FT Alphaville Technology

What'll happen if we spend nearly $3tn on data centres no one needs?

Nineties adults remember

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The telecoms bubble is the middle child of financial crashes. Stuck in time between the dotcomedy and the GFC, it lacks the former's novelty and the latter's drama. Value destruction by telco equipment overspend in the late 1990s tends to be bundled in with the tech crash, or overlooked entirely.

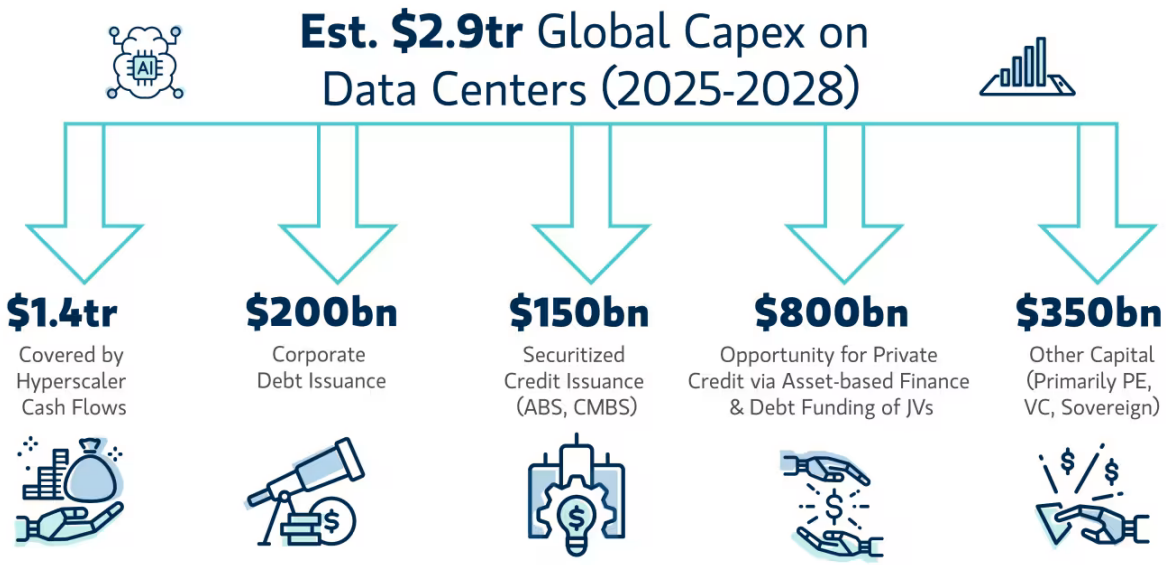
Morgan Stanley, in its recent research about global data centre demand in the age of AI, went for the second option.

In three notes and two podcasts, the broker sets out an argument that private credit and securitised finance can close a $1.5tn data centre funding gap. Reference is made only in passing to the last time debt-funded infrastructure investment was based on fantastical demand projections for a product that quickly became commoditised.

Executive summary:

> [We see] global data centre capacity increasing by 6x by 2030. That buildout will require an extraordinary amount of money; ~$3tn of global capex by just 2028. Roughly half of that may be funded by hyperscaler cash flows. Credit plays a big role with the rest.

Infographic:



Working:

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> The AI-capex cycle has been in motion for some time now, with hyperscaler spend alone going from ~ $125bn two years ago to ~$200bn in 2024, and expected by consensus/guidance to exceed $300bn in 2025. So far, internal cash flows from hyperscalers have been more than sufficient to match these requirements. Our equity analysts are optimistic about AI monetisation, and project that GenAI revenues could exceed $1tr by 2028, with close to 70% variable margins, compared to just $45bn in 2024.
>
> That said, over the horizon of 2025 through 2028, investment needs ramp sharply, hyperscaler cash flow usage is constrained both by willingness and capital allocation, and there is a lag between the timeline of spending vs. monetisation. This implies a significant gap in capital needs that will need to be financed. [. . .]
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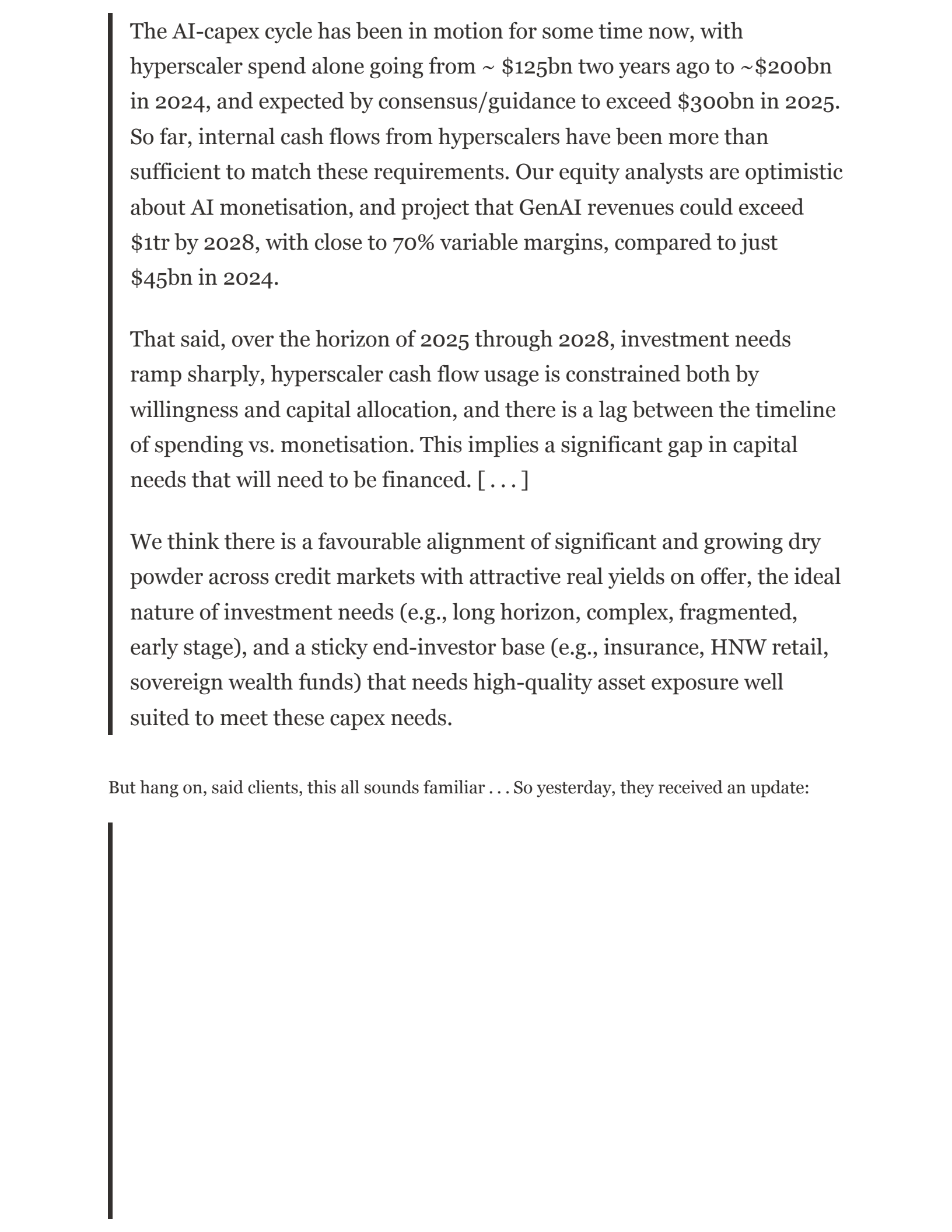
> We think there is a favourable alignment of significant and growing dry powder across credit markets with attractive real yields on offer, the ideal nature of investment needs (e.g., long horizon, complex, fragmented, early stage), and a sticky end-investor base (e.g., insurance, HNW retail, sovereign wealth funds) that needs high-quality asset exposure well suited to meet these capex needs.

But hang on, said clients, this all sounds familiar . . . So yesterday, they received an update:

> 

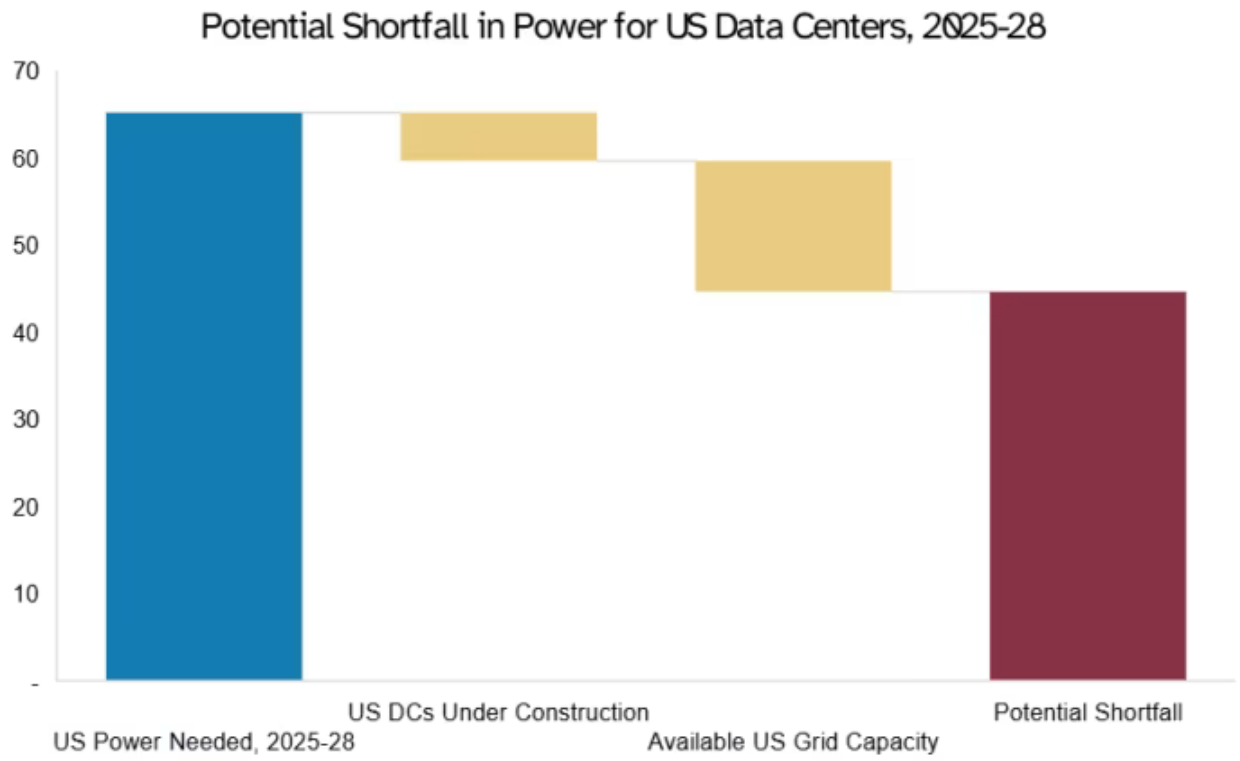
> Calling back to the tech boom of the mid-to-late 90s, investors have been asking about the possibility that this investment cycle for data centres could be a bubble. While we agree that it is a lot of financing, very quickly, and in service of a technology that has yet to generate material revenues (GenAI), we believe there are a few important differentiating factors about this situation. For one, there are diverse pools of capital available today, which can distribute the warehousing of credit risk, unlike in the 90s when it was concentrated on corporate balance sheets. Second, the ultra-high-quality credit profile of hyperscalers and their significant cash on hand mean less sensitivity to macro conditions. Lastly, our equity research colleagues find that the ROI of AI should already be positive this year, generating $50bn in revenues, and that this will grow to exceed $1tr/year by 2028

Even for Morgan Stanley, the most evangelistic of the Wall Street banks about GenAI's potential, this is wild stuff.

The entire high-yield bond market is only valued at about $1.4tn, so private credit investors putting in $800bn for data centre construction would be huge. A predicted $150bn of ABS and CMBS issuance backed by data centre cash flows would triple those markets' current size. Hyperscaler funding of $300bn to $400bn a year compares with annual capex last year for *all S&P 500 companies* of about $950bn.

It's also worth breaking down where the money would be spent. Morgan Stanley estimates that $1.3tn of data centre capex will pay for land, buildings and fit-out expenses. The remaining $1.6tn is to buy GPUs from Nvidia and others. Smarter people than us can work out how to securitise an asset that loses 30 per cent of its value every year, and good luck to them.

Where the trillions won't be spent is on power infrastructure. Morgan Stanley estimates that more than half of the new data centres will be in the US, where there's no obvious way yet to switch them on:



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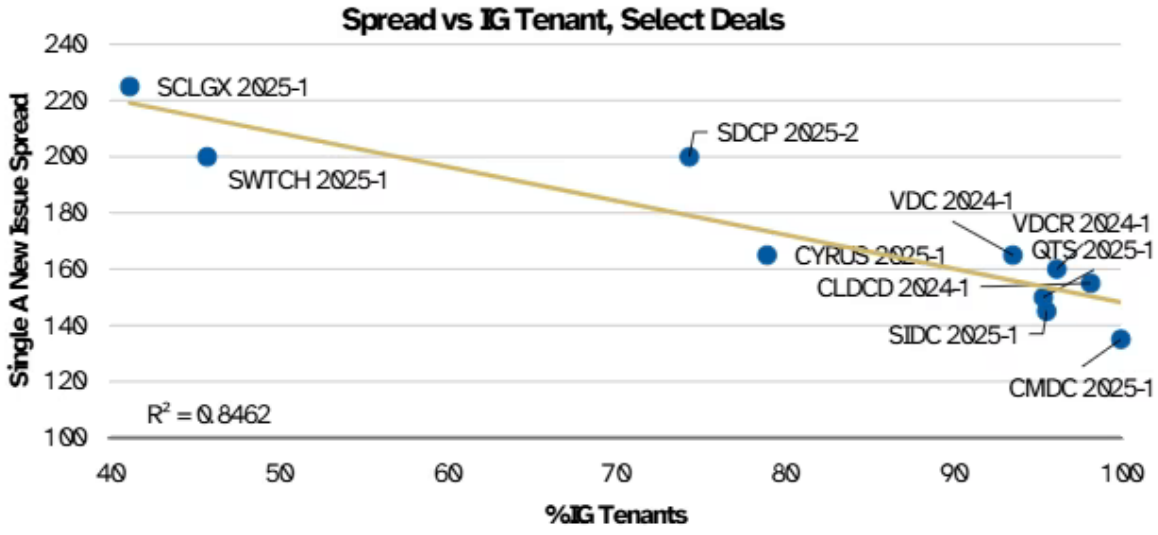
America needs to find an extra 45GW for its data farms, says Morgan Stanley. That's equivalent to about 10 per cent of all current US generation capacity, or "23 Hoover Dams", it says. Proposed workarounds to meet the shortfall include scrapping crypto mining, putting data centres "behind the meter" in nuclear power plants, and building a new fleet of gas-fired generators. How likely any of this is to happen by 2028 is not directly addressed.

Morgan Stanley also acknowledges that, with hyperscalers funding themselves, a lot of the new money will be backing losers. Spreads on recent data-centre ABS issuance by Stonepeak, Switch and Sabey, to the left side of the below graph, already price in a high likelihood of tenant failure, it notes:



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Still! There's ">$4tn of dry powder" in private credit markets waiting to be deployed, as well as a cohort of securitised credit investors who just need to get comfortable with GenAI's economics, the broker says in its response note published yesterday:

> We think many investors are still coming up the learning curve and are working to understand the asset- and developer-specific risk factors before they will meaningfully participate in these deals (an understanding of the underlying thematic seems largely well-established). Thus, we think demand has room to grow alongside supply and should be supported by growing investor allocations from yield buyers as well.

And what about the risks around overbuild and obsolescence? What about the risk that cheap smaller-language-models like DeepSeek gut the corporate market, or that consumers' willingness to pay never catches up with compute costs? What if compute becomes as commoditised as bandwidth did in the early 2000s? Who's to say that when data centre securitisations come up for refinancing in a few years, vacancy rates won't be higher?

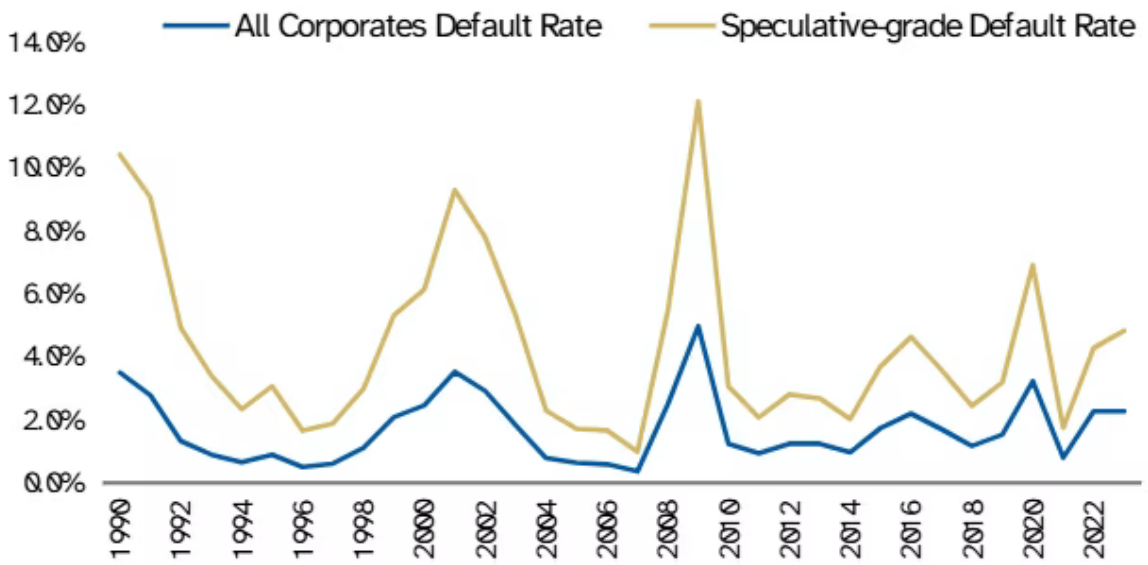
When the base case is for 1,900 per cent revenue growth by 2028, isn't it worth considering the risk of a shortfall?

No, says Morgan Stanley. In its original research, the broker writes that it's "too early in the current investment cycle to be concerned about risks on the other side":

> Clearly, debt growth of this magnitude run into the risk of obsolescence, slower monetisation, and weak macro conditions. An encouraging sign, though, is the diverse pools of capital that are available today, which can distribute the warehousing of credit risk (unlike the late 1990s when it was concentrated on corporate balance sheets). Further, the ultra-high-quality credit profile of hyperscalers and significant cash on hand mean less sensitivity to macro conditions.

Yesterday's update adds the angle of "location desirability," saying: "We believe that even if compute demand in 5-10yr declines versus the peak, there will be a large quantity of data centre assets that are still in desirable areas."

In 2000, at the telecoms bubble's peak, communications equipment spending topped out at $135bn annualised. The internet hasn't disappeared, but most of the money did. All those 3G licences and fibre-optic city loops provided zero insulation from default:



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Peak data centre spend this time around might be 10 times higher, very approximately, with public credit investors sharing the burden more equally with corporates. The broader spread of capital might mean a slower unwind should GenAI's return on investment fail to meet expectations, as Morgan Stanley says. But it's still not obvious why creditors would be coveting a server shed full of obsolete GPUs that's downwind of a proposed power plant.