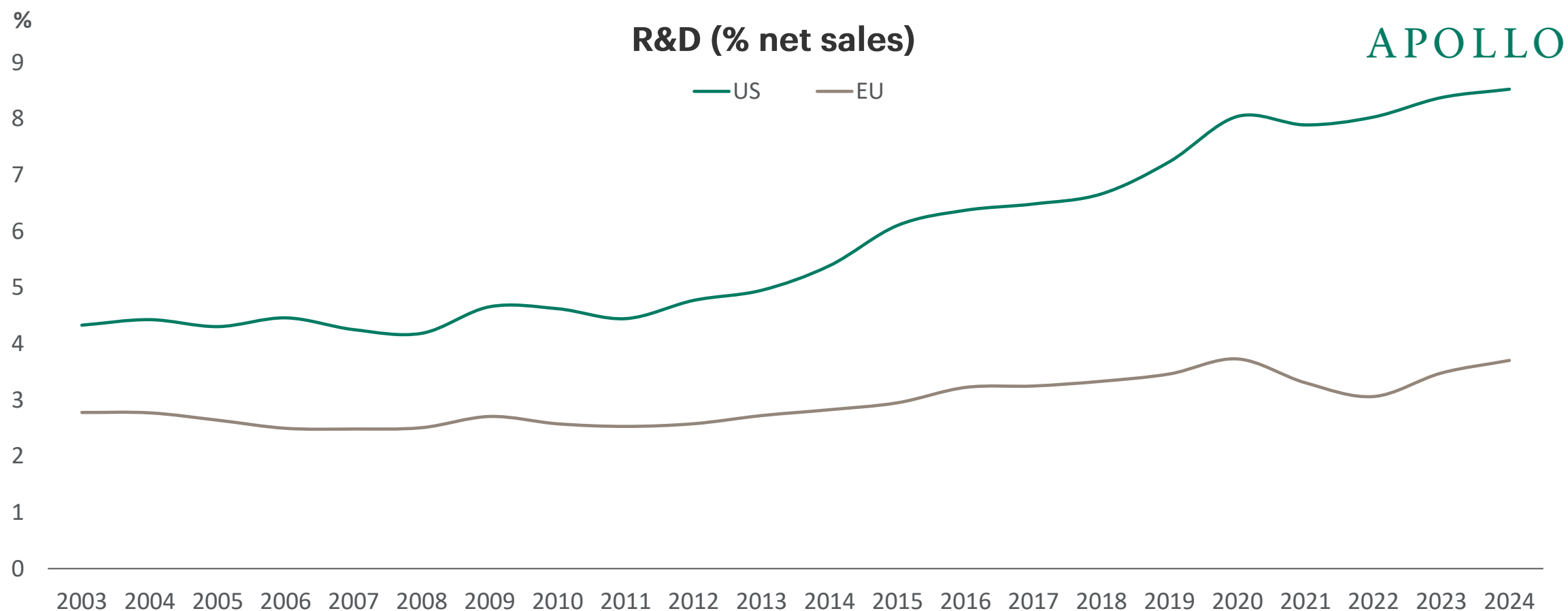
AI dominates VC investment across major economies, with the EU is lagging



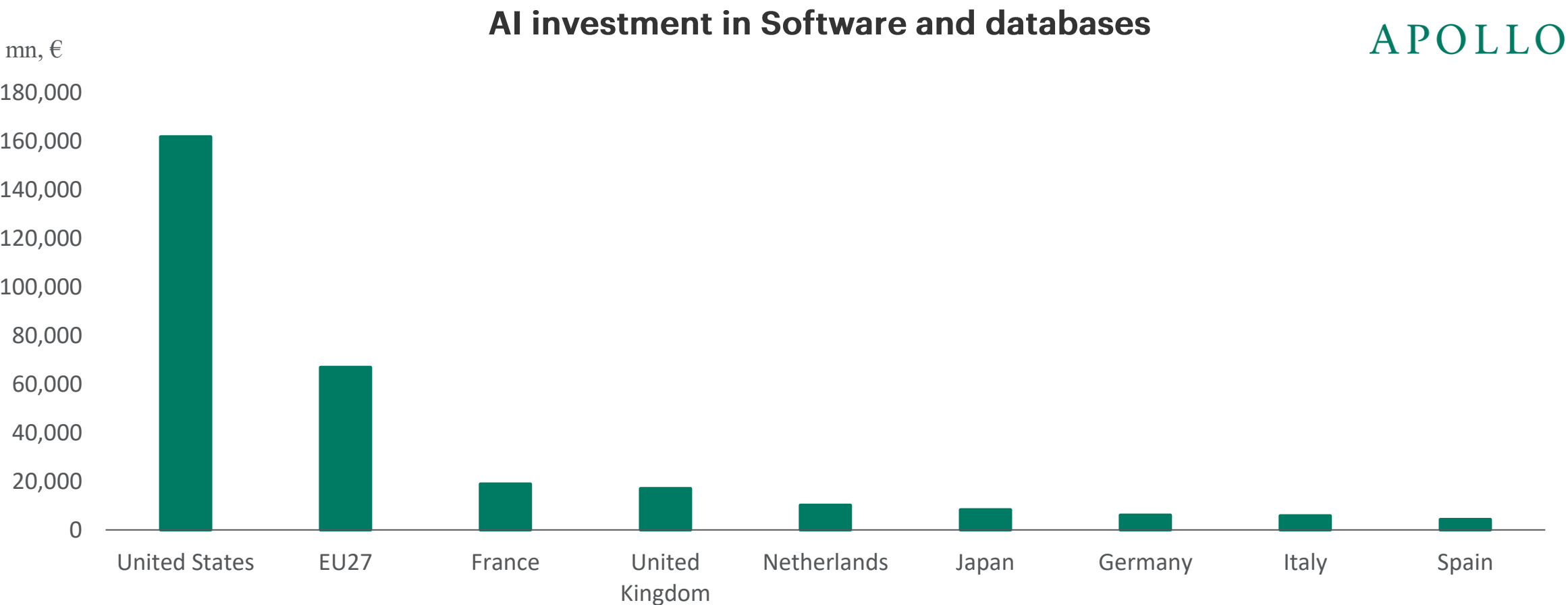
And AI creating a new company boom in the US



US firms are investing more than 2x the R&D to sales budget

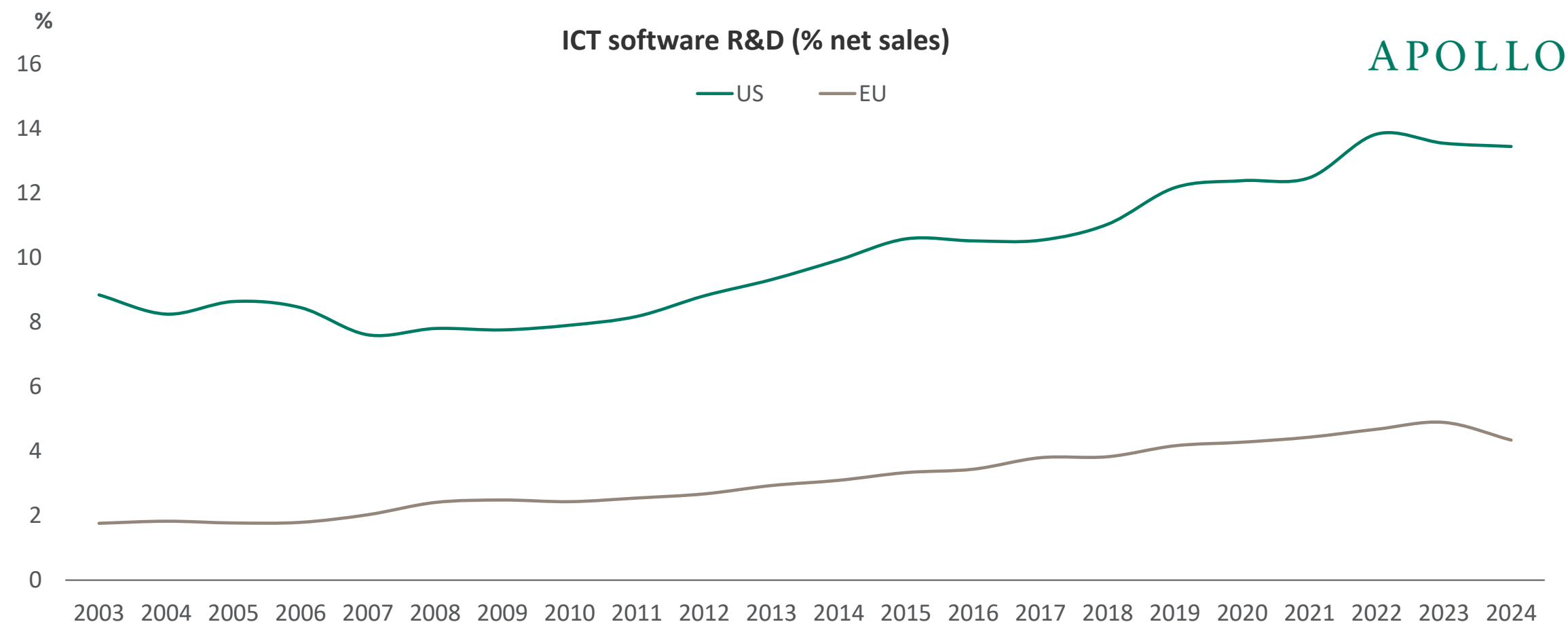


US leading on software and database investment



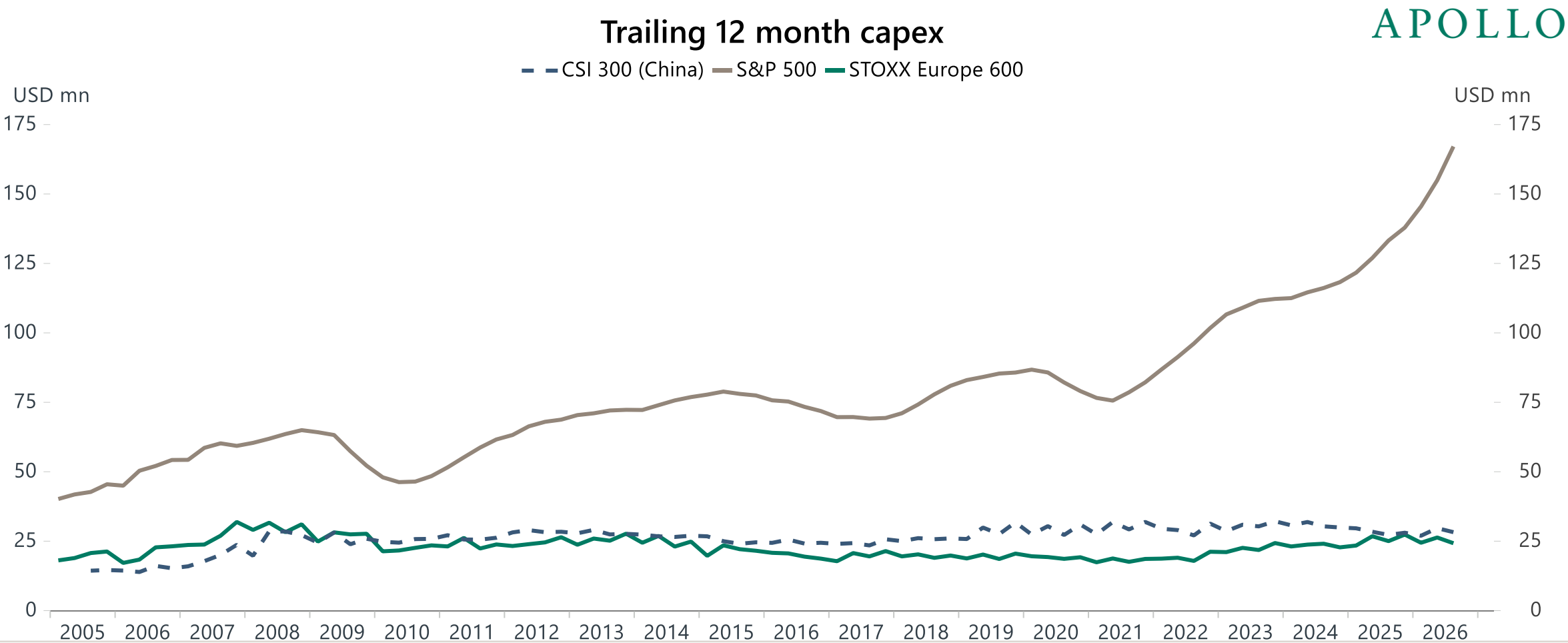
Source: OECD.AI (2026), [Advancing the measurement of investments in artificial intelligence | OECD](#), Apollo European and Policy Strategist, Apollo Chief Economist

US ICT software R&D spend far ahead of Europe



Source: [Data | IRI](#), The 2025 EU Industrial R&D Investment Scoreboard, Apollo European and Policy Strategist, Apollo Chief Economist

S&P500 capex is booming on AI whilst Eurostoxx flattish



Source: Bloomberg, Macrobond, Apollo European and Policy Strategist, Apollo Chief Economist.

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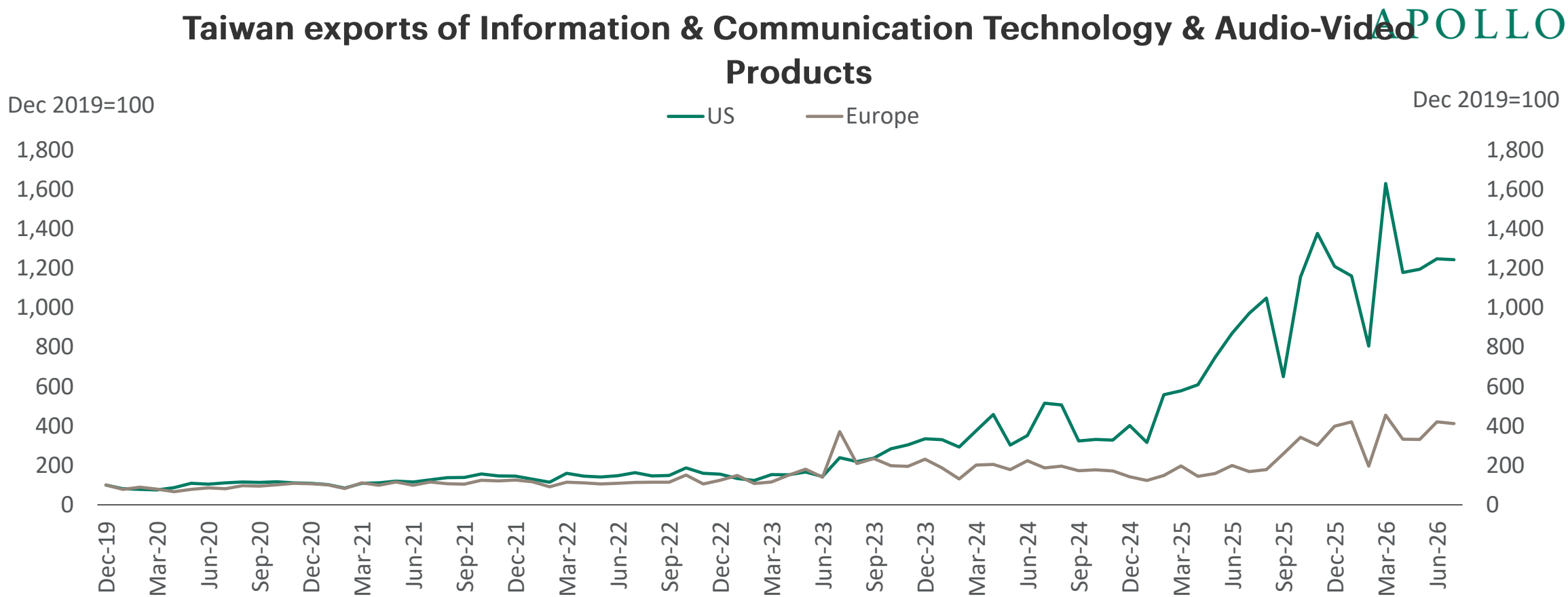
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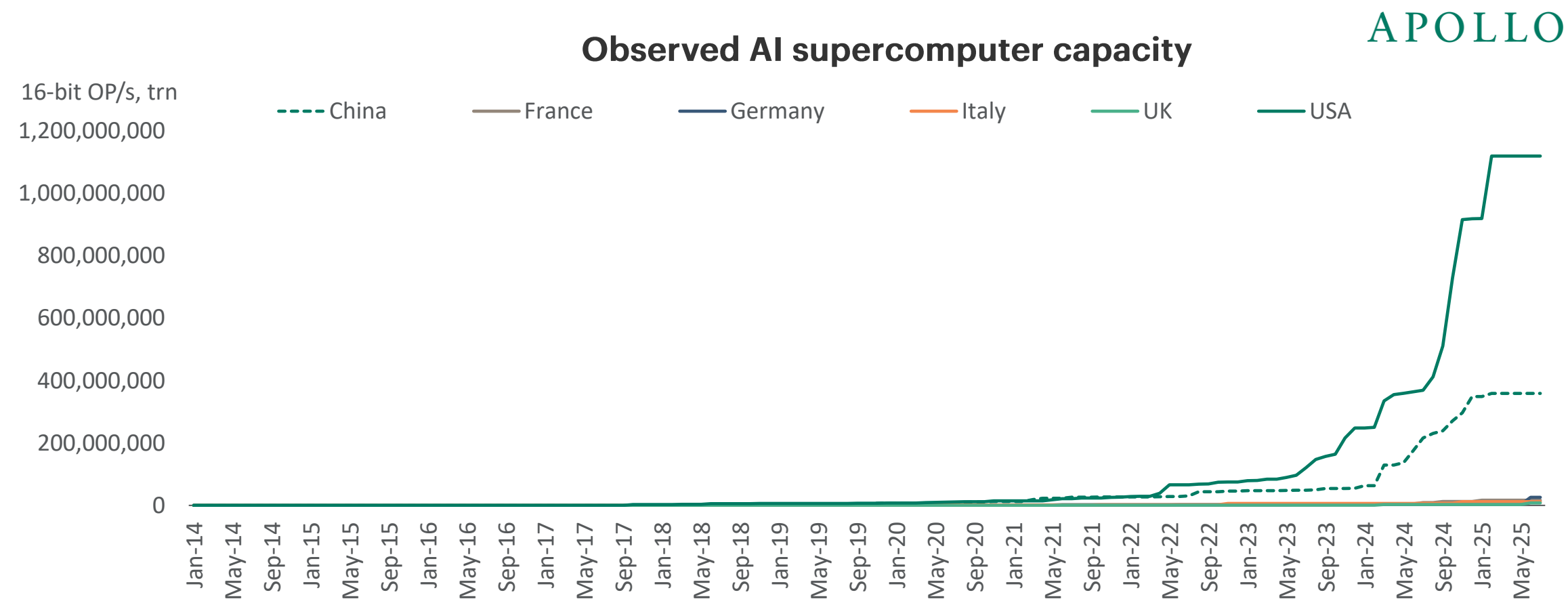
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3 times more Taiwanese chips and related bought in US than Europe

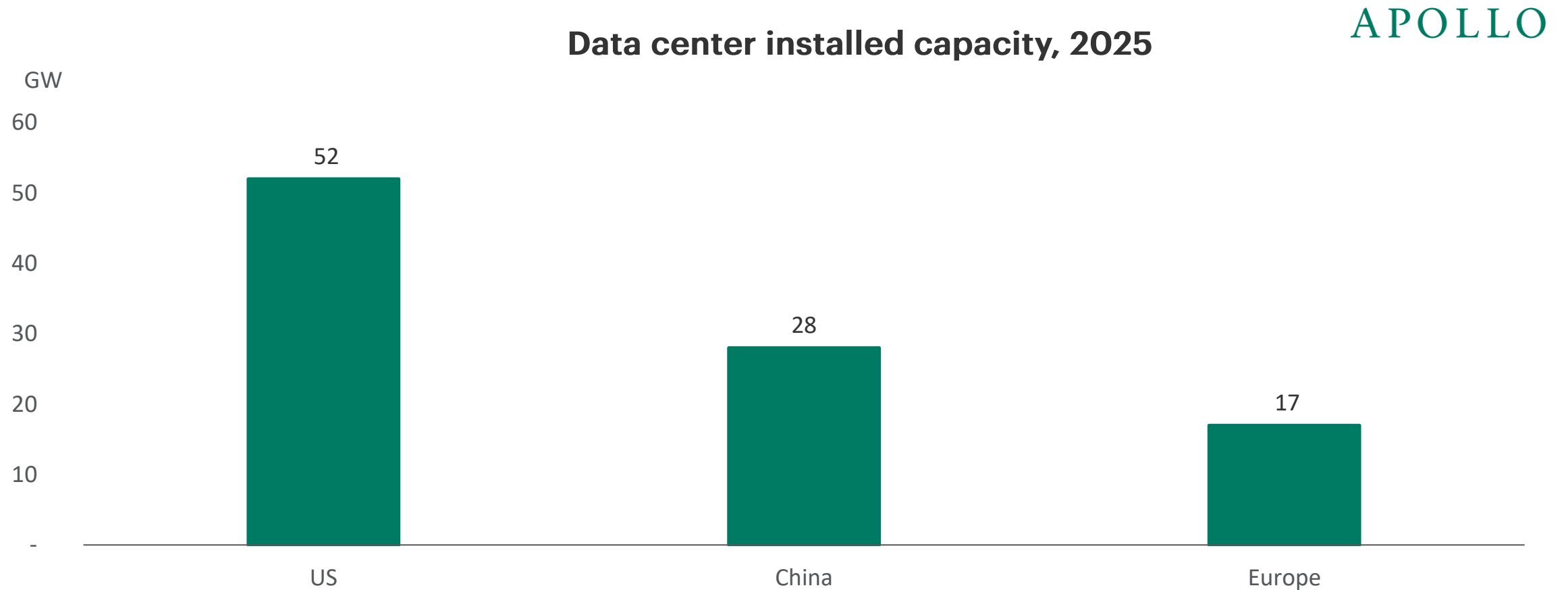


Source: Taiwan Ministry of Finance, Haver Analytics, Apollo European and Policy Strategist, Apollo Chief Economist

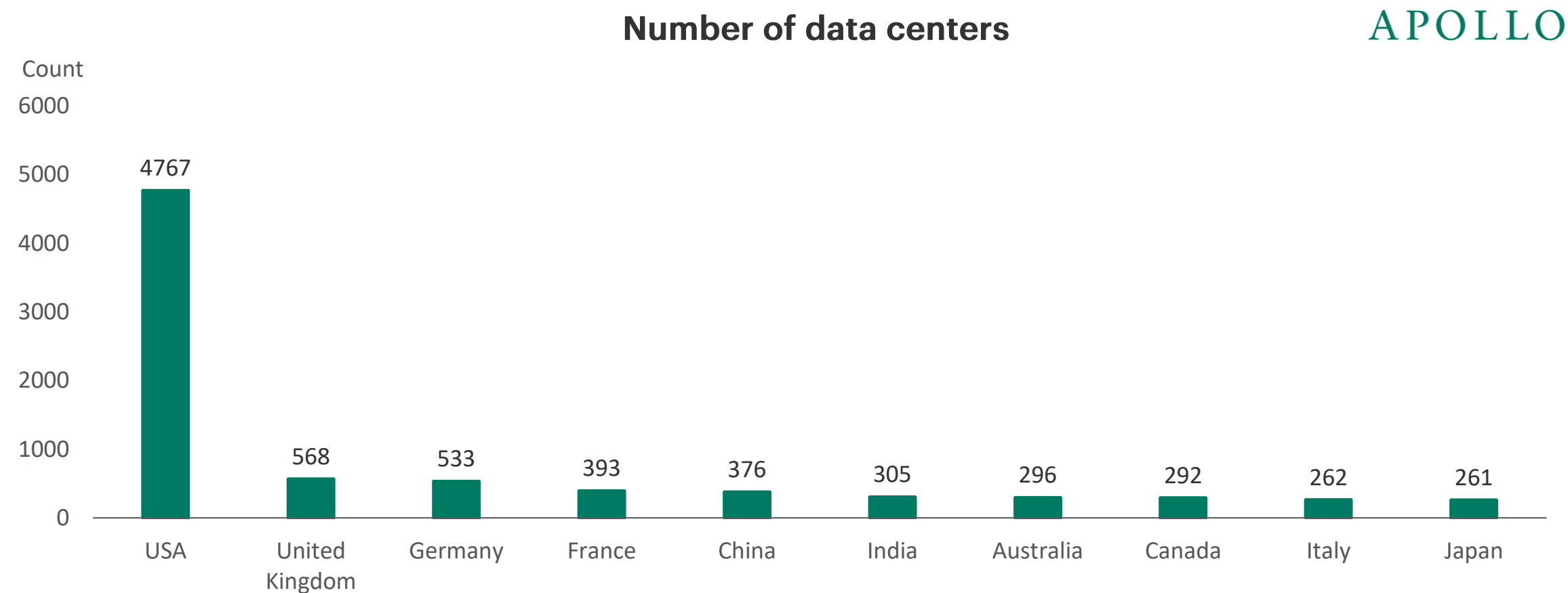
EU supercomputer capacity materially lags US and China



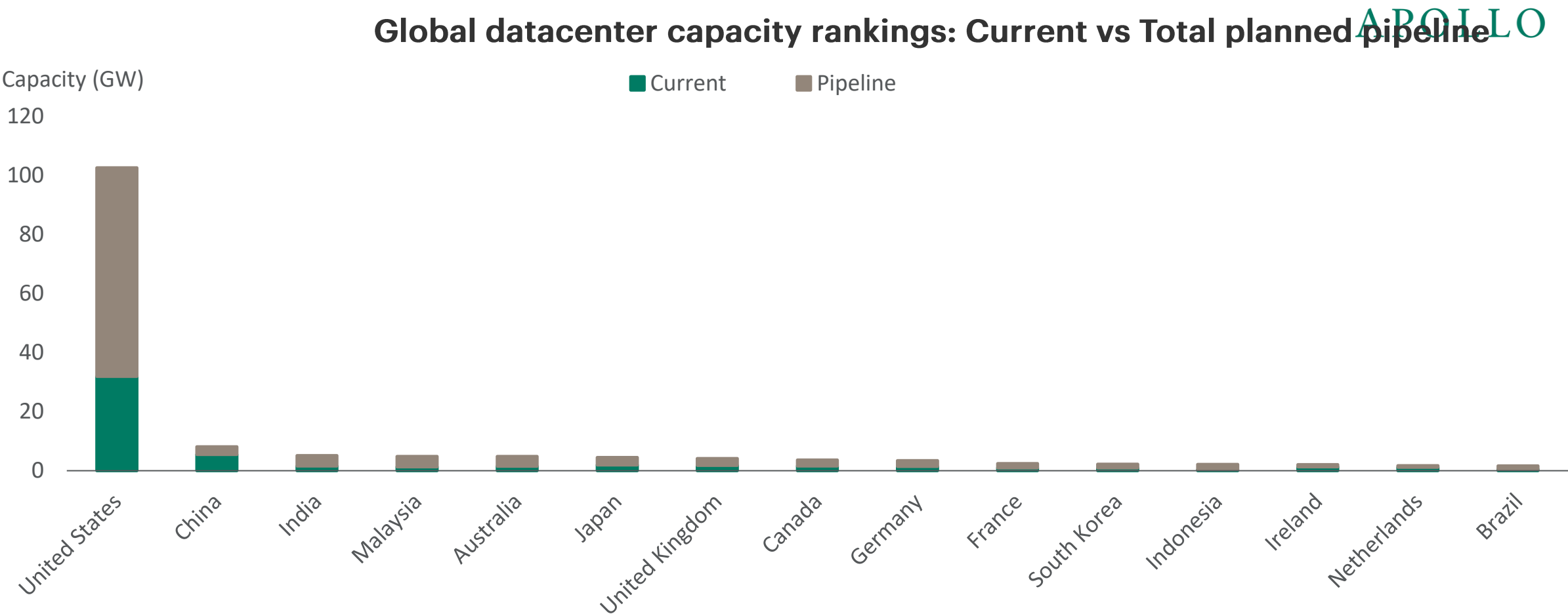
Data center installed capacity 3x in US than Europe



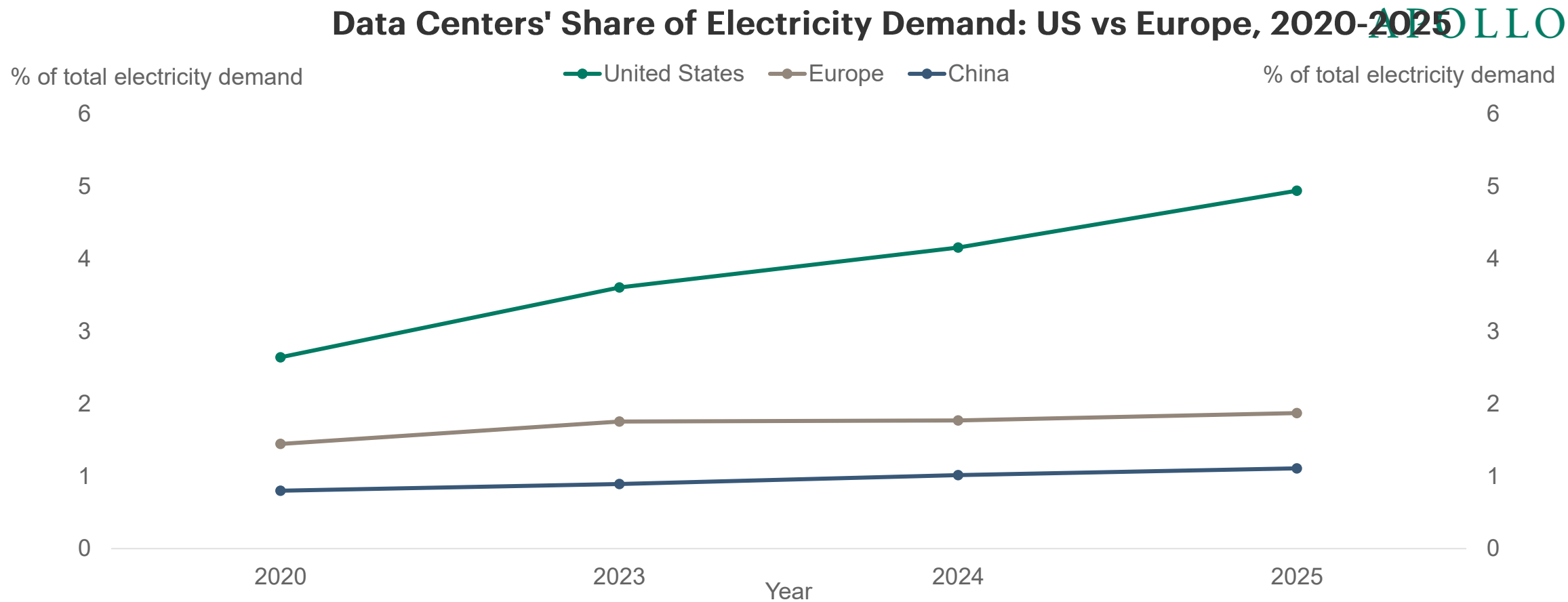
Number of US data centres is well ahead of Europe



US has more data center capacity than China, UK, Germany and eleven other countries combined



Data centers a growing share of electricity demand

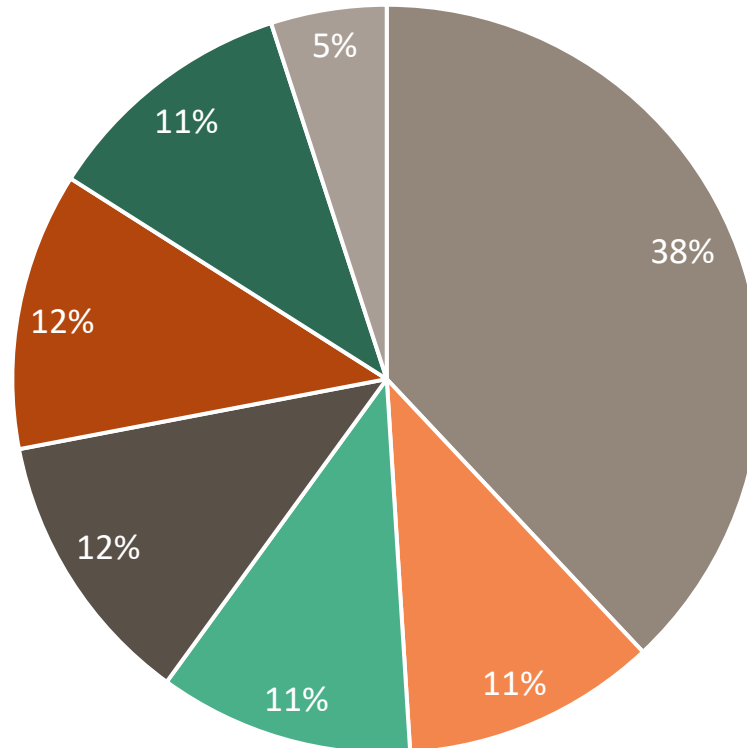


US captures 38% of global semiconductor value — Europe just 11%

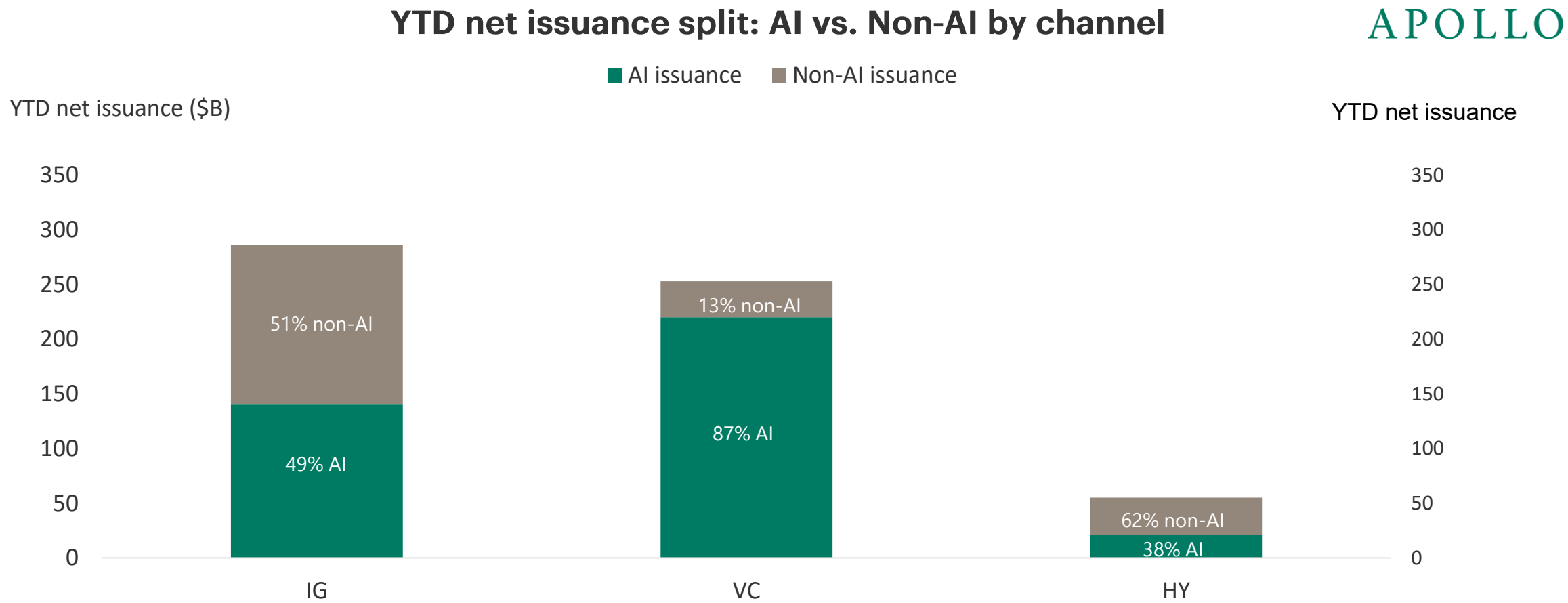
Semiconductor industry value added by region, 2022

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■ US ■ Mainland China ■ Taiwan ■ South Korea ■ Japan ■ Europe ■ Other



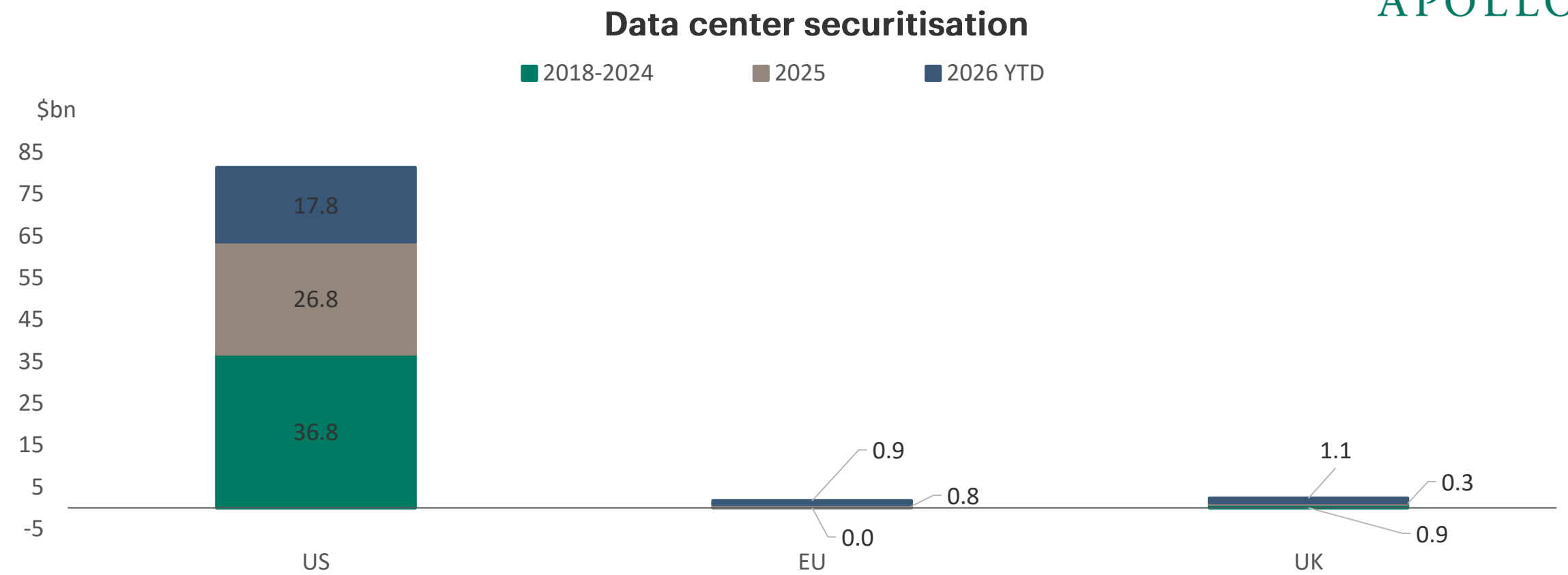
AI is taking a growing share of corporate borrowing in the US



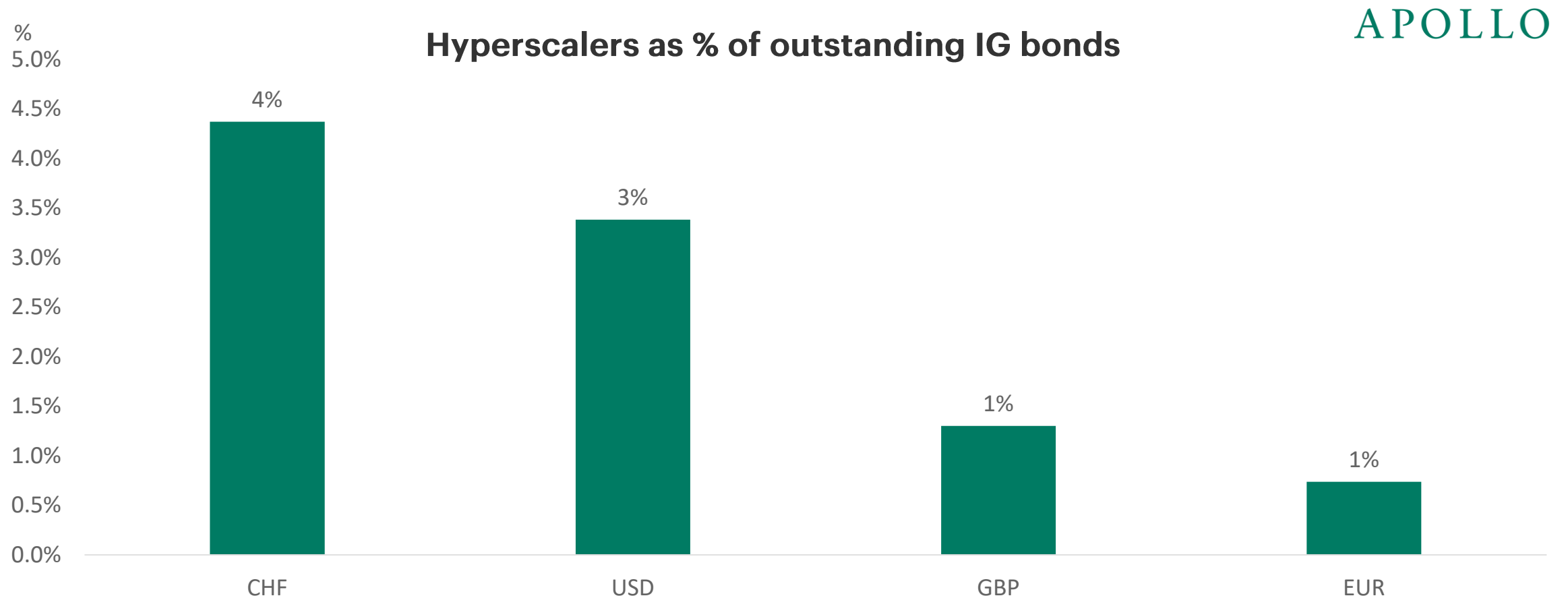
Source: Goldman Sachs, JP Morgan, Bloomberg, Crunchbase, Apollo Analysts, Apollo European and Policy Strategist, Apollo Chief Economist.

EU lagging US in data center securitisation

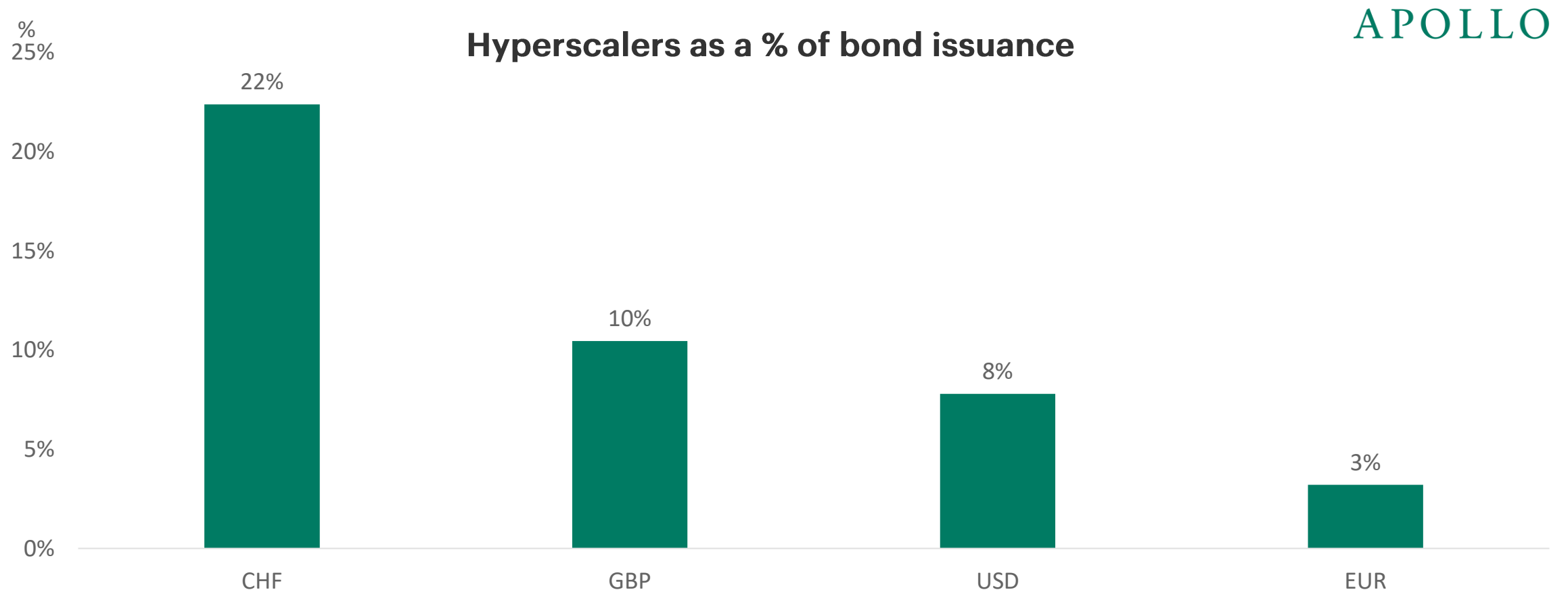
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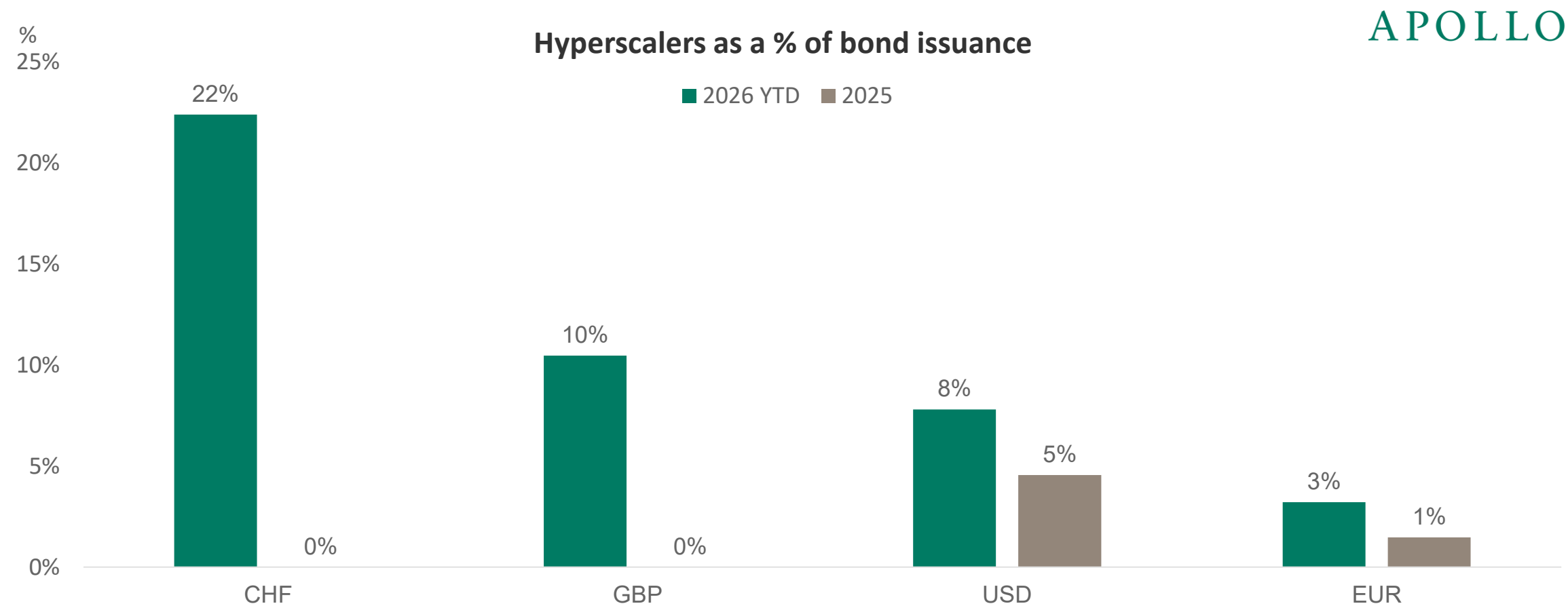
Hyperscaler weight in European credit indices is small today — but growing fast



Hyperscalers are reshaping IG bond markets beyond the dollar



Hyperscalers expanded into new currency markets in 2026



Source: Bloomberg, Apollo European and Policy Strategist. Note: 2026 YTD as of September 25, 2026

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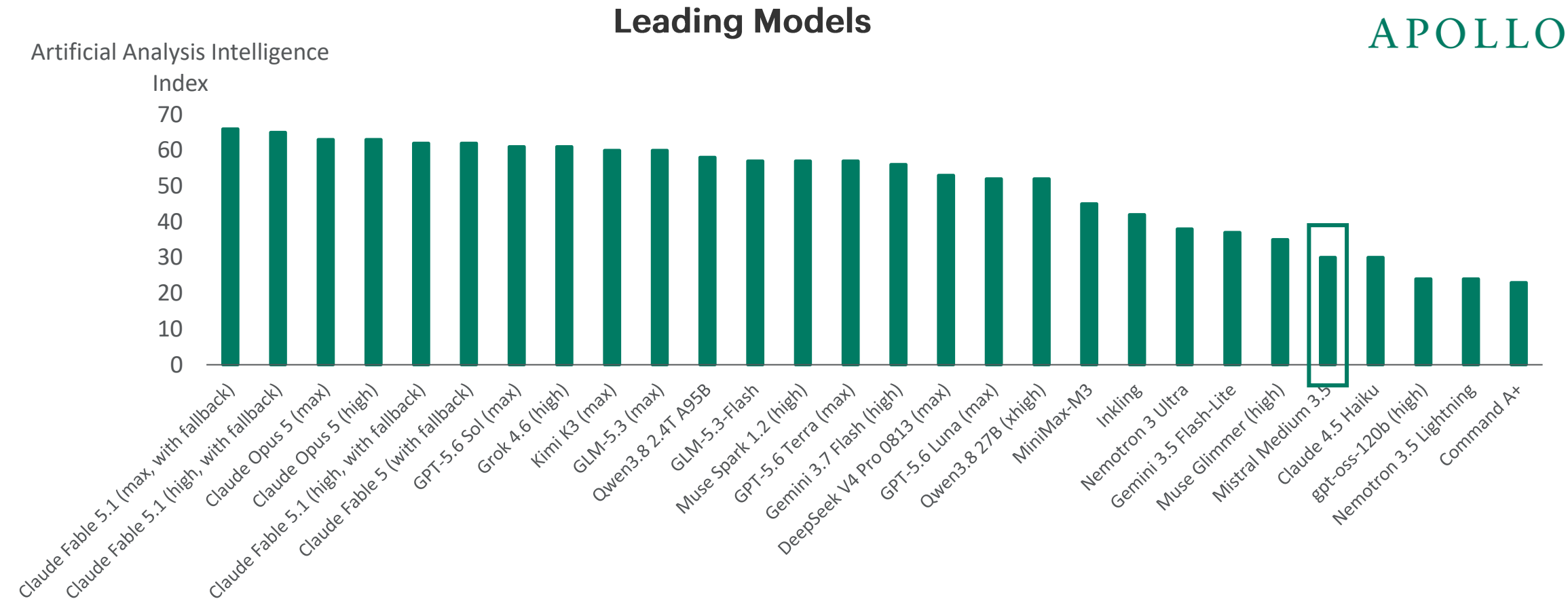
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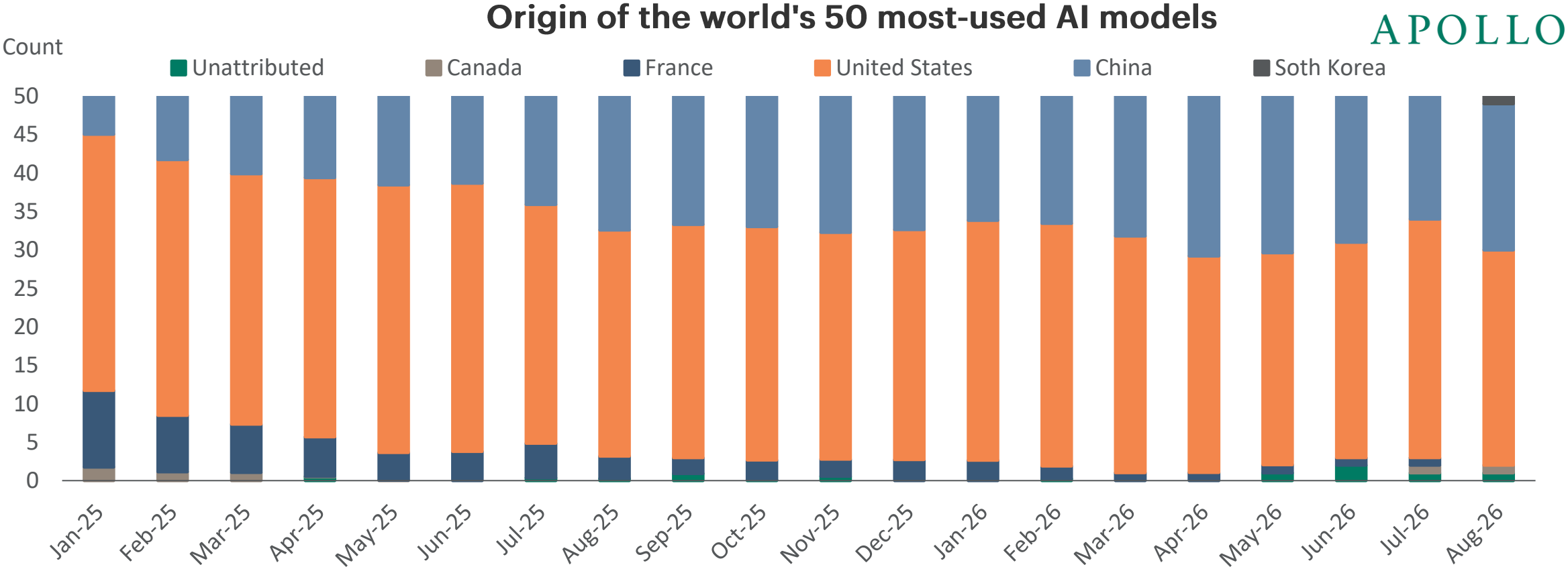
Implications

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Only one model from Europe

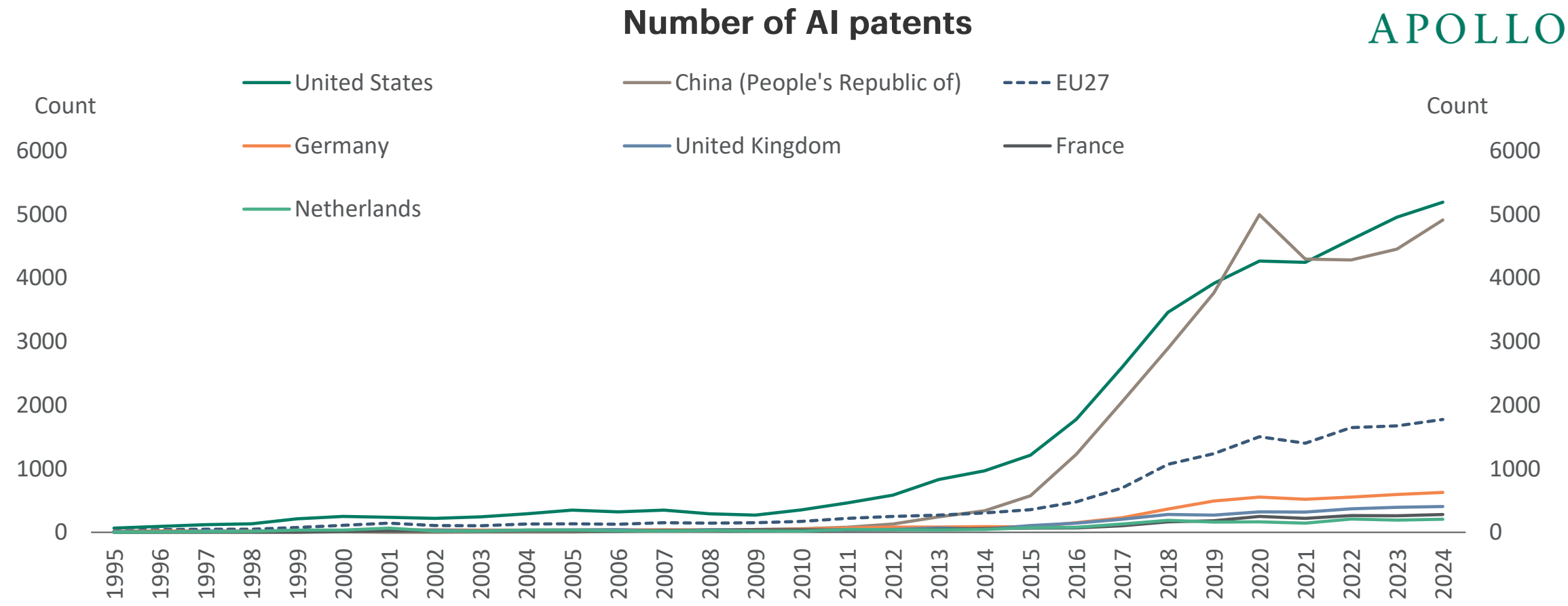


US and China increasingly dominate models



Source: OurWorldinData.org, openrouter.ai, Apollo Chief Economist.

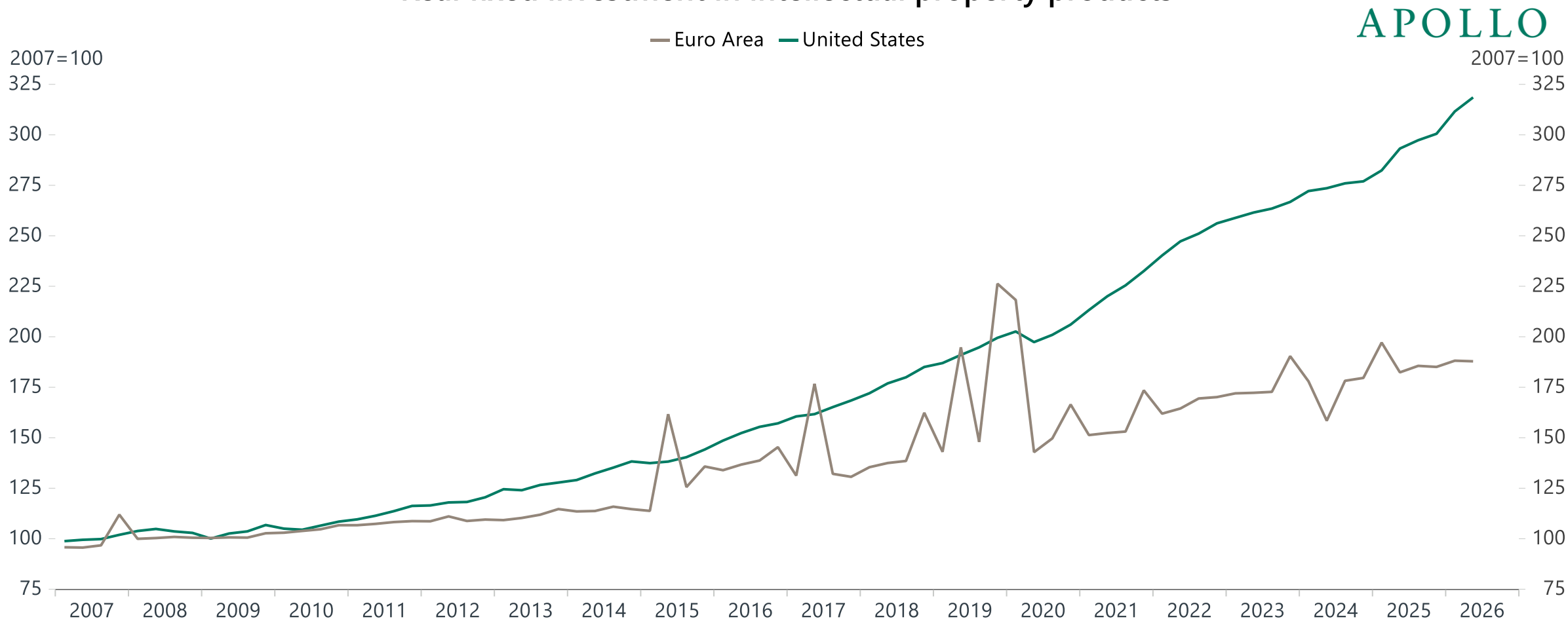
US and China dominate AI patents



Source:OECD.AI (2026), data from OECD, STI Micro-data Lab, Intellectual Property Database, last updated 2026-04-27, accessed on 2026-09-02, <https://oecd.ai/>, Apollo European and Policy Strategist, Apollo Chief Economist. Note: Data refer to patent applications filed under the Patent Cooperation Treaty (PCT), by priority date and inventor's location, using fractional counts.

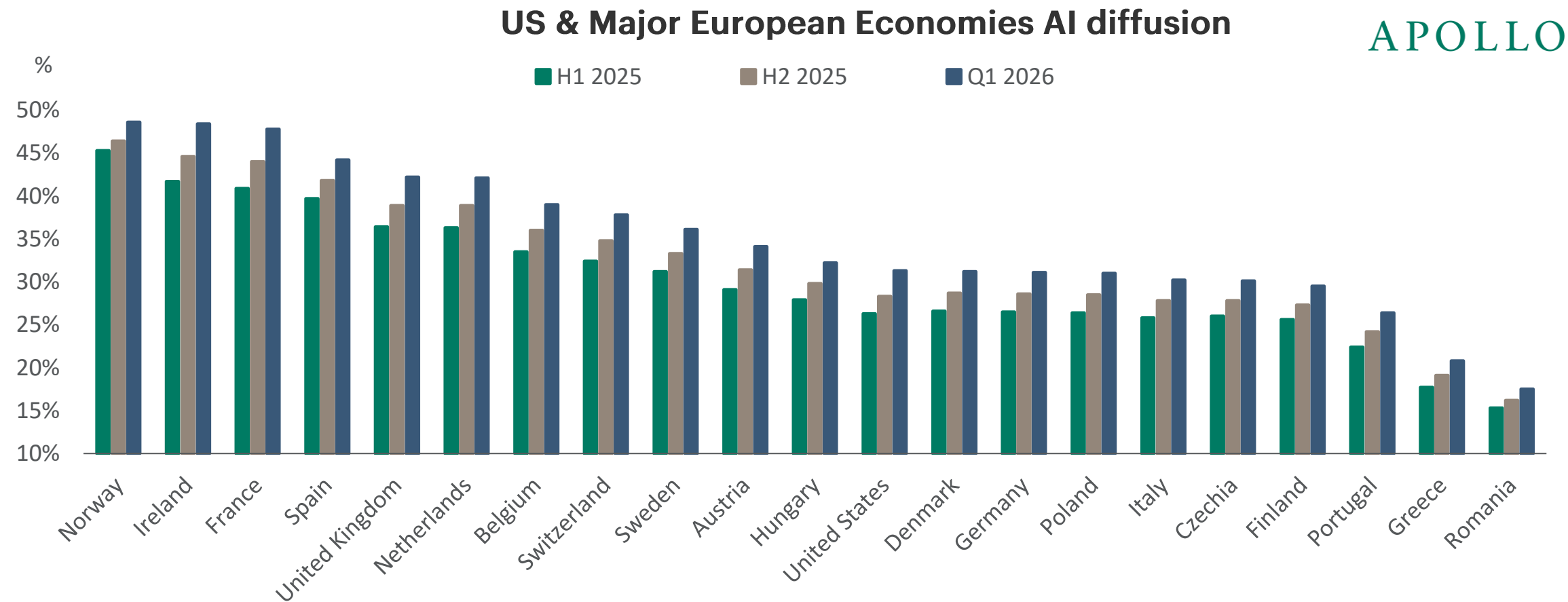
US well ahead of investment in IP

Real fixed investment in intellectual property products



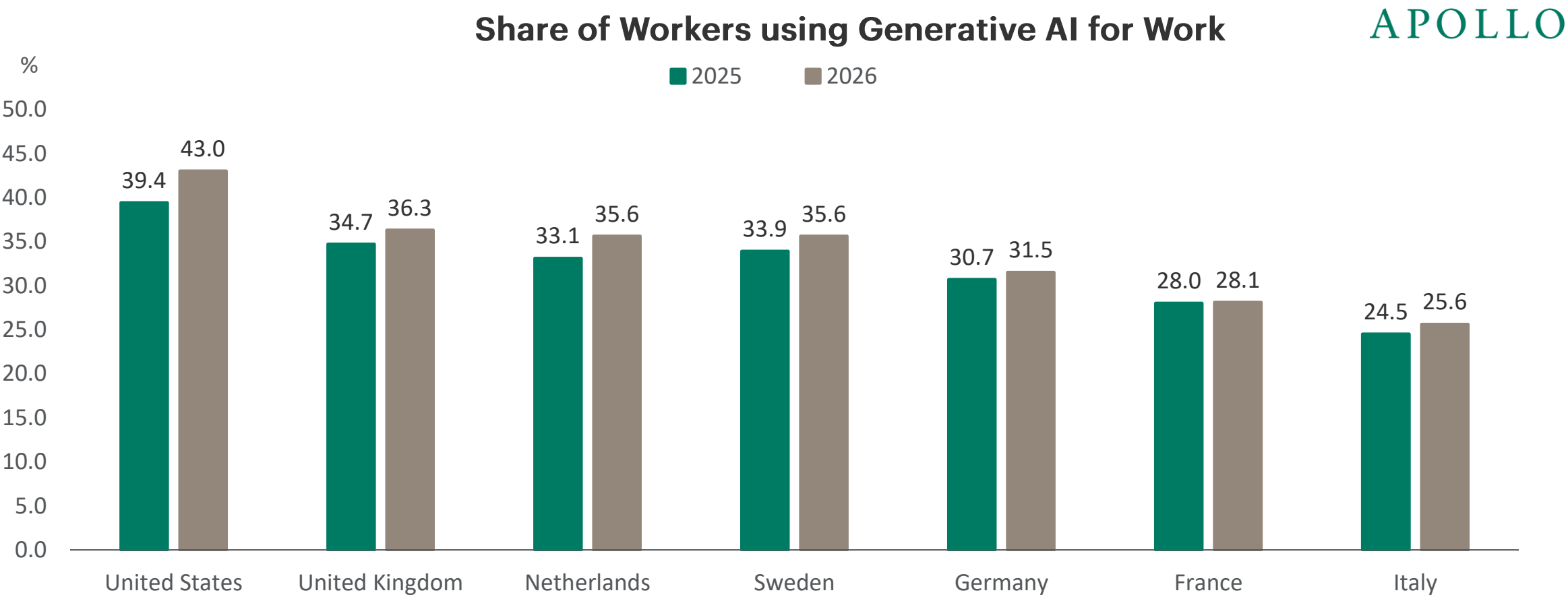
Source: U.S. Bureau of Economic Analysis (BEA), Eurostat, Macrobond, Apollo European and Policy Strategist

Several European countries ahead of the US on AI consumer adoption



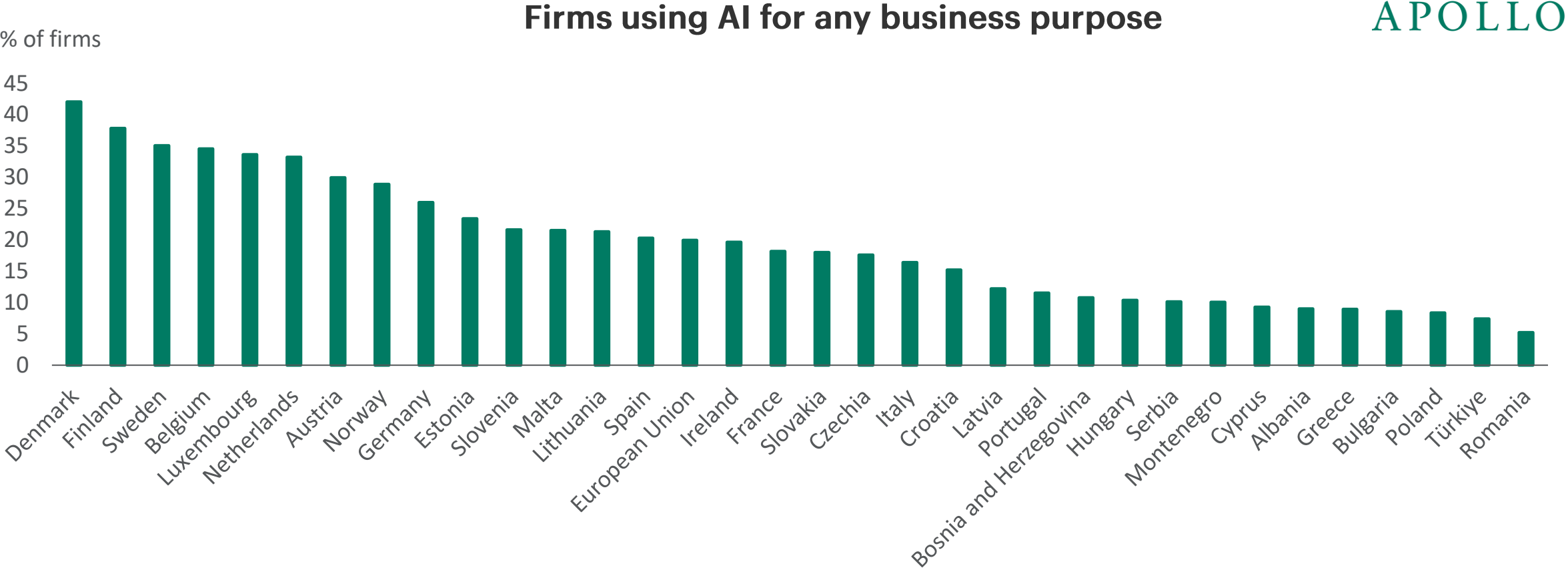
Source: [Global AI Diffusion in Q1 2026 - AI Economy Institute | Microsoft](#), Apollo European and Policy Strategist, Apollo Chief Economist. Note: AI diffusion is measured as the share of people between ages of 15 and 64 who have used a generative AI product. This measure is derived from aggregated and anonymized Microsoft telemetry and adjusted to reflect differences in OS and device-market share, internet penetration, and country population.

American workers adopting AI faster

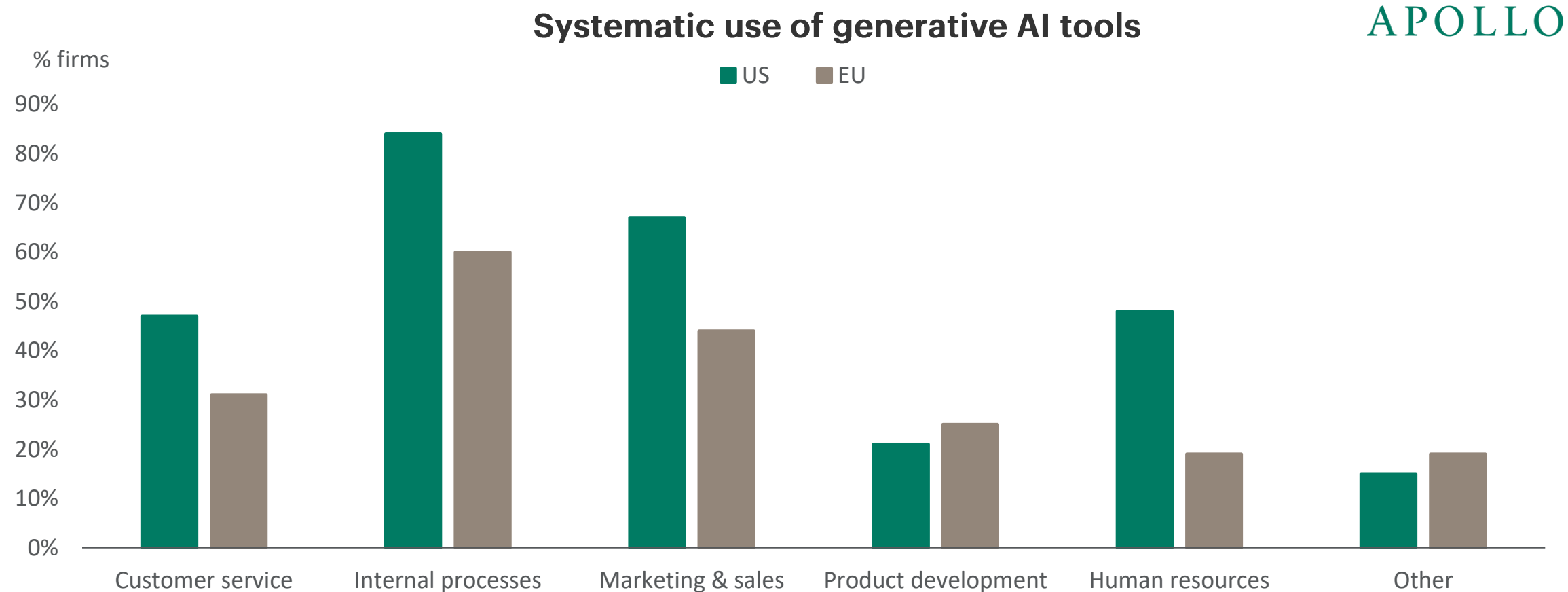


Source: [MIND THE GAP: AI ADOPTION IN EUROPE AND THE U.S.](#), Apollo European and Policy Strategist, Apollo Chief Economist. Note: Authors' own survey, May–June 2025 (N=34,499) and January–February 2026 (N=20,916); total N=55,415

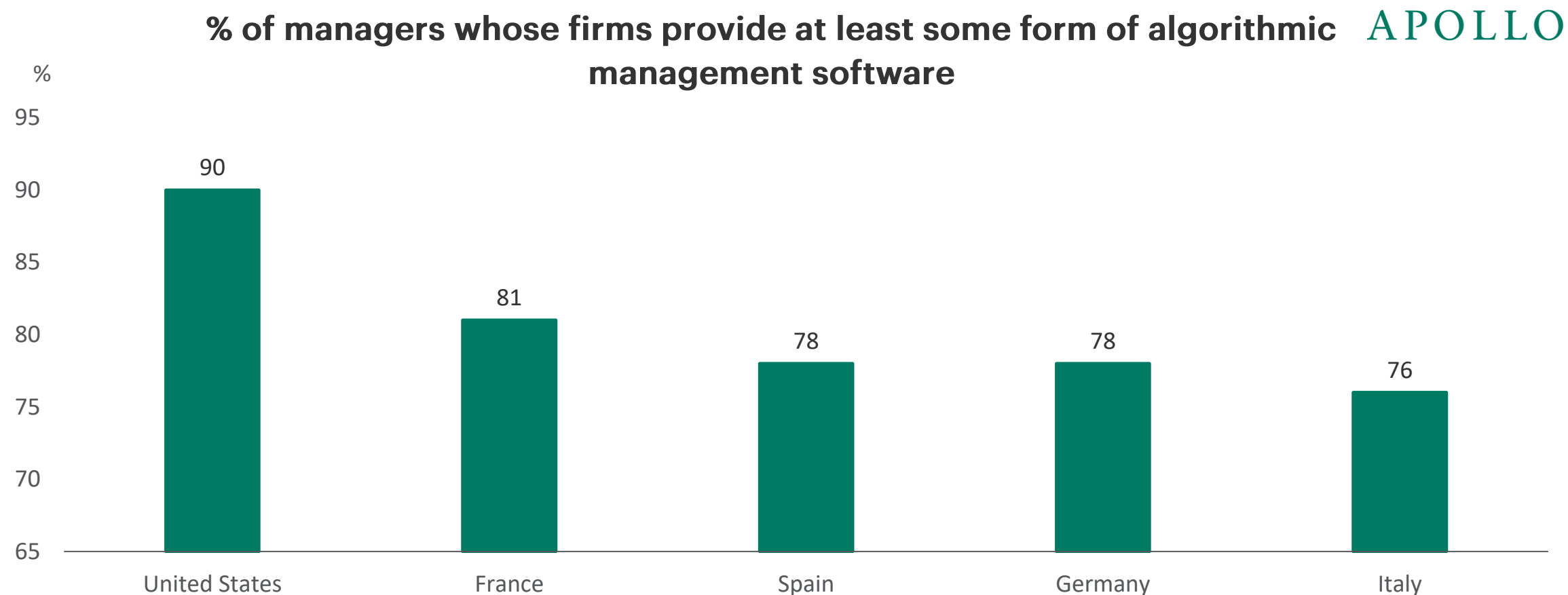
AI adoption by enterprises



US firms use AI tools more intensively

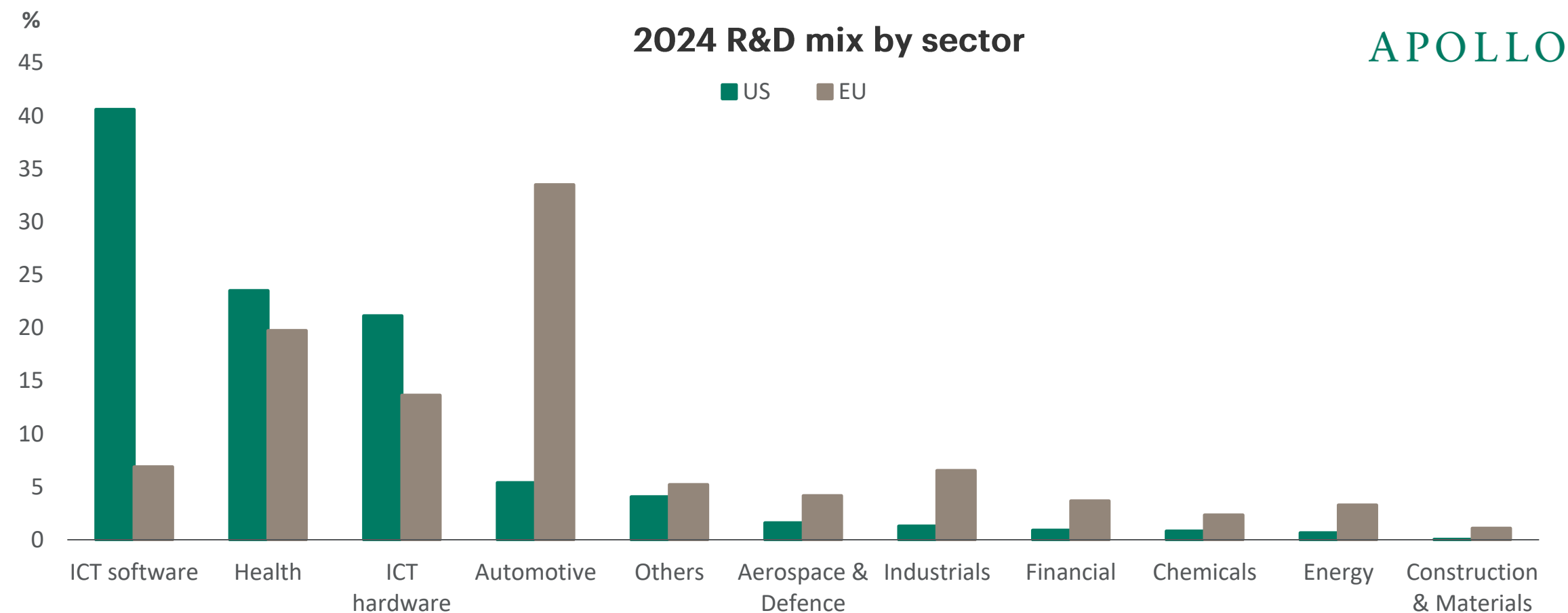


US firms lead on algorithmic management software



Source: OECD employer survey on algorithmic management (2025), Apollo European and Policy Strategist, Apollo Chief Economist. Note: Algorithmic management is the use of technological tools which may include artificial intelligence (AI), to fully or partially automate tasks traditionally carried out by human managers.

Tech and health dominate R&D in the US; Autos too in Europe



Source: [Data | IRI](#), The 2025 EU Industrial R&D Investment Scoreboard, Apollo European and Policy Strategist, Apollo Chief Economist

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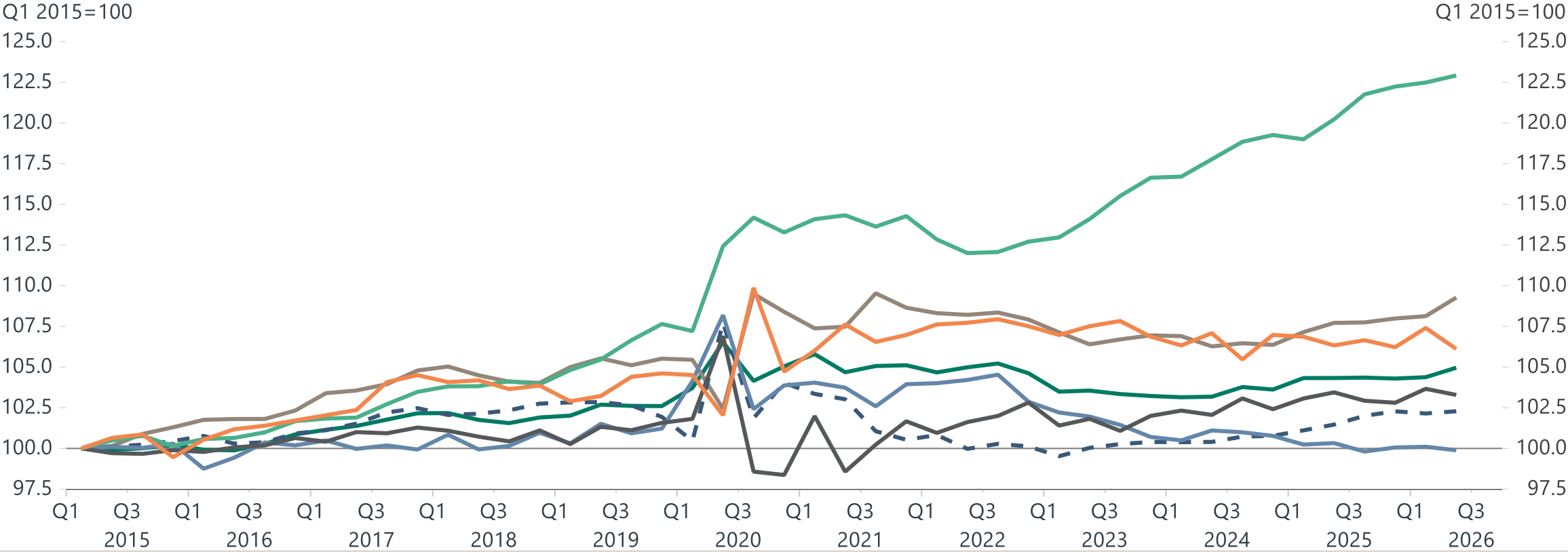
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US labor productivity has surged ahead

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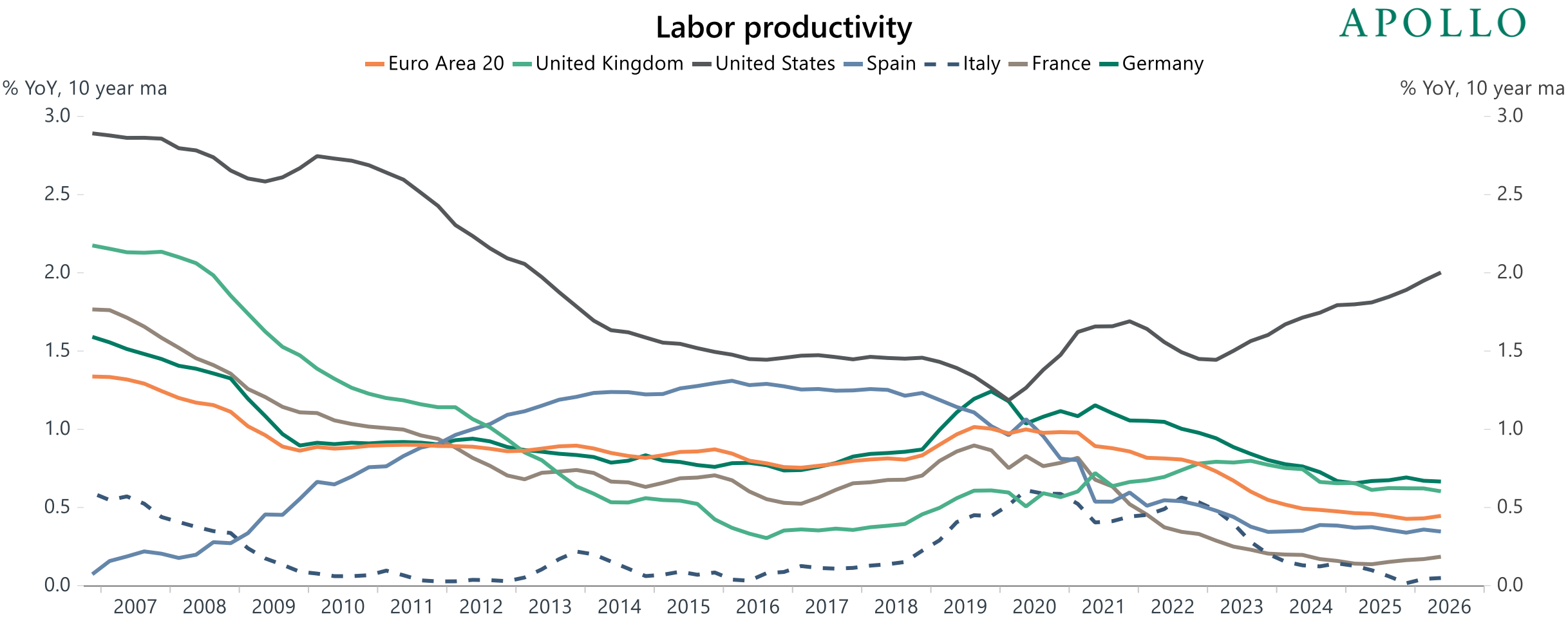
Labor productivity

United Kingdom United States Spain Italy France Germany Euro Area 20



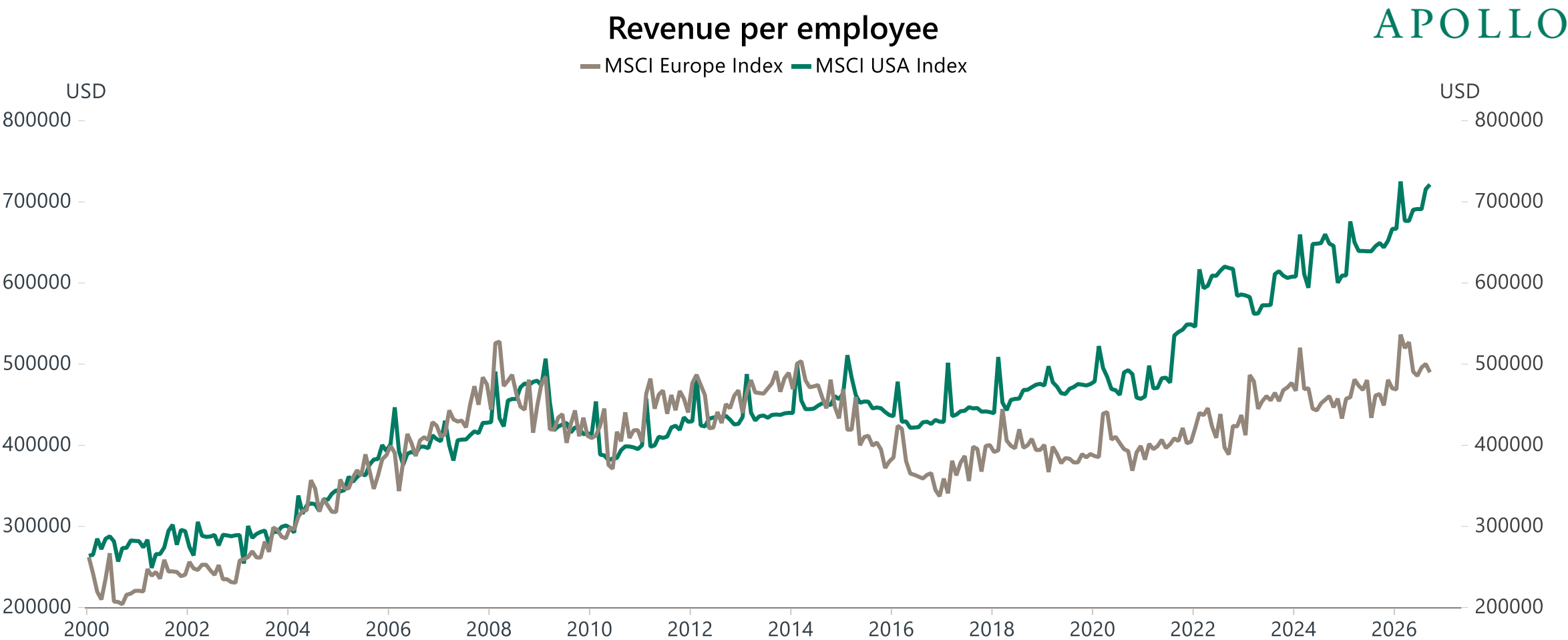
Source: Eurostat, U.S. Bureau of Labor Statistics (BLS), U.K. Office for National Statistics (ONS), Macrobond, Apollo Chief Economist. Note: Labour productivity measured as real output per hour worked. Euro-area economies and UK refer to the total/whole economy; U.S. refers to the nonfarm business sector.

US productivity growth re-accelerating; Europe stalling



Source: Eurostat, U.S. Bureau of Labor Statistics (BLS), U.K. Office for National Statistics (ONS), Macrobond, Apollo Chief Economist

US companies generate far more revenue per employee



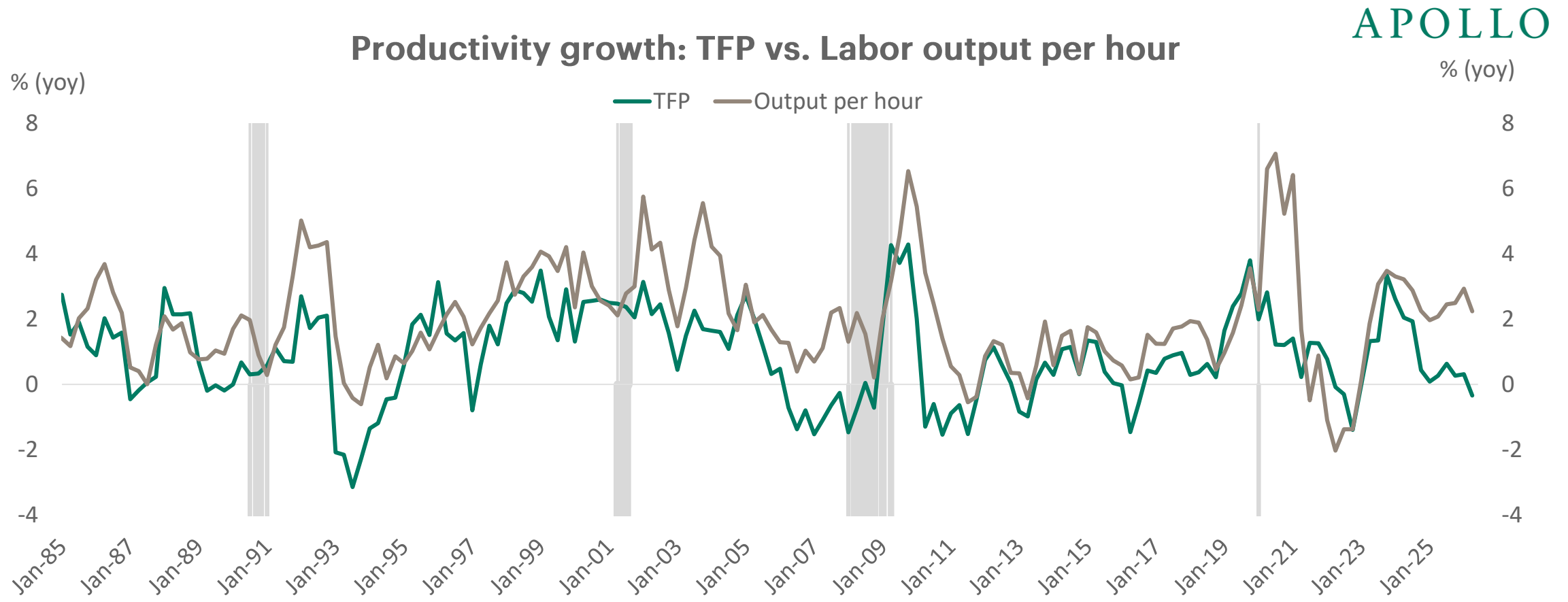
Source: Bloomberg, Macrobond, Apollo Chief Economist

Academic studies inconclusive about the impact of AI on productivity

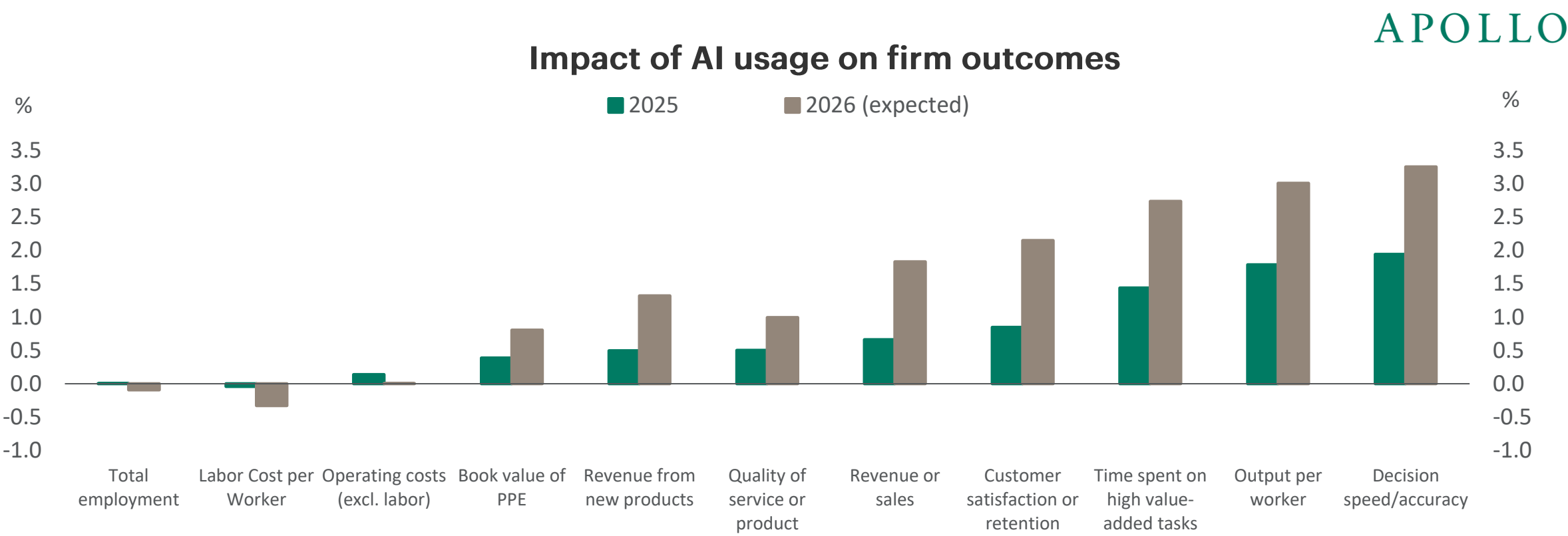
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Paper	Annual Productivity / TFP Gain (pp)	Horizon	Cumulative Level Effect	Key Assumptions
Acemoglu (2024)	0.07	10 years	0.7%	Narrow task coverage, slow diffusion, limited reorganization
Penn Wharton Budget Model (2024/25)	0.1–0.2 (peak)	10–20 years	1.5% by 2035; 3% by 2055	Task-based GPT framework, gradual diffusion, conservative adoption
Aghion & Bunel (2024)	0.2–0.4	10–20 years	2–6%	AI as GPT boosting innovation and creative destruction
Baily et al. (2023)	0.5 (peak)	10–15 years	5–10%	Broad diffusion comparable to late-1990s IT boom
Filippucci et al. (2024)	0.2–0.5	15–20 years	3–8%	Firm-level adoption, capital deepening, sectoral reallocation
Bergeaud (2024)	0.3–0.6	10–20 years	6–12%	Reallocation toward frontier firms dominates automation
St. Louis Fed (2025) — State of Generative AI Adoption in 2025	1.1%	2-3 years (2022-2024)	1.1% relative to pre-AI baseline	Based on Real-Time Population Survey time-savings and adoption, observational, early era evidence, not a structural long-run model

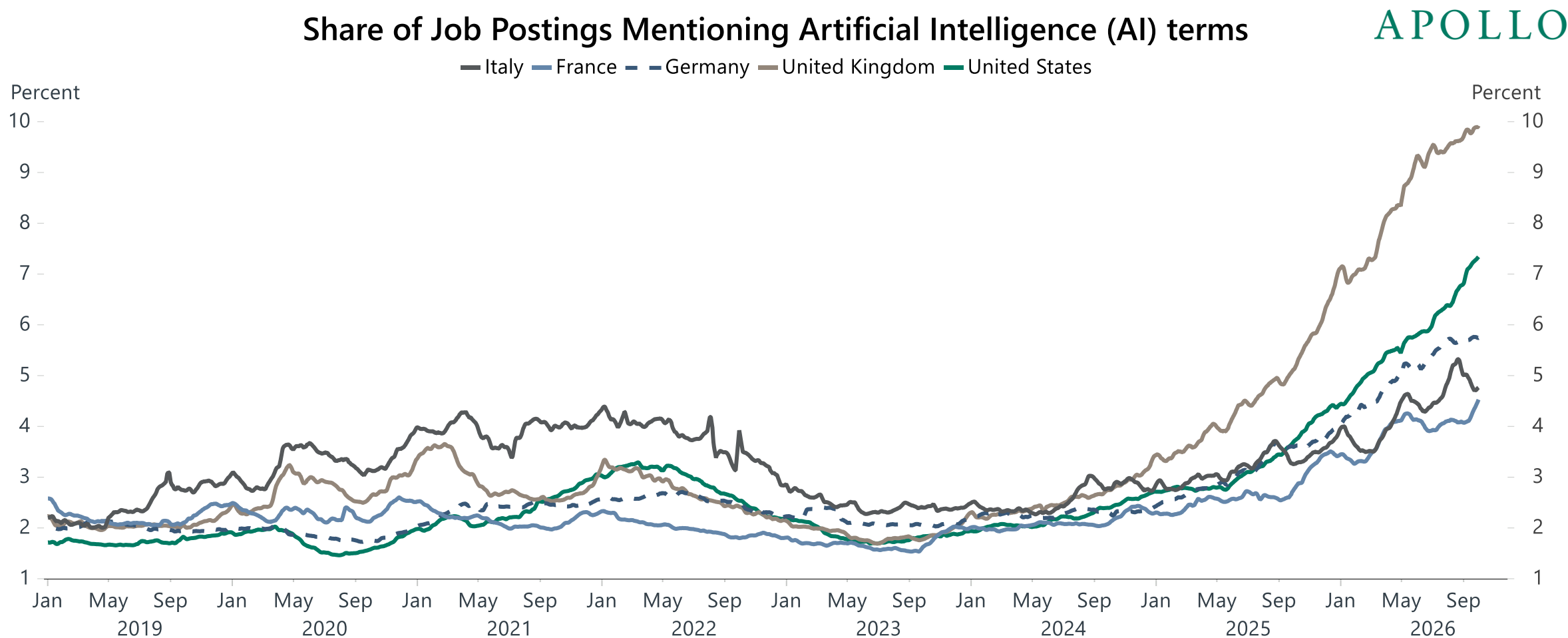
No AI productivity boost in the data yet



Channels through which AI is expected to have an impact on businesses



UK leads on share of job postings mentioning AI (though set against poor broader job creation), US gaining fast



Source: Indeed Hiring Lab, Macrobond, Apollo Chief Economist

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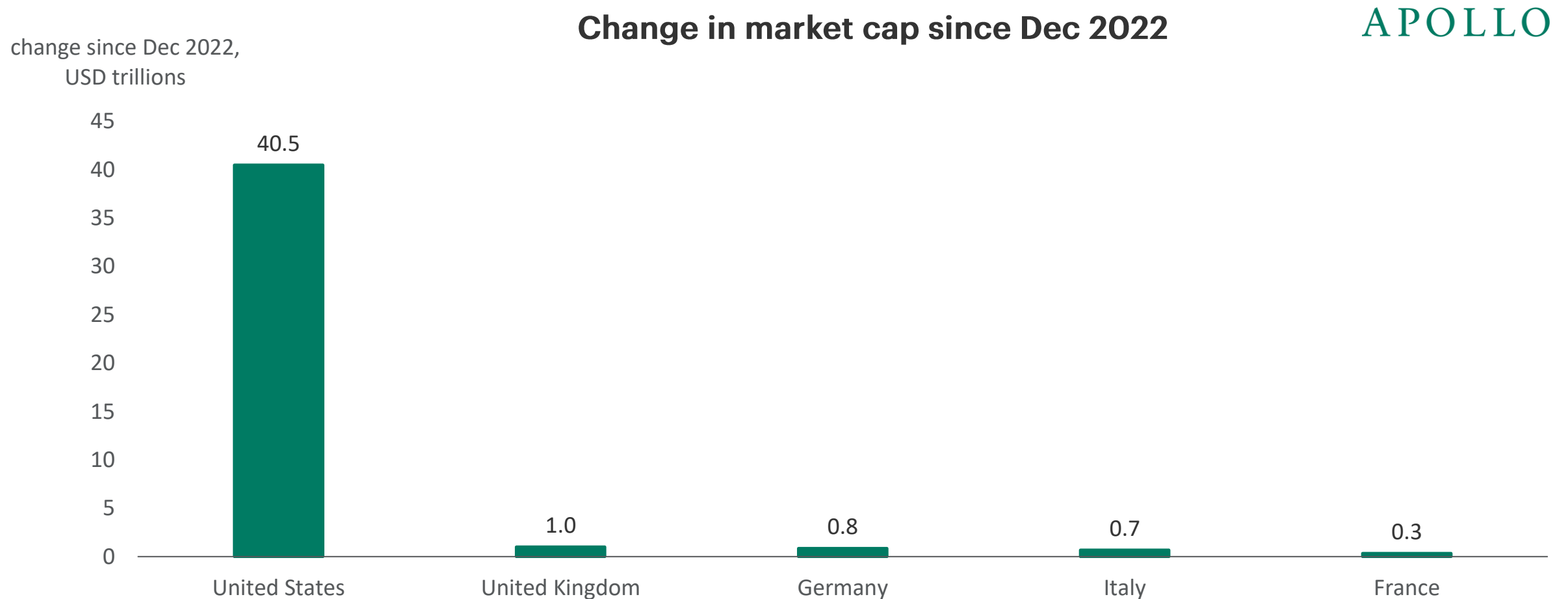
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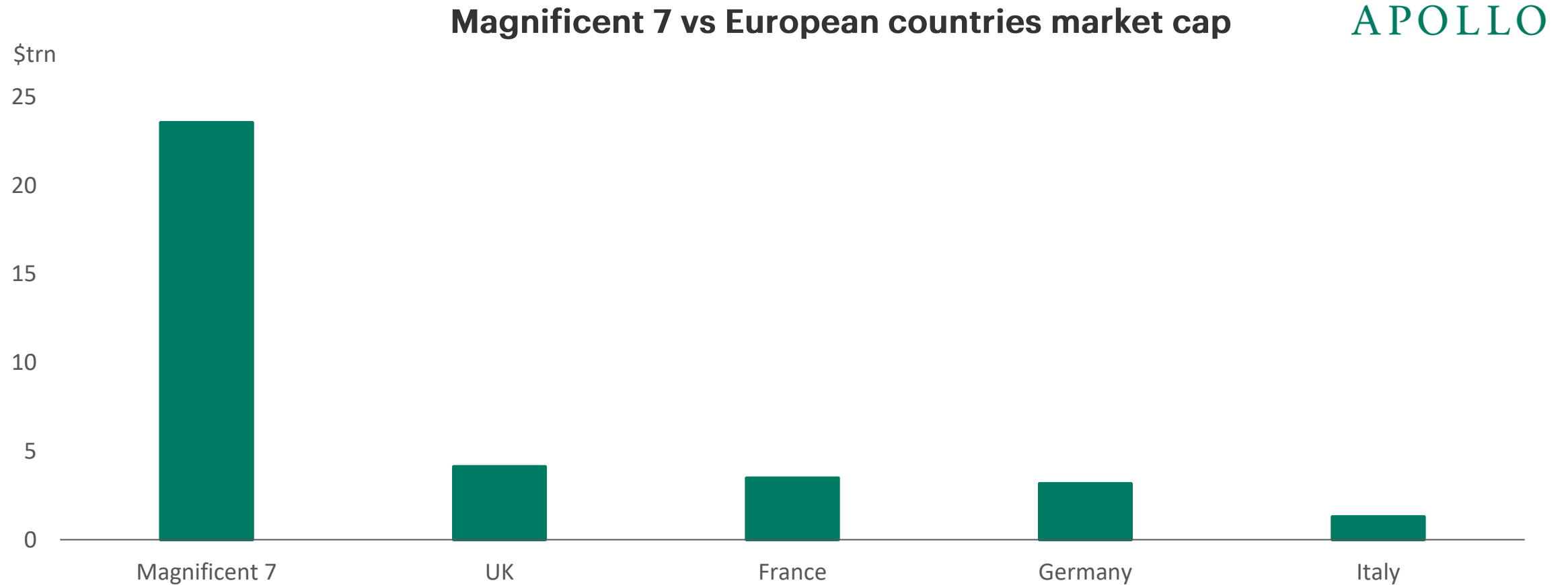
Implications

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US has added \$40trn in market cap since end-2022 — dwarfing all of Europe



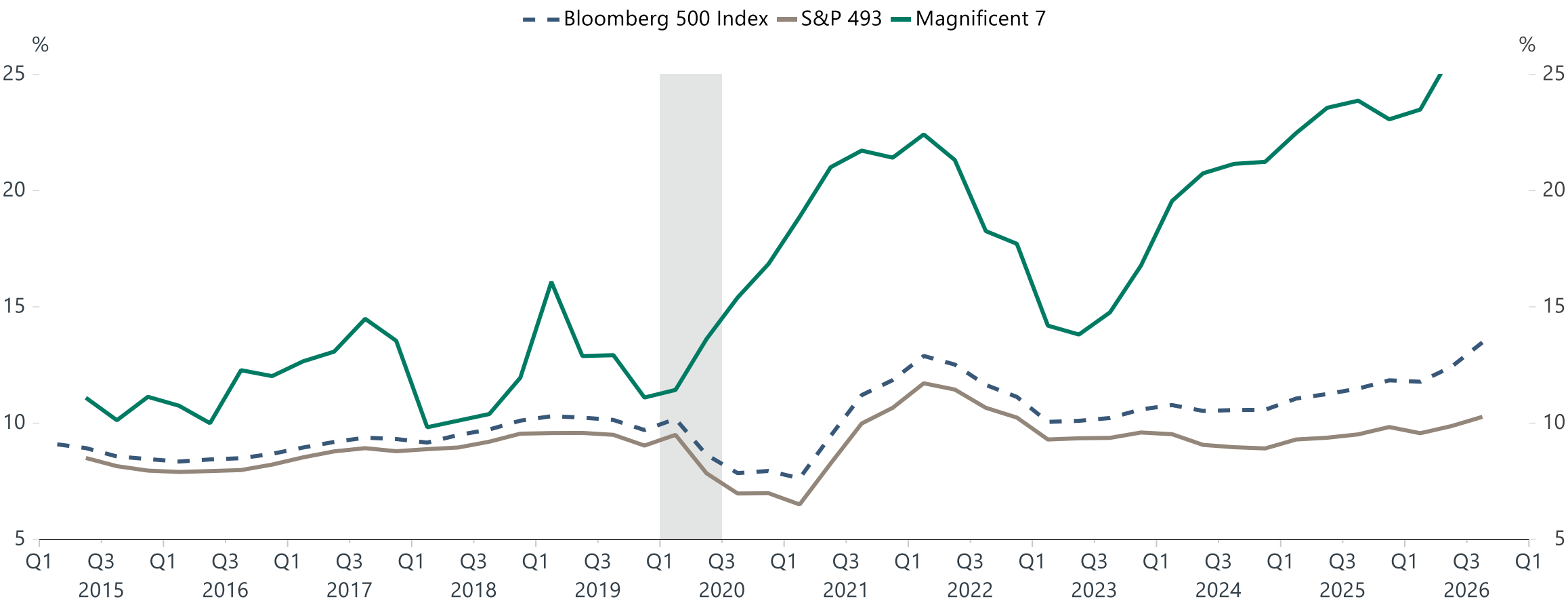
Mag 7 market cap dwarfs European stock markets



Mag 7 are a key part of why US margins wider

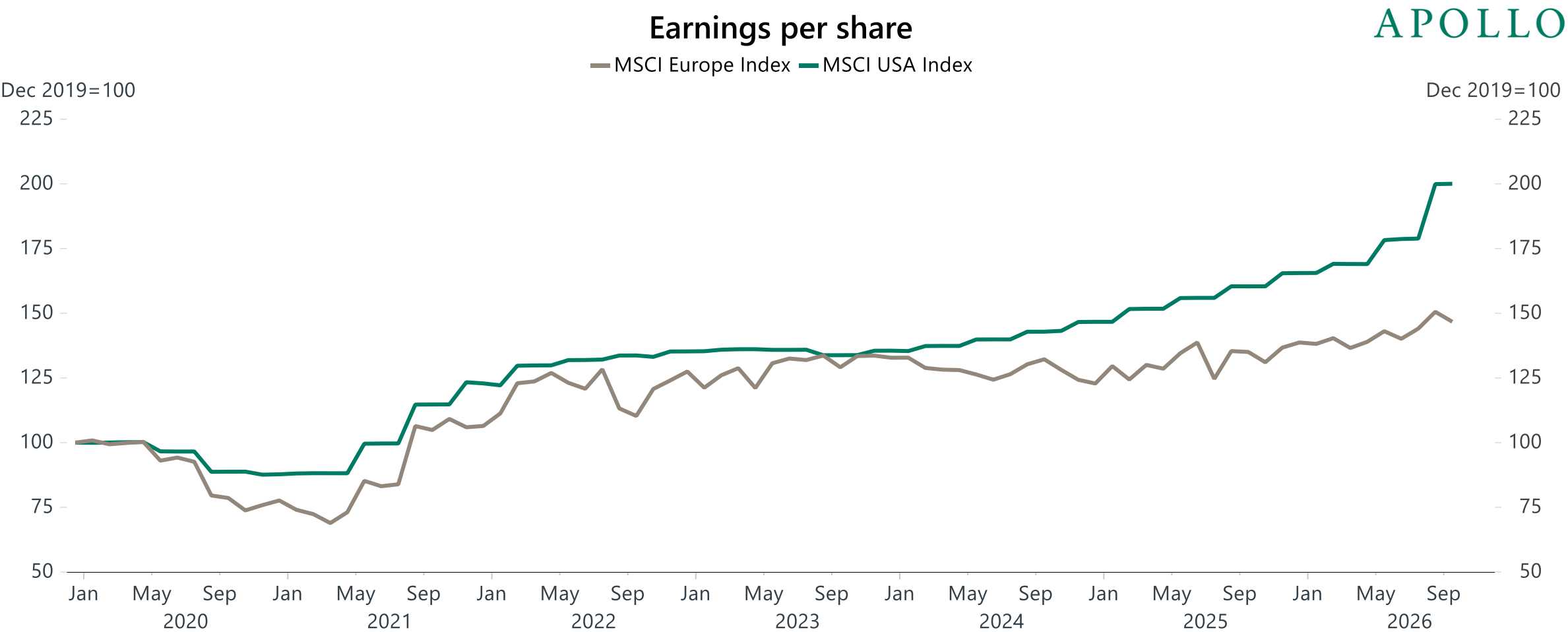
Profit margin

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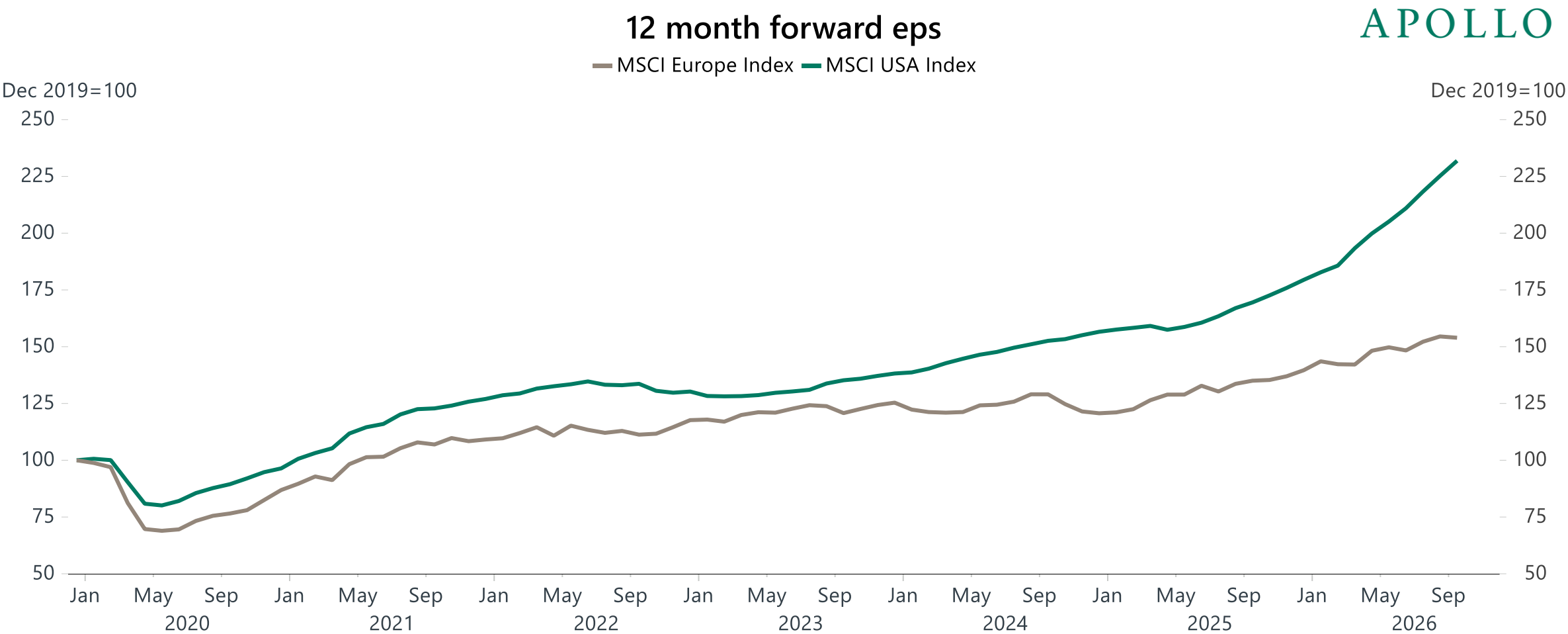
Source: Bloomberg, Macrobond, Apollo Chief Economist

US earnings per share growing twice as fast



Source: Bloomberg, Macrobond, Apollo Chief Economist

US 12-month forward EPS outpacing Europe by a widening margin



Source: Bloomberg, Macrobond, Apollo Chief Economist

What we are watching

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AI Capex revisions

Early signs of returns on capital

Shifting bottlenecks

Which types of models used?

End of token maxing?

Evidence of crowding out in financing markets

Productivity

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Torsten Slok joined Apollo in August 2020 as Chief Economist and he leads Apollo's macroeconomic and market analysis across the platform.

Prior to joining, Mr. Slok worked for 15 years as Chief Economist at Deutsche Bank where his team was top ranked in the annual Institutional Investor survey for a decade. Prior to joining Deutsche Bank Mr. Slok worked at the IMF in Washington, DC and at the OECD in Paris.

Mr. Slok has a Ph.D in Economics and has studied at the University of Copenhagen and Princeton University.

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Huw van Steenis is Partner at Apollo where since August 2026 he advises on economic, financial and policy trends.

He serves on the Investment Committee of the Oxford Endowment, the Climate Advisory Board of Norges Bank Investment Management and the MSCI Advisory Council.

Previously, Huw served as Senior Adviser to Mark Carney when he was Governor of the Bank of England, where he led the van Steenis Review on the future of UK finance.

Huw spent 14 years at Morgan Stanley, where he was Global Head of Banks and Diversified Financials Research. He and his teams were ranked No. 1 in investor surveys 12 times.

He has also served as co-Chair of the World Economic Forum's Council on Financial Services, Senior Adviser to the Chief Executive of UBS and Vice Chair at Oliver Wyman. He was educated at Oxford and INSEAD.