

HYPERSCALER AI INFRASTRUCTURE

The AI Capex Question: Value or Mirage

\$1 TRILLION+

ESTIMATED COMBINED AI CAPEX,
APPROACHING 2027 — FIVE
COMPANIES

Five companies — Google, Microsoft, Meta, Amazon, Oracle — are pouring unprecedented capital into AI infrastructure. Growth isn't the question. Value creation is.

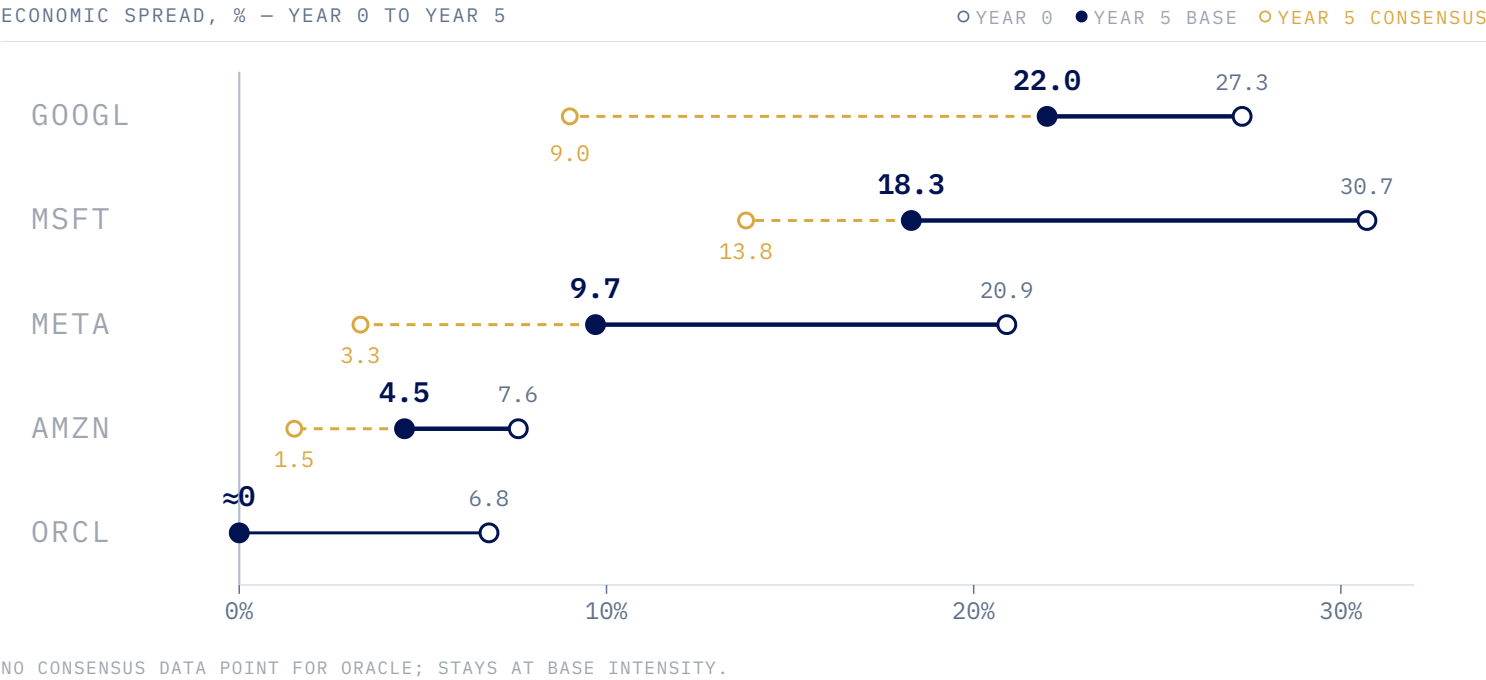
The ultimate measure is economic spread: the difference between the return on invested capital and the cost of capital. This is the one number that can't be gamed.

THE VERDICT

Measured Honestly, the Buildout Creates Value. For Now Anyway

All five companies clear their cost of capital today, but the spread narrows over time as spending compounds. How much it narrows depends on spending, and whether it draws genuine end-demand or is intra-ecosystem (industry funding itself).

The cushion thins fast on spending at 2027 street-consensus levels without a matching lift in revenue. Google gives up more than half of it, and Amazon and Meta fall toward the line where spending stops paying for itself.



ONE COMPANY BREAKS THE PATTERN. Stress every company with a low, AI-specific datacenter margin and four of five compress further. Amazon widens: AWS's disclosed segment margin already clears that bar. Its cloud economics are proven.

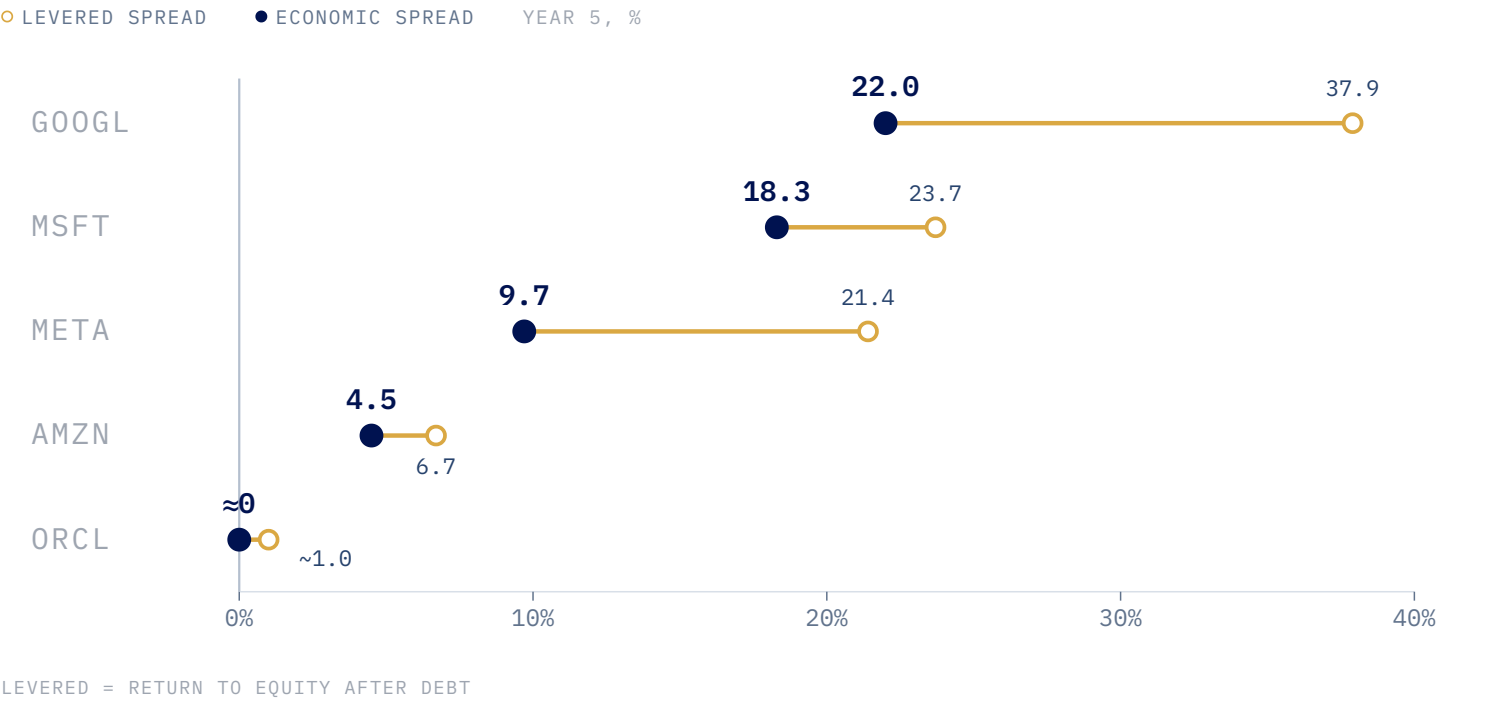
Consensus figures reflect a broader capex definition than our filing-sourced cash capex. Part of the difference is measurement, part is genuinely higher intensity. That is why this is framed as a range, not a single revised number.

LEVERAGE

Beware the Leverage Mirage

Returns look far stronger measured the levered way. Borrowing can't manufacture value, however. Strip the debt flattery out and the gap is stark: Google's levered spread is nearly double its true economic spread. Meta's is more than double.

Oracle is the sharpest illustration. Its levered spread is still positive, but its economic spread is at or below zero. Strip the leverage away and Oracle may no longer be clearing its cost of capital. The debt is the only thing holding the headline number above the line.



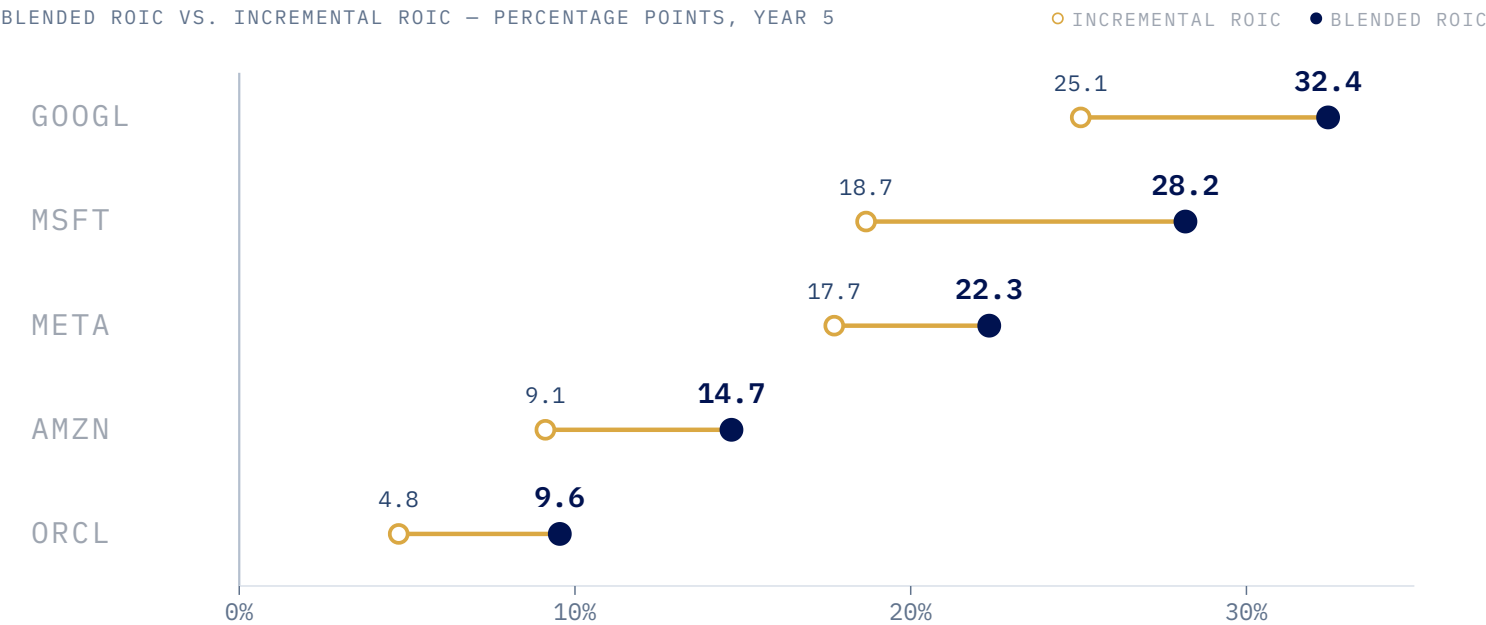
DIMINISHING RETURNS

The Newest Dollar Works Less Hard

Return on this year's new spending runs below the return on the existing base for every company. That's the classic signature of a maturing capex cycle: the best projects get funded first, where each incremental dollar works a little less hard.

The average still mostly clears its cost of capital. The marginal dollar is where pressure shows first. Incremental ROIC is the return on the newest capital deployed, versus the blended average across all capital.

BLENDED ROIC VS. INCREMENTAL ROIC — PERCENTAGE POINTS, YEAR 5



MAINTENANCE

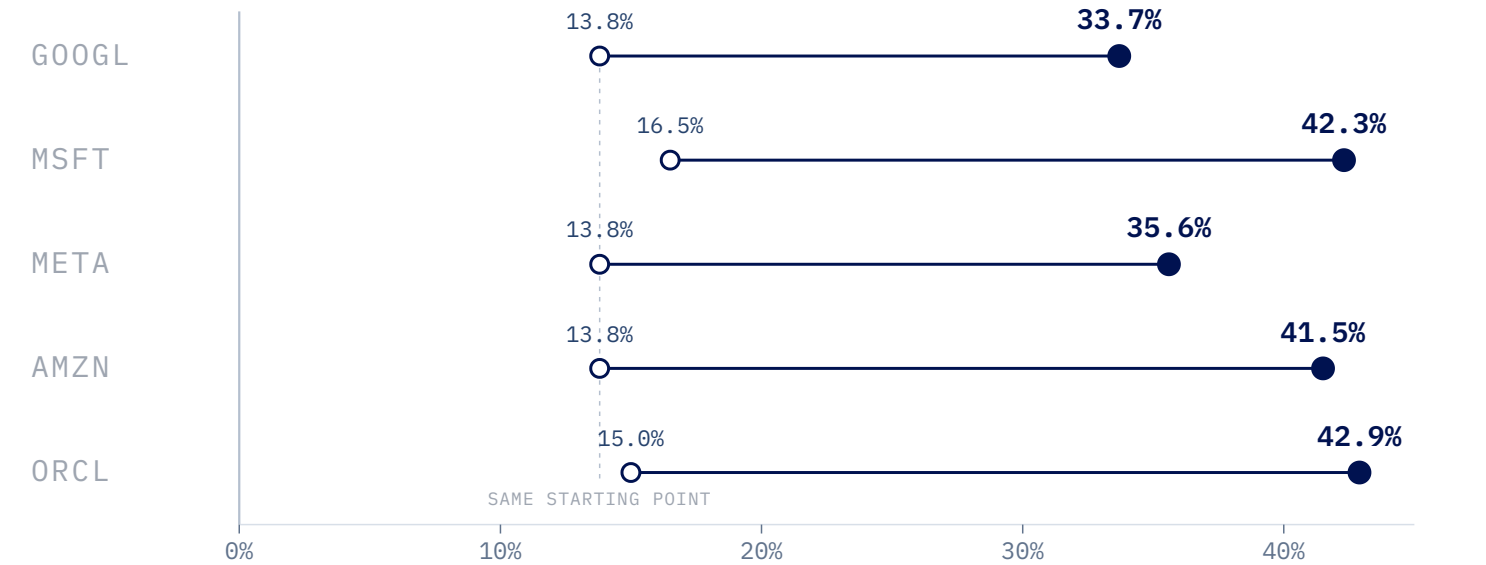
A Rising "Maintenance Tax" Is Baked In

Chips obsolete faster than buildings. Maybe that goes without saying, but as chips age a growing share of each year's capex just replaces worn-out hardware rather than adding capacity. There's an economic impact.

That maintenance share climbs over time for every company. A permanent, rising claim on cash that may only get heavier with scale. The assumed useful life of AI chips is the model's most consequential unconfirmed input.

MAINTENANCE CAPEX AS % OF TOTAL CAPEX — YEAR 0 TO YEAR 5

○ YEAR 0 ● YEAR 5



Amazon, Google, and Meta share a common starting point because none has disclosed its actual short-lived (GPU) asset mix. The model applies the same placeholder to each. Microsoft starts higher because it's the one company that has disclosed its mix. The point is the trend, not the starting level.

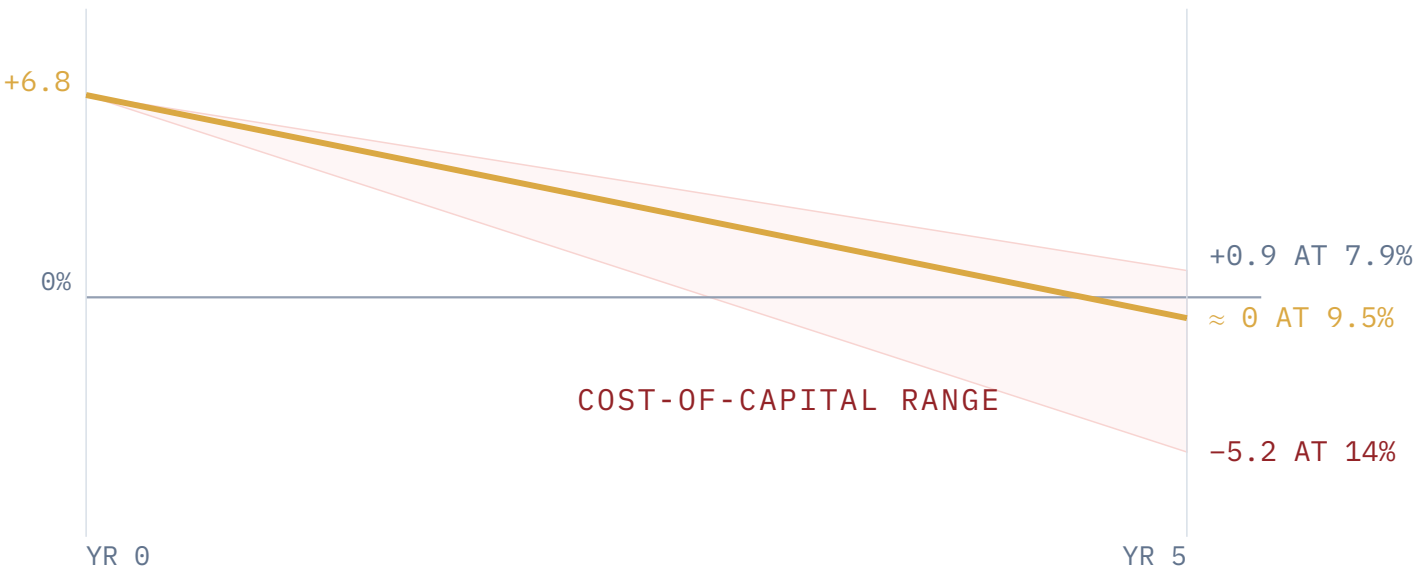
THE ORACLE CASE

Oracle Is Where the Thesis Bites

Oracle is the outlier on every axis: highest capital intensity, thinnest margin cushion, and highest leverage. The credit markets are pricing the same risk: Oracle's cost of default protection has risen fastest in the group.

The company's economic spread compresses to approximately zero by year five, sitting right at breakeven at the model's own, already-conservative cost-of-capital assumption, and potentially tipping negative under a more cautious view.

ORACLE ECONOMIC SPREAD, % – BASE CASE AND COST-OF-CAPITAL RANGE



Under the Hood: Sourced Inputs, Transparent Mechanics

Economic spread is unlevered return on capital minus its cost; every figure below flows from filings through that engine. A through-cycle framework, not a quarter-by-quarter forecast. Every number is a lever, not a hardcode.

GROWTH	Derived, not assumed; driven by how profitably each company reinvests, so growth decelerates every year for a real economic reason, not an arbitrary cap.
CAPEX	Held at each company's current, filing-sourced intensity. Stress-tested against a higher consensus-spending case, which is the single highest-impact input on returns.
CAPEX & REVENUE	Capex only creates value if it pulls revenue with it. The model links the two by design; the base-versus-consensus range tests what happens if spending outruns revenue. This relationship is the analytical core.
MARGINS	Consolidated, not AI-specific. It's a candor point, not a hidden assumption. A clean AI-only margin isn't disclosed for most of the group, so each company's overall margin is applied to AI capital too, which likely overstates the true AI-specific return where the non-AI core is high-margin. A uniform 25% AI-datacenter stress margin confirms real additional compression.
RETURNS	Headlined unlevered so financing can't flatter the answer.
GUARDRAILS	Leverage is a guardrail, not a driver. Conclusions barely move whether it's set low or high. Four stress tests in all: capex intensity, AI-specific margin, leverage, discount rate.

Narrative may lead. Fundamentals ultimately anchor.

Strip out the leverage flattery and the AI capex boom is real, and for most of the group genuinely value-creating. For the most stretched player, however, the cushion is thin and, potentially, could thin some more.

We're watching the economic spread.
Not the headline.