AUGUST 2026

AI valuation red flags

Correction likely, rational prices or not

European Central Bank · 17 August 2026

- The CAPE ratio is **41.2**, against a dot-com peak of **44.2**
- The Chair of the Financial Stability Board warns that **leverage and AI cross-investment** could amplify the fall
- The build runs at **3% of US GDP** a year to 2029, twice the telecom boom that ended in 2000
- Cover on hyperscaler bonds has gone from **nearly 5x in February to below 2x in July**, and the vendor has begun financing the customer
- Magnificent Seven free cash flow fell **$148bn to $59bn** in two quarters, and **three of the seven are now negative**
- **The counterweight:** the build is still under half the size of the housing boom, and the technology is real

THEIR WORDS	Financial Stability Board · European Central Bank · Apollo · KKR · Brown Advisory
REPORTED BY	Reuters · CNBC · Axios
OUR DATA	Shiller CAPE and SEC filings

THE ARGUMENT

One chain, four links

A dozen sources, all published since early July, each looking at a different point on the same chain. Read together they make one argument.

01 **The price**

Valuations are back at levels last seen in 2000, and the research says a correction follows whether or not the price is rational

02 **The build**

A build twice the size of the telecom boom, running faster than either of the last two cycles

03 **The money**

Bond investors, in rising size and at falling enthusiasm, with the vendor now financing the customer

04 **The payoff**

Every number above rests on cash flows that do not arrive until 2028

SOURCES Full citations on the last page, every one of them linked.

THE PRICE · 01

Back at dot-com levels

The CAPE ratio prices the market against ten years of inflation adjusted earnings, which strips out the cycle. The series runs monthly back to 1881. In all that time it has been above 40 in only two stretches: twenty-one months across 1999 and 2000, peaking at 44.2 in December 1999, and again since May this year.

Shiller CAPE ratio, monthly, 1881 to August 2026. Our chart, from the Tremor macro tracker

> *“Valuations on the US stock market, as measured by the CAPE ratio, are currently **close to their historical peak.**”*
>
> **European Central Bank** · ECB Blog, 17 August 2026

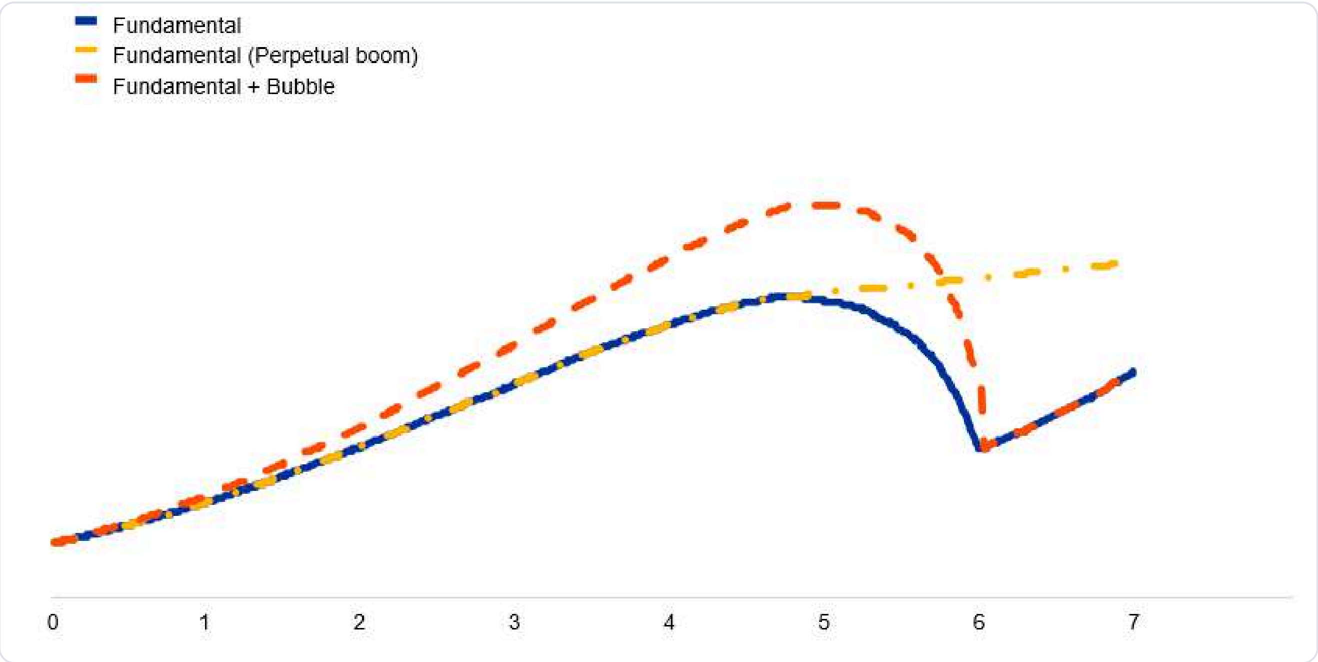
SOURCES Tremor, our own macro tracker | Rational enthusiasm or the next dot-com bubble? · ECB Blog, 17 Aug

THE PRICE · 02

A correction either way

The blue line is what happens if today's prices are entirely rational. It still goes through a correction before the next rise. Their reason: a new technology is one company's bet, but once everybody depends on it the risk belongs to everybody, so investors charge more to carry it. Charging more means paying less today.

Fundamental — Perpetual boom — Plus a bubble



Stylised boom-bust scenarios. Chart: European Central Bank, 17 August 2026

> *"The case for expecting a correction is not dependent on whether today's prices are rational or irrational. We should be aware of that and prepare."*
>
> **European Central Bank** · Andersson, Breckenfelder, Corradin, Nikolov and Viola

SOURCE [Rational enthusiasm or the next dot-com bubble?](#) · ECB Blog, 17 Aug

THE PRICE · 03

It would not stay in America

Most European exposure to the Magnificent Seven is not held directly. It sits inside investment funds and low cost ETFs, which means the holder often does not know how concentrated it is. That structure is itself a transmission channel, because a fall forces the funds to sell to meet redemptions, which pushes prices down further.

> *"Euro area households, which are increasingly channelling funds into low-cost ETFs, have around **€440 billion of** exposures to US technology equities **without necessarily being aware of the associated concentration risk.**"*
>
> **European Central Bank** · ECB Blog, 17 August 2026

> ***"A US AI fallout would not remain a US problem."***
>
> **European Central Bank** · the closing line of the same post

SOURCE Rational enthusiasm or the next dot-com bubble? · ECB Blog, 17 Aug

THE PRICE · 04

Leverage is back, aimed at the same names

Bailey names three at once. Leveraged ETFs, momentum strategies including retail money, and hedge funds sitting in equities and sovereign debt together. That last one is his contagion channel.

> *"The issue is not simply that investors are borrowing more, but that leverage is interacting with high valuations and market concentration, in particular the increasing cross-investment between artificial intelligence (AI) companies and hyper scalers, in a way that could* ***amplify a future market correction.****"*
>
> **Andrew Bailey** · Chair, Financial Stability Board

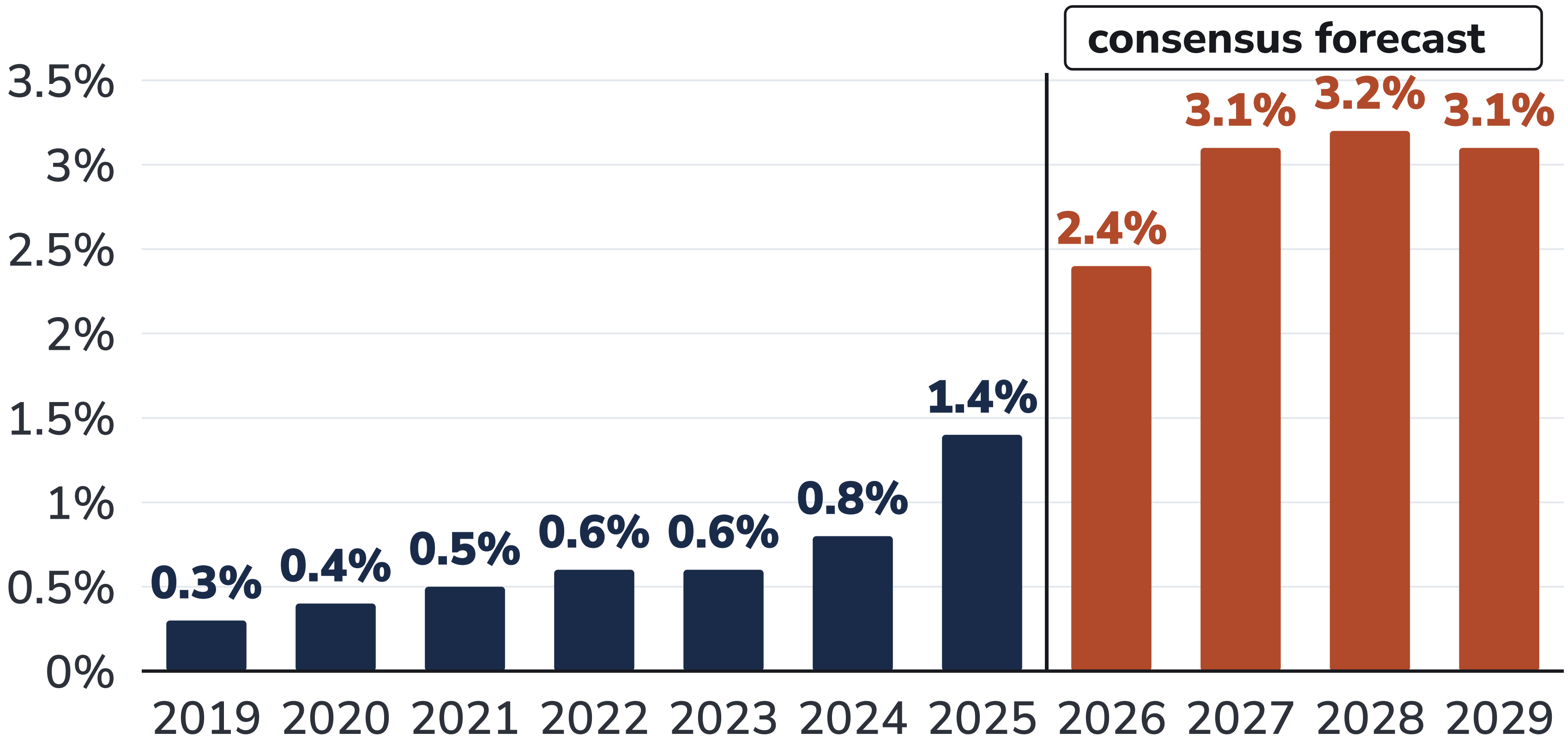
> *"A growing footprint of leveraged entities, such as hedge funds in equity markets, which are also exposed to sovereign debt, increase the scope for* ***contagion risk*** *... I remain concerned therefore that a large shock or combination of shocks could concurrently* ***trigger multiple vulnerabilities.****"*
>
> **Andrew Bailey** · the same letter

SOURCE FSB Chair's letter to the G20 · FSB, 28 Aug

THE BUILD · 01

Three per cent of GDP, every year

Five companies, spending an amount equal to three cents of every dollar the United States produces, for three years running. In 2019 the same figure was three tenths of one per cent.



Hyperscaler capex as a share of US GDP. Our chart, redrawn from Apollo Chief Economist, 6 August 2026. Hyperscalers are Amazon, Meta, Oracle, Microsoft and Google. Sources: FactSet, BEA, Haver Analytics

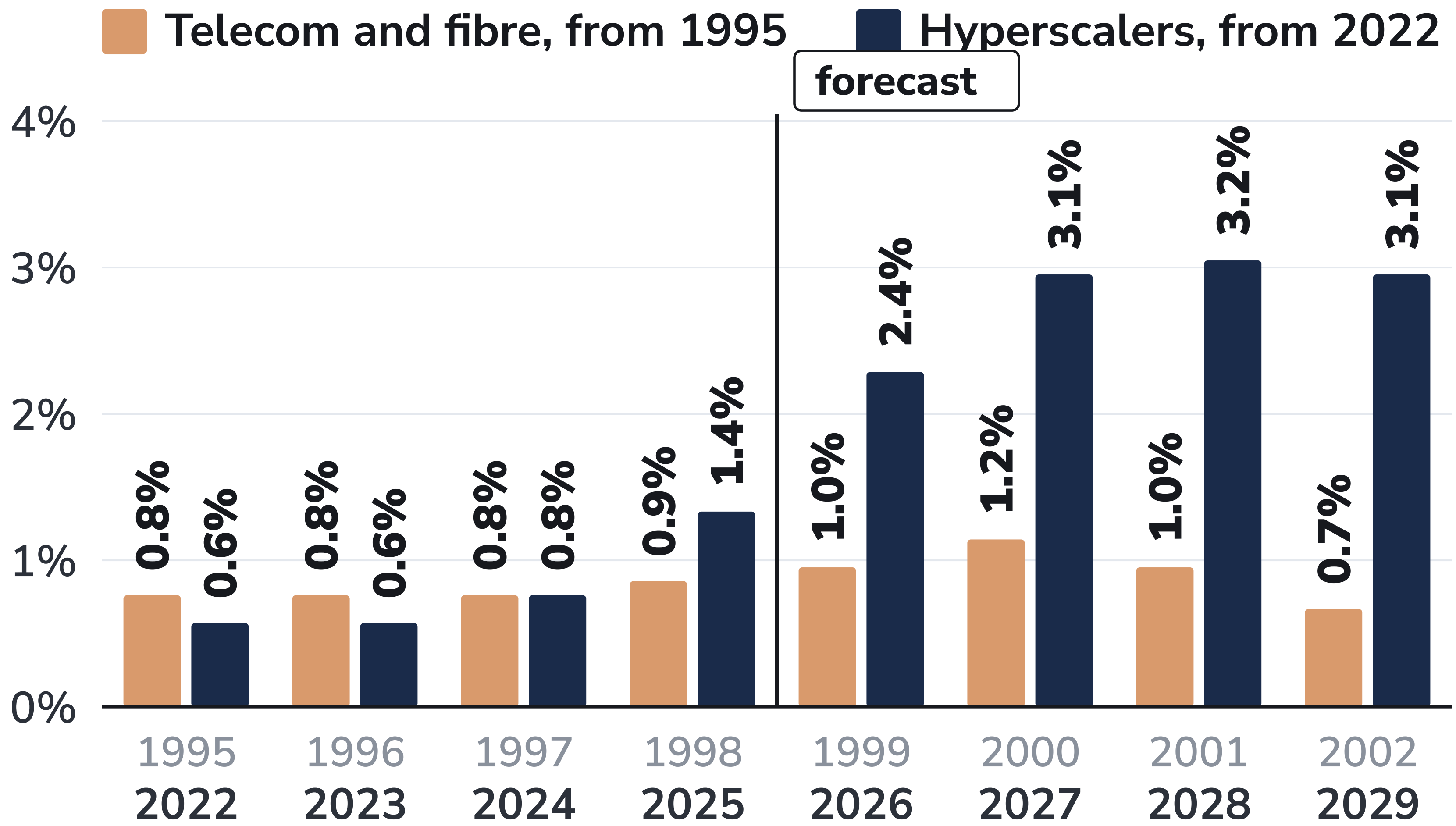
> *"The consensus expects hyperscaler capex to run at roughly 3% of GDP every year from 2027 to 2029, up from 0.3% of GDP in 2019 and 1.4% in 2025."*
>
> **Torsten Slok** · Partner and Chief Economist, Apollo

SOURCE [The AI Capex Boom Is Building Twice as Fast ...] · Apollo, 6 Aug

THE BUILD · 02

Twice the size of the fibre boom

Apollo lines the two cycles up year by year. The orange bar is the telecom and fibre buildout of the late nineties.



Both buildouts as a share of US GDP, lined up year by year. Our chart, redrawn from Apollo Chief Economist, 6 August 2026

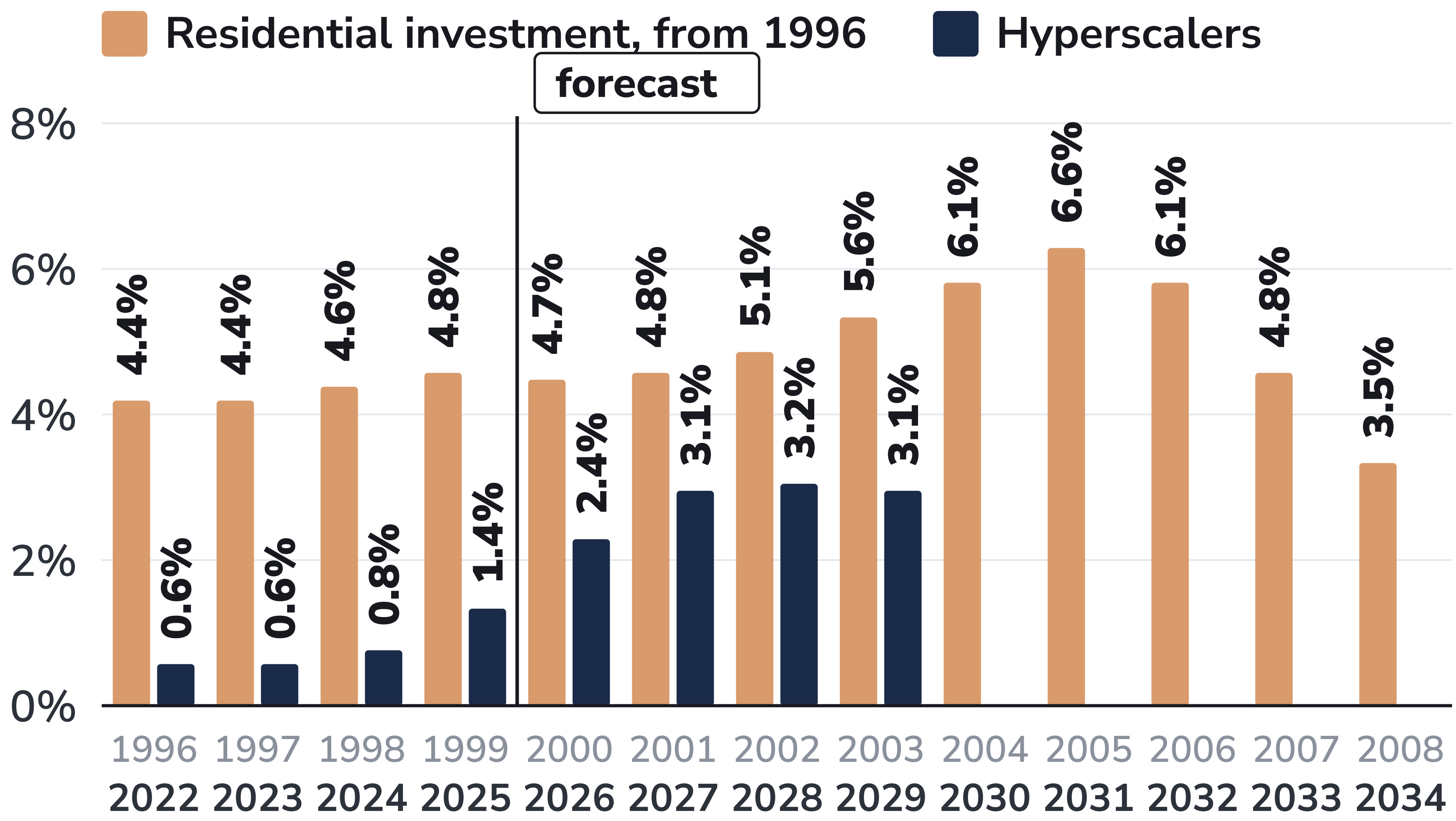
> *"This is more than twice the peak of the telecom and fiber buildout of the late 1990s, which topped out at 1.2% of GDP in 2000 before collapsing and tipping the economy into the mildest post-war recession."*
>
> **Torsten Slok** · Partner and Chief Economist, Apollo

SOURCE The AI Capex Boom Is Building Twice as Fast ... · Apollo, 6 Aug

THE BUILD · 03

And still smaller than housing

The counterweight, and it is Apollo's own third chart. Residential investment reached 6.6 per cent of GDP in 2005, more than double where hyperscaler capex is forecast to peak.



Both as a share of US GDP, lined up year by year. Our chart, redrawn from Apollo Chief Economist, 6 August 2026

> *"The data-center buildout is still less than half the size of the housing boom, which peaked at 6.6% of GDP in 2005."*
>
> **Torsten Slok** · Partner and Chief Economist, Apollo

SOURCE The AI Capex Boom Is Building Twice as Fast ... · Apollo, 6 Aug

THE BUILD · 04

The unwind is the risk, not the build

The level is the wrong thing to watch. What made 2008 severe was not how high housing got, it was how fast it came down. And this cycle is going up faster than either of the last two.

> *“The bottom line is that the data-center buildout is smaller than housing in level but larger in the change in share of GDP, and faster than either previous cycle.”*
>
> **Torsten Slok** · Partner and Chief Economist, Apollo

> *“The same arithmetic runs in reverse: housing's unwind, from 6.2% of GDP in early 2006 to 3.0% by the end of 2008, is what made that recession severe, while telecom's much smaller reversal produced the mildest one ... A cycle that builds at 0.85 percentage points a year can unwind at a similar pace, and that, rather than the buildout itself, is the macro risk if AI demand disappoints.”*
>
> **Torsten Slok** · the same note

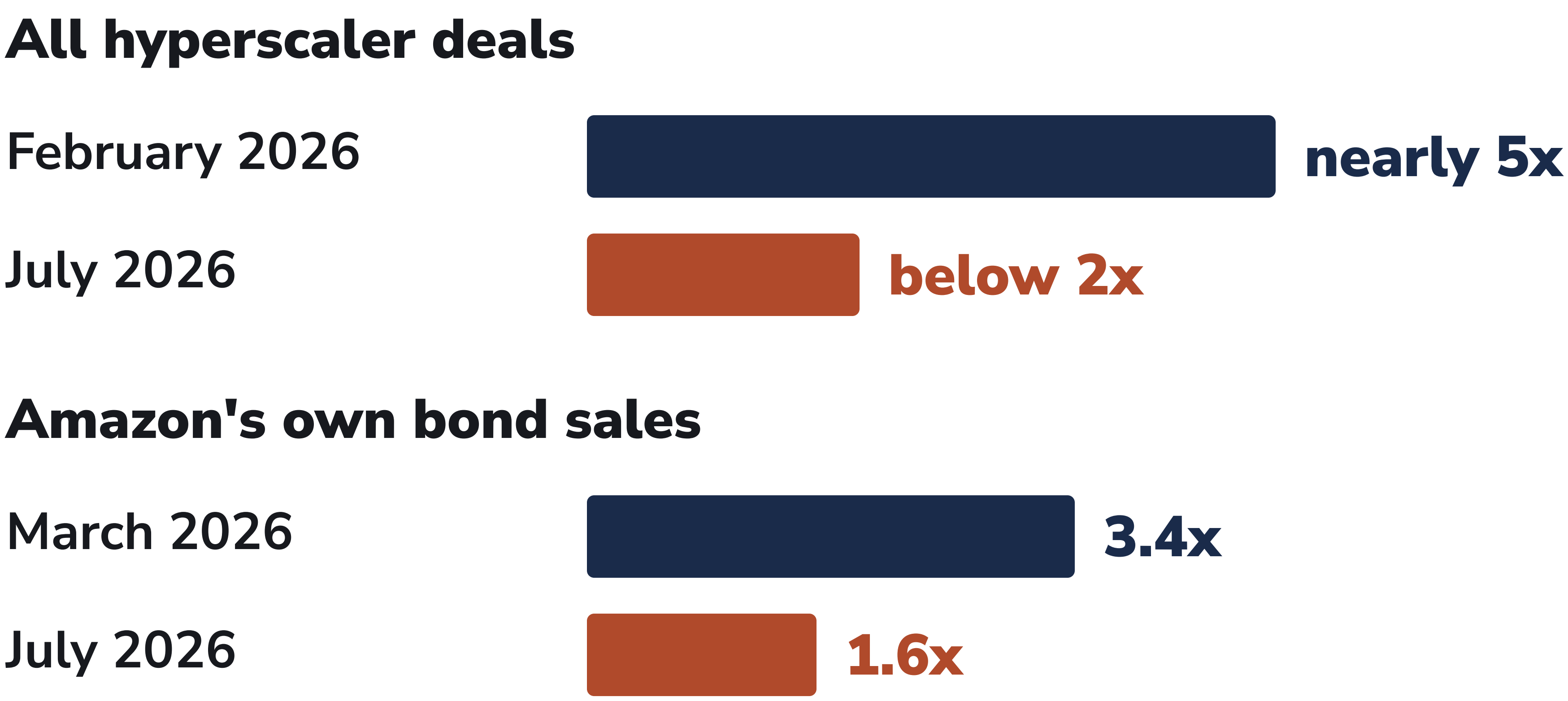
The unwind Apollo is pointing at (residential investment, % of GDP)

SOURCE [The AI Capex Boom Is Building Twice as Fast ...] · Apollo, 6 Aug

THE MONEY · 01

The buyers are backing away

The cover ratio counts how many dollars of investor orders a bond deal draws for every dollar issued. On hyperscaler deals it has more than halved since February, while every other investment grade borrower has barely moved.



Dollars of investor orders per dollar of bonds issued. Our chart. Every figure is one the source states in words, from Apollo, 15 July 2026 and Reuters, 29 July 2026

> *"For hyperscalers, it has fallen from **nearly 5x** in February 2026 to **below 2x** in July, suggesting investors may need wider spreads to absorb additional hyperscaler supply."*
>
> **Torsten Slok** · Partner and Chief Economist, Apollo

SOURCES Cover Ratios for Hyperscaler Bonds Declining · Apollo, 15 Jul | Reuters, 29 Jul

THE MONEY · 02

Borrowing more, at a worse price

Amazon, Alphabet, Meta and Oracle issued about **194 billion dollars** of bonds in 2026 to 7 July, up 79 per cent on the whole of 2025. Goldman expects the five, adding Microsoft, to reach roughly 250 billion this year and 400 billion next. Of the bonds issued this year with comparable pricing, **78 of 91** now trade above the yield they were sold at.

Median new issue concession, basis points

The extra yield a borrower must offer, against its existing debt

> *“I don't see sort of a point in time in the near future where that sort of supply goes away. Technically, that puts pressure on spreads ... We're already seeing fatigue within credit markets in supporting this massive debt issuance.”*
>
> **Colby Stilson** · head of fixed income, Brown Advisory

SOURCE Hyperscaler debt binge pushes yields up ... · Reuters, 29 Jul

THE MONEY · 03

The vendor is funding the customer

In late July, Nvidia was reported to be weighing a **250 billion dollar** guarantee on an OpenAI data centre in Ohio, and separately a deal to finance OpenAI's purchase of **350 billion dollars** of Nvidia chips. Its shares fell 4.5 per cent that morning, and the cost of insuring its bonds against default posted its sharpest intraday rise since they began trading actively in November. **Andrew Bailey named this same structure on page 6**, calling it cross-investment between AI companies and hyper scalers.

> *"You buy from me, I invest in you, and everything's fine unless one of us has a problem, in which case both of us have a problem."*
>
> Axios · on why the possibility of more circular deals soured the debt market that Monday

> *"It also renews concerns that the increasingly 'circular' nature of AI deals could **create systemic financial risks.**"*
>
> Axios · the same report

SOURCES Nvidia reignites "circular" AI concerns · Axios, 27 Jul | FSB Chair's letter to the G20 · 28 Aug

THE MONEY · 04

Now compute itself is a commodity

On **5 October**, pending approval, CME and Silicon Data list two futures contracts on the hourly rental price of Nvidia H100 and Blackwell chips.

THE CASE FOR IT

"Compute futures give the market … a public, tradable reference price for the resource every AI system runs on."

Carmen Li · chief executive, Silicon Data

"You can think about it as a revenue stream, and you can ***securitize it*** *… and sell it to investors."*

Waldemar Szlezak · head of digital infrastructure, KKR

THE NOTE OF CAUTION

Oil and electricity trade this way. **A chip is different, because it ages.** Michael Burry argued late last year that the hyperscalers **overstate the useful life of their AI chips and understate the depreciation**.

"When Wall Street starts getting noticeably excited about securitizing physical assets, a natural question emerges: ***What could go wrong?****"*

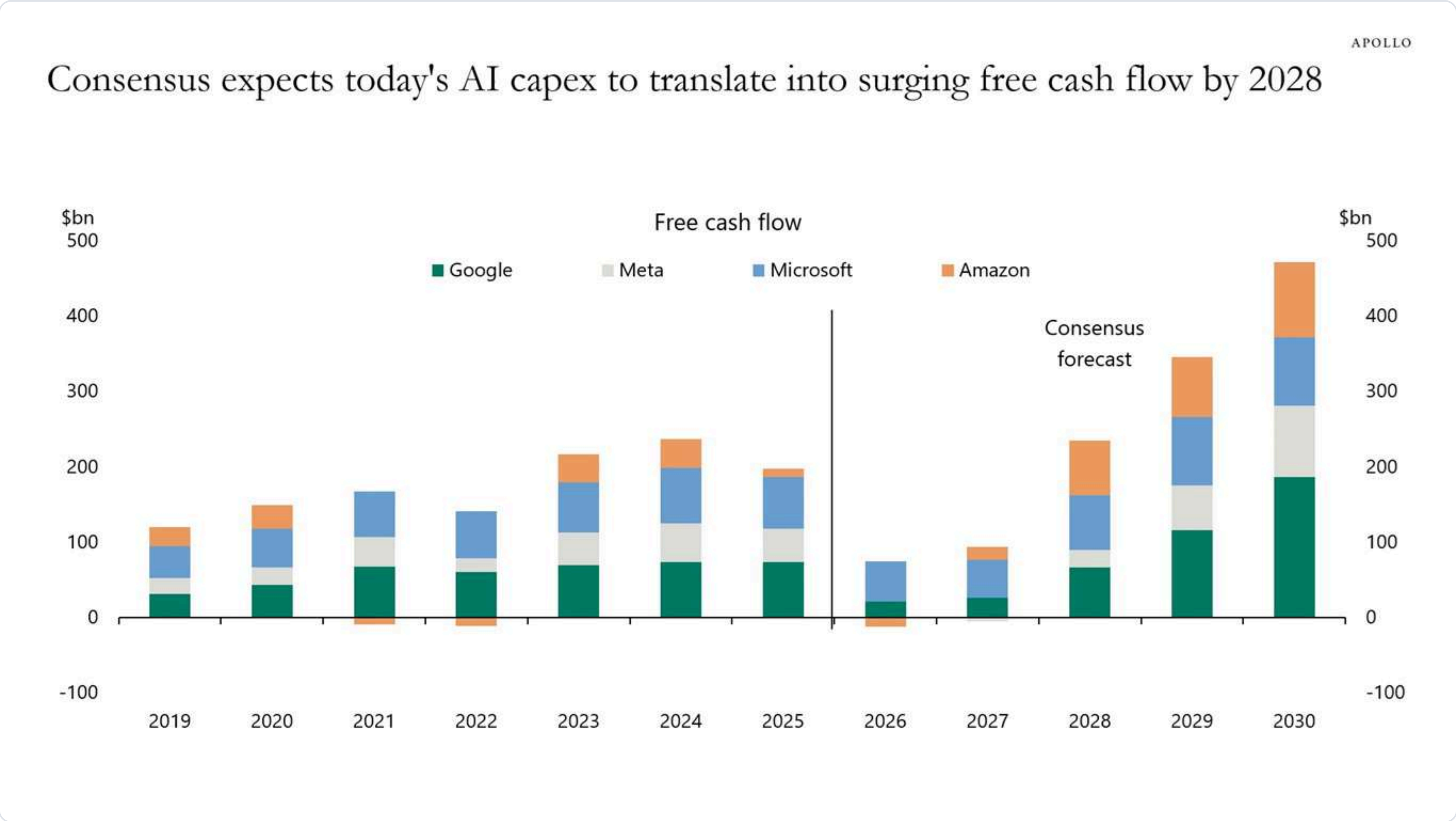
CNBC · on the same announcement

SOURCES AI computing power is a tradable asset class · CNBC, 11 Aug | Wall Street endorsed Huang's big concept · CNBC, 11 Aug

THE PAYOFF · 01

Everything rests on 2028

Consensus has hyperscaler free cash flow falling sharply in 2026, recovering slowly through 2027, then more than doubling by 2030. Every valuation, every bond and every spread on the pages before this one is priced off the right hand side of this chart.



Free cash flow for Google, Meta, Microsoft and Amazon, actual and consensus forecast.
Chart: Apollo Chief Economist, 9 July 2026. Source: FactSet

> *"But what if the payoff takes longer than consensus assumes?"*
>
> Torsten Slok · Partner and Chief Economist, Apollo

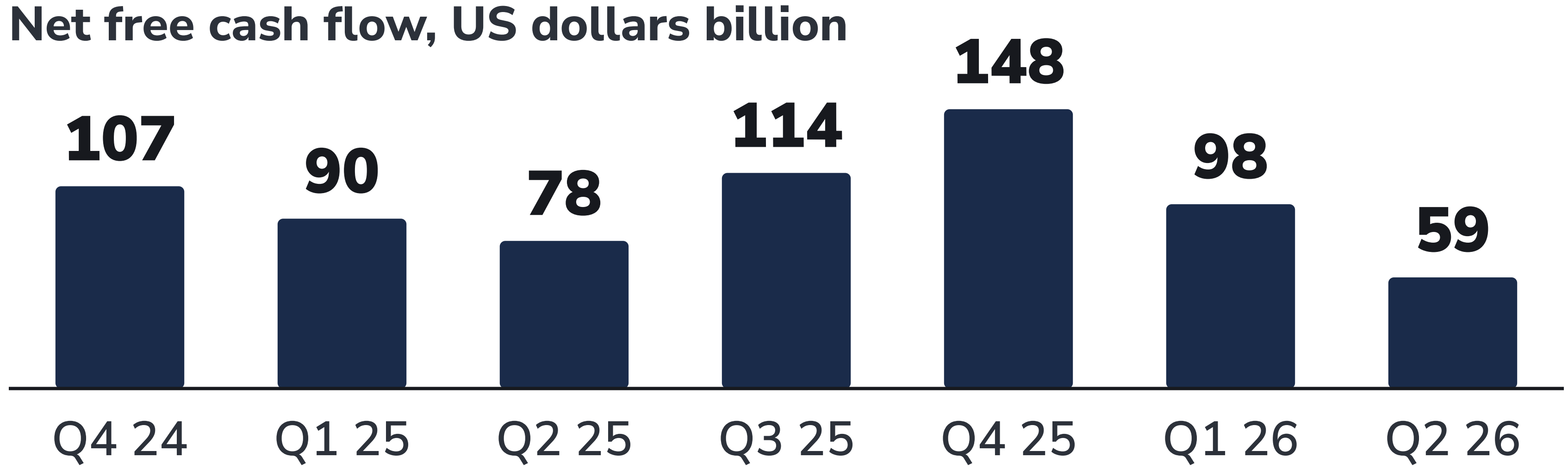
SOURCE A Slower AI Payoff Would Be Everyone's Problem · Apollo, 9 Jul

THE PAYOFF · 02

Three of the seven are already negative

The same turn shows up in our own numbers, on a wider basket. Across the Magnificent Seven, net free cash flow fell from **$148 billion** in the December quarter to **$59 billion** in June. Alphabet, Amazon and Tesla were each below zero.

Net free cash flow, US dollars billion



Seven quarters to June 2026. Our chart and our data, from SEC EDGAR XBRL filings

Free cash flow, June quarter 2026, $bn. Nvidia is the quarter ended 26 July

Apple
+$31.9B

Nvidia
+$21.4B

Microsoft
+$19.6B

Meta
+$1.7B

Tesla
-$1.1B

Alphabet
-$5.9B

Amazon
-$8.8B

Alphabet has never had a negative quarter before.

Its first negative quarter in 22 years as a public company.

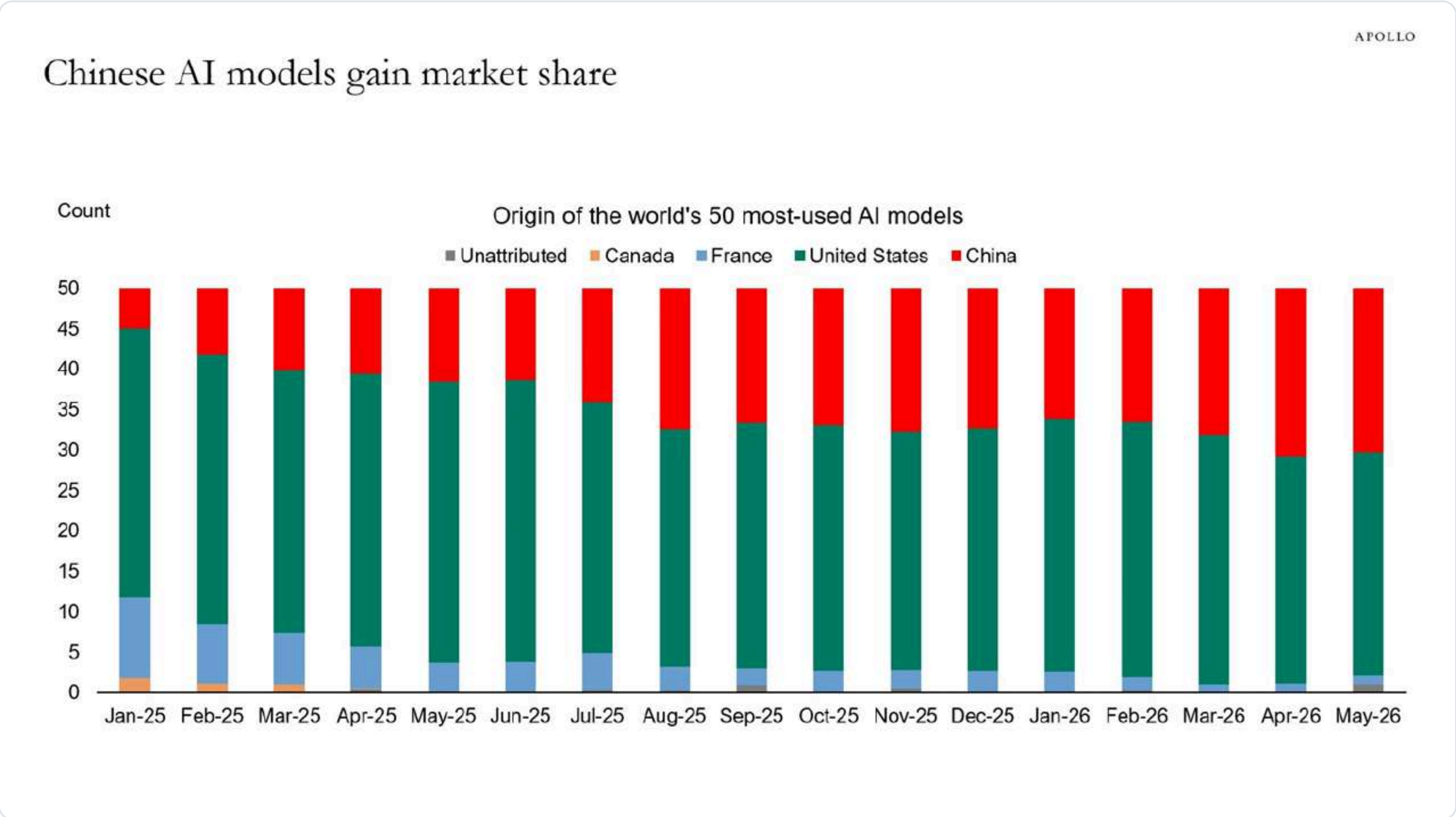
SOURCES Our own pull from SEC EDGAR | Alphabet Q2 2026 earnings release

THE PAYOFF · 03

And the moat is leaking

Two things have to hold for that 2028 cash flow to arrive. Prices have to stop falling, and the American models have to keep their share. Chinese models were five of the world's fifty most used in January 2025. By May 2026 they were about twenty, read off Apollo's unlabelled chart.

China United States France Canada Unattributed



Origin of the world's 50 most-used AI models. Chart: Apollo Chief Economist, 9 July 2026. Source: OurWorldinData.org. Legend redrawn above at a readable size

> *"If Chinese models keep gaining and token prices keep falling, the hyperscaler cash flows expected may prove too optimistic."*
>
> **Torsten Slok** · Partner and Chief Economist, Apollo

SOURCE [A Slower AI Payoff Would Be Everyone's Problem] · Apollo, 9 Jul

THE PAYOFF · 04

If it comes late, three things break

Apollo set out what a slower payoff does, in order.

1. **Cash flows and earnings disappoint.** The free cash flow surge slips later while committed capex and heavy depreciation hit on schedule, squeezing margins.

2. **A Mag 7 sell-off that takes the market with it.** Because those seven are so much of the index, the pain cannot stay contained. It spreads to chips, power, data centres and the S&P 500 as a whole.

3. **Balance sheets stretch and credit risk rises.** With internal cash unable to cover spending, the hyperscalers lean further on debt, inviting possible ratings downgrades if profits lag.

> *"AI has been the one thing holding up both the economy and markets, and with so much riding on so few names, a slower payoff wouldn't just be a sector problem, it would risk **tipping the economy into recession and the S&P 500 into a correction.**"*
>
> **Torsten Slok** · Partner and Chief Economist, Apollo

SOURCE A Slower AI Payoff Would Be Everyone's Problem · Apollo, 9 Jul

MY READ

I have been through a few of these

My own view is that we are at an overvalued point, and this is one of several bubbles waiting to burst.

The dot-com one I remember very clearly. That time it was all about page views, with no revenue, never mind profit. This time the revenues are there, that much is real. It is the profits and cash flows people are counting on that carry the question mark.

Both times the technology itself was real, and in the end all of the value did arrive. It just did not arrive in the amount the market was expecting, or inside the compressed timeframe it was pricing. So the thing went through its whole cycle first.

In the market since 1994. Ex derivative trader (full time, proprietary account).

The ECB economists made the same point in their own words: "The exact timing is unknowable in advance. These boom-bust patterns are only identifiable with hindsight."

More of my work on fundamentals, macro and markets **tigzig.com/analysis**

FOR THE RECORD

Sources

Every quotation is verbatim. Charts are either the publisher's own, reproduced with credit, or ours, drawn from the figures the publisher printed and labelled as such. All published since early July.

THE PRICE

FSB, 28 Aug	FSB Chair's letter to G20 Finance Ministers and Central Bank Governors
ECB Blog, 17 Aug	The AI boom: rational enthusiasm or the next dot-com bubble?

THE BUILD, AND THE PAYOFF

Apollo, 6 Aug	The AI Capex Boom Is Building Twice as Fast as the Housing Boom
Apollo, 15 Jul	Cover Ratios for Hyperscaler Bonds Declining
Apollo, 9 Jul	A Slower AI Payoff Would Be Everyone's Problem

THE MONEY

Reuters, 29 Jul	Hyperscaler debt binge pushes yields up as investor demand cools
Axios, 27 Jul	Nvidia reignites “circular” AI concerns as it weighs OpenAI financing guarantee
CNBC, 11 Aug	AI computing power is becoming a tradable asset class as CME launches futures contracts
CNBC, 11 Aug	Wall Street just endorsed Jensen Huang's 'big concept' for AI. What now?
Alphabet, 22 Jul	Alphabet Q2 2026 earnings release, with its own free cash flow reconciliation

OUR OWN DATA

Tremor	Shiller CAPE, monthly since 1881. Free, no sign up, full data download