Capex, useful lives and free cash flow

Amazon letters: 2025 · Difficulty: Intro

Summary

Capital expenditures (capex) are recorded as assets and expensed through depreciation over their **useful lives** (30+ years for datacenters; 5–6 years for chips and servers). The cash is paid up front, so when capex grows faster than revenue, free cash flow falls even while net income holds up. Jassy explains why Amazon accepts this to build AI capacity.

2025 letter

In 2008, Netflix decided to move all of its applications to AWS, then came big commitments from GE, Intuit, and others—and eventually the CIA chose AWS as their partner to build their classified cloud. Growth came fast and furious, and as it accelerated, so too did our capital expenditures ("capex") with dilutive impact on free cash flow ("FCF"). At our 2014 AWS operating plan review, the discussion started with a senior leader at the company musing, "Tell me again why we're doing this business?" AWS has worked out well for Amazon, but a straight line?

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Having our own hotly demanded AI chip opens up many possibilities, but perhaps none larger than the ability to lower costs for customers and secure better economics for AWS. At scale, we expect Trainium will save us tens of billions of capex dollars per year, and provide several hundred basis points of operating margin advantage versus relying on others' chips for inference. Our annual revenue run rate for our chips business (inclusive of Graviton, Trainium, and Nitro—our EC2 NIC) is now over $20 billion, and growing triple digit percentages YoY .

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If our chips business was a stand-alone business, and sold chips produced this year to AWS and other third parties (as other leading chips companies do), our annual run rate would be ~$50 billion. There's so much demand for our chips that it's quite possible we'll sell racks of them to third parties in the future. 5/ The way AWS's cash cycle works is that the faster AWS grows, the more short-term capex we'll spend .A W S has to lay out cash for land, power, buildings, chips, servers, and networking gear in advance of when we can monetize it (typically 6-24 months before we start billing customers, depending on the component). However, these capex investments fund assets with many-year useful lives (30+ years for datacenters; 5-6 years for chips, servers, and networking gear). The FCF and ROIC for these investments are cumulatively quite attractive a couple years after being in service; however, in times of very high growth (like now), where the capex growth meaningfully outpaces the revenue growth, the early-years FCF is challenged until these initial tranches of capacity are being monetized and revenue growth out-paces capex growth.

We've been through this cycle with the first big AWS growth wave, and liked the results. We expect to feel similarly about this next wave, with much larger potential downstream revenue and FCF . 6/ We have customer commitments that make our capex investments predictable . We're not investing approximately $200 billion in capex in 2026 on a hunch. The recent OpenAI commitment (over $100 billion) is an example of this, but there are several other customer agreements completed (and unannounced), or deep in process.

Of the AWS capex we expect to spend in 2026, much of which will be monetized in 2027-2028, we already have customer commitments for a substantial portion of it. We are willing to make large capex investments and endure short-term FCF headwinds for the substantial medium to long-term FCF surplus. AI is a once-in-a-lifetime opportunity where the current growth is unprecedented and the future growth even bigger. AWS has a significant leadership position with the broadest functionality, strongest security and operational performance, largest share of customers and revenue, strong desire from customers to run their AI in AWS, and an opportunity to build what could be a new pillar for Amazon in chips.

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