Advanced Micro Devices INC. (AMD) Case Competition



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Introduction

Primary Operations & Industry

Advanced Micro Devices, Inc. (AMD) is a global semiconductor company specializing in high-performance computing and graphics solutions. AMD uses a fabless model: it designs its chips but outsources manufacturing, mainly to Taiwan Semiconductor Manufacturing Company (TSMC). Its main competitors are Intel in CPUs and NVIDIA in GPUs and AI accelerators.

Principal Products & Business Segments

AMD operates through three reportable segments. The Data Center segment includes server class CPUs, GPUs, DPUs, AI Nics, FPGAs, and adaptive SoCs designed for AI training, inference, cloud computing, and scientific computing. The Client and Gaming segment includes CPUs and APUs marketed under the AMD ryzen and AMD ryzen ai brands for desktops and computers, semi customer SoC products for gaming consoles, and discrete GPUs and chipsets. The Embedded segment includes embedded CPUs, APUs, FPGAs, and adaptive SoCs. Its key product lines are EPYC server CPUs, Instinct AI GPUs, Ryzen PC processors, Radeon graphics, and the custom chips inside Sony PlayStation and Microsoft Xbox consoles.

Main Revenue Sources

AMD sells mainly to PC and server manufacturers, cloud providers, and distributors. In 2025, the company reported a record full-year revenue of $34.6 billion up 34% from $25.8 billion in 2024, with gross profit of $17.2 billion, a gross profit of roughly 50%. Net income nearly tripled to $4.3 billion, or $2.65 per diluted share. FY 2025 revenue was led by Data Center at $16.6 billion (48%), Client at $10.6 billion (31%), Gaming at $3.9 billion (11%), and Embedded at $3.5 billion (10%). Over the 2022-2025 period, Data Center overtook the PC and gaming businesses as AMD’s largest source of revenue.

AMD's Five Key Financial Success Drivers

I. **Data Centers:** Demand for AI accelerators has been strong from hyperscale customers, OEMS, and ODMS deploying MI350x Series GPUS. Growth in this market favors AMD's highest-margin products.

II. **Product Innovation:** AMD introduced 5th Gen EPYC server processors in 2025 delivering leadership performance for AI and enterprise workloads, and previewed Helios, an AI rack-scale platform incorporating CPUS, GPUs, and networking.

III. **AI PC Adoption:** In 2025, AMD launched Ryzen AI 300 series processors with next generation NPU supporting Microsoft Copilot + PCs, and in January 2026 launched Ryzen AI 400 series for next generation AI PCs

IV. **Strategic Partnership:** In October 2025 AMD entered into a product purchase agreement with Open AI for deployment of 6 gigawatts of AMD GPUs with the first gigawatt powered by MI450 series products

V. **Manufacturing Efficiency:** Outsourcing from Taiwan Semiconductor Manufacturing Company (TSMC) gives AMD access to the world's most advanced manufacturing processes without the cost of building its own fabs, so it can bring competitive chips to market faster.

Financial Analysis

Financial Performance Overview

AMD's performance from 2022 to 2025 falls into three phases. In 2022, the acquisition of Xilinx expanded the business but loaded the income statement with heavy amortization. In 2023, a downturn in PC and gaming demand cut revenue and profits. In 2024 and 2025, demand for AI and data center products drove a strong recovery, ending in record revenue,

earnings, and free cash flow. Overall, AMD changed from a consumer-focused chipmaker into a company led by data center products.

Revenue Growth and the Shift to Data Center

Revenue grew from $23.6 billion in 2022 to $34.6 billion in 2025, about 14% annually (Table 1). Revenue fell 4% in 2023 as Client revenue dropped 25% due to a decline in the PC market. It then grew 14% in 2024 and 34% in 2025. Data Center rose from 26% of revenue to 48% (Table 2), nearly doubling in 2024 as the Instinct MI300 AI accelerator ramped alongside EPYC server CPUs. Because data center chips carry higher prices and margins than consumer products, this shift improved the quality and size of AMD's revenue.

Table 1. Financial Data, 2022-2025 ($ millions, except EPS)

	2022	2023	2024	2025
Revenue	23,601	22,680	25,785	34,639
Revenue growth	30.4%	(3.9%)	13.7%	34.3%
Gross profit	44.9%	46.1%	49.4%	49.5%
R&D as % Revenue	21.2%	25.9%	25.0%	23.4%
Amortization of acquired intangibles	3,548	2,811	2,394	2,254
Operating income	1,264	401	1,900	3,694
Operating margin	5.4%	1.8%	7.4%	10.7%
Net income	1,320	854	1,641	4,335
Net margin	5.6%	3.8%	6.4%	12.5%
Diluted EPS	$0.84	$0.53	$1.00	$2.65
Operating cash flow	3,565	1,667	3,041	6,493
Free cash flow	3,115	1,121	2,405	5,519

Table 2 - Revenue by Segment ($ millions, % of total)

	2022	2023	2024	2025
Data Center	6,043 (26%)	6,496 (29%)	12,579 (49%)	16,635 (48%)
Client	6,201 (26%)	4,651 (21%)	7,054 (27%)	10,640 (31%)
Gaming	6,805 (29%)	6,212 (27%)	2,595 (10%)	3,910 (11%)
Embedded	4,552 (19%)	5,321 (23%)	3,557 (14%)	3,454 (10%)

Profitability and the Xilinx effect

Gross profit rose from 44.9% to 49.5%, but operating margin fell to 1.8% in 2023 before recovering to 10.7% in 2025. Much of the gap is non-cash amortization of the intangible assets recorded in the Xilinx acquisition, which cost $3.5 billion in 2022 (15% of revenue) and $2.3 billion in 2025. Excluding it, operating margin was about 17% in 2025, still below 2022's 20% as R&D grew from $5.0 billion to $8.1 billion. Net income of $4.3 billion in 2025 also includes an $853 million one-time tax benefit; without it, net margin was about 10% rather than 12.5%.

Liquidity, Leverage, and Efficiency

The current ratio rose from 2.36 to 2.85, and cash plus short-term investments doubled to $10.6 billion (Table 3). Debt is minimal at $3.2 billion against $63 billion of equity, and total liabilities rose slightly, from $12.8 billion to $13.9 billion. Goodwill and intangibles make up 54% of total assets, which holds asset turnover to 0.47 and return on equity to 7.2%. Inventory also more than doubled to $7.9 billion, so products are selling more slowly and some may lose value before they sell.

Table 3 - Key Ratios, 2022-2025

Ratio	2022	2023	2024	2025
Current ratio	2.36	2.51	2.62	2.85
Quick ratio	1.57	1.67	1.56	1.78
Debt to equity	0.05	0.04	0.03	0.05
Total liabilities to equity	0.23	0.21	0.20	0.22
Asset turnover	—	0.33	0.38	0.47
Inventory turnover	—	2.8x	2.4x	2.4x
Days sales outstanding	—	76	82	66
Return on assets	—	1.3%	2.4%	5.9%
Return on equity	—	1.5%	2.9%	7.2%

Note: Turnover and return ratios use average balances. 2022 is omitted because the February 2022 Xilinx acquisition makes average balances for that year not comparable.

Cash Flow Management

Operating cash flow exceeded net income every year because amortization and stock compensation are non-cash, which supports earnings quality. It rose from $1.7 billion in 2023 to $6.5 billion in 2025, producing record free cash flow of $5.5 billion. As a fabless company, AMD spent under 3% of revenue on capital expenditures. It pays no dividend and returns cash through buybacks instead.

Competitive Performance vs. Peers

AMD sits between its two main rivals (Table 4). NVIDIA grew revenue 65% with a gross profit of 71.1%, reflecting their dominant AI platform. Intel's revenue was flat at $52.9 billion with a gross profit of 34.8%. AMD is growing much faster than Intel and doesn't carry the cost of running its own factories, but the lower margins show it still trails NVIDIA in the AI industry.

Table 4 - Peer Comparison, Fiscal Year 2025

	Revenue	Growth	Gross Profit	Net Margin
Advanced Micro Devices (AMD)	$34.6B	34%	49.5%	12.5%
NVIDIA	$215.9B	65%	71.1%	55.6%
Intel	$52.9B	~0%	34.8%	(0.5%)

Accounting Estimates and Financial Risks

The 10-K lists several key risks, including export rules, dependence on outside manufacturers, and the industry's boom-and-bust cycles. The export risk has already hurt results. U.S. limits on selling MI308 GPUs to China led AMD to record about $440 million in inventory charges in 2025, and it later reversed about $360 million of them in Q4. That reversal shows how much inventory values depend on management's estimates. AMD also carries $41.8 billion of goodwill and intangibles from its acquisitions, and if those businesses lose value, it would have to record a large one-time loss.

Management's Strategy and Outlook

AMD's results so far in 2026 show its plan is working. First-quarter revenue was $10.3 billion, above management's forecast of about $9.8 billion. Second-quarter revenue rose 50% from a year earlier to a record $11.5 billion, with Data Center making up 58% of sales, and management expects about $13 billion in the third quarter. Over the next three to five years, AMD aims to grow revenue more than 35% per year and earn more than $20 in adjusted EPS. The plan relies mainly on AI chips for data centers, where AMD expects sales to grow more than 80% per year as it launches new Instinct products and its Helios rack-scale system. These goals are ambitious given AMD's 22% adjusted operating margin in 2025, but the results from the first two quarters of 2026 suggest AMD is on track.

Financial SWOT Analysis and Recommendations

Strengths

AMD had a very strong year financially in 2025. Revenue grew 34%, from $25.8 billion in 2024 to $34.6 billion. Gross profit rose to 50%, and operating income nearly doubled to $3.7 billion. By year-end, AMD held $10.6 billion in cash and short-term investments, roughly double the $5.1 billion it held a year earlier. Because it generates and holds large amounts of cash, AMD can fund new product development and meet its financial commitments.

Weaknesses

AMD's Data Center revenue increase was not matched by an equal increase in profitability. Although AMD's Data Center revenue rose 32% in 2025, Data Center segment operating income increased by only about 3%. As a result, AMD's Data Center operating margin declined from approximately 28% to approximately 22%. In addition, marketing, general, and administrative expenses rose 52%, much faster than total revenue growth of 34%. AMD needs to show that its growing AI business can become more profitable, not just larger.

Opportunities

With rising demand for AI Accelerators and Server Processors, AMD has the opportunity to continue growing its largest segment. AMD's Data Center segment revenue grew from $6.0 billion in 2022 to $16.6 billion by 2025. If AMD can capitalize on growing demand for AI Accelerators and server processors while increasing the Data Center segment's operating margin, future Data Center segment revenue growth will have a larger positive effect on AMD's total profitability.

Threats

Export controls have already cost AMD money. In 2025, restrictions on its MI308 products led to approximately $440 million in net inventory and related charges. If similar restrictions affect future AI chips, AMD could again be left with products it cannot sell to certain customers. AMD also depends heavily on TSMC to manufacture its leading-edge chips. A shortage of manufacturing capacity could delay Data Center orders at a time when AMD is trying to grow that business and compete with NVIDIA and Intel.

Recommendations

AMD needs to measure Data Center performance by evaluating operating margin, cash flow, and revenue. AMD needs to better match inventory purchases to expected customer demand and determine whether any export controls must be considered before committing to a large order. Additionally, AMD will want to continue to develop new chip designs and software applications that provide it with a competitive edge, using its substantial cash reserves to help finance the growth of the company; however, it must also ensure that the costs associated with growing do not increase faster than the profit it generates through that growth.

Investment Opinion & Conclusion

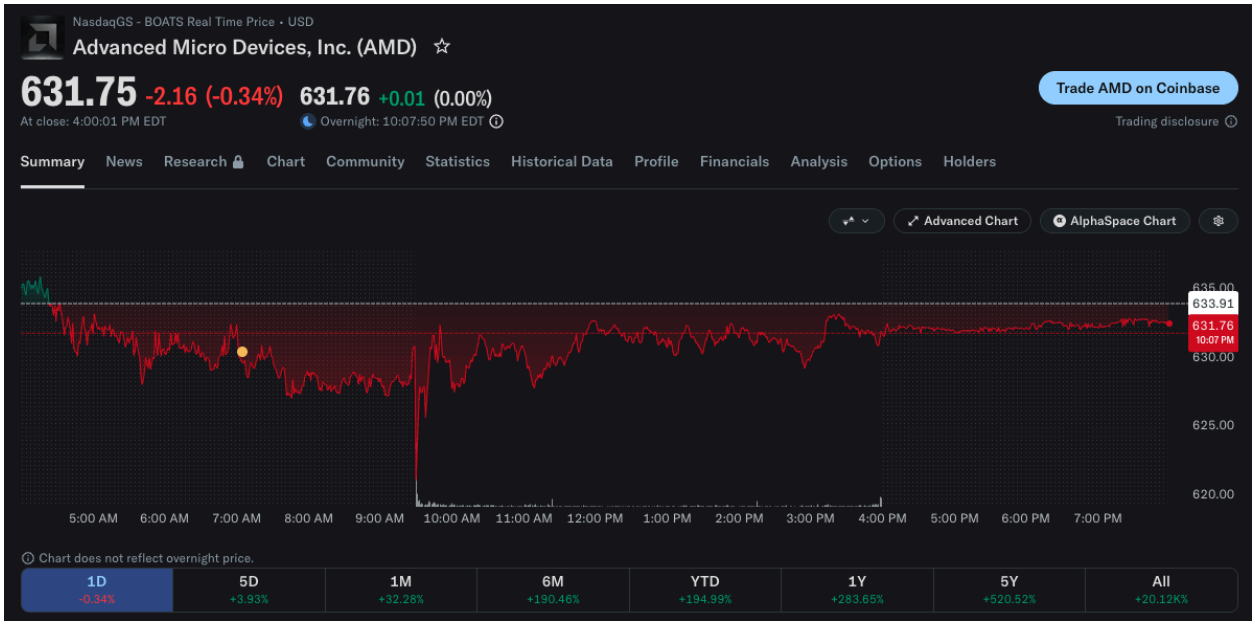


Figure 1: Data as of market close Monday October 5th 2026

Stock:							
AMD							
Year	2021	2022	2023	2024	2025		
Free Cash Flow	$ 3,220	$ 3,115	$ 1,121	$ 2,405	$ 6,735		
Growth		-3%	-64%	115%	180%		
Growth	67%	56%	38%	24%	19%		
	1	2	3	4	5		
Year	2026	2027	2028	2029	2030	Terminal Value	
FFCF	$ 11,227	$ 17,515	$ 24,100	$ 29,860	$ 35,533	$ 615,909.05	
PV of FFCF	$ 10,206.59	$ 14,474.80	$ 18,106.65	$ 20,394.68	$ 22,063.33	$ 382,431.07	
				Perpertual Growth Rate:	4%		
Sum of FCF	$ 467,677.11			Discount Rate:	10%		
Cash & Cash Equivalents	$ 10,552.00						
Total Debt	$ 3,847.00						
Equity Value	474,382						
Shares Outsanding	1,630						
DCF Price Per Share:	$ 291.03						

Figure 2: Discounted Cash Flow Basic Model

AMD has shifted from a consumer-focused chipmaker to a data-center-first business. Its Data Center segment grew from 26% of total revenue in 2022 to 58% in the second quarter of

2026. That growth was driven by EPYC server CPUs and Instinct MI300 and MI350 AI GPUs, and AMD's next wave, the MI450 GPU, Helios rack systems, and a 6-gigawatt deployment agreement with OpenAI, begins ramping in late 2026. These wins have made AMD the leading alternative to NVIDIA in AI computing. AMD's balance sheet also supports this growth. It holds $10.6 billion in cash and short-term investments against only $3.2 billion of debt, and in 2025 its operations fully covered $8.1 billion of R&D while still producing $5.5 billion of free cash flow.

However, as the Data Center business grew quickly, its profitability fell. In 2025, Data Center revenue rose 32%, but the segment's operating income grew only 3%, partly because of the MI308 inventory charges and higher spending to develop new AI products. Management's goals of more than 35% annual revenue growth and over $20 in adjusted EPS will require much higher margins. Earning $20 per share on about 1.63 billion shares means roughly $32.6 billion in adjusted net income. If revenue reaches about $115 billion, which is 35% annual growth over four years, AMD would need an adjusted net margin of about 28%, up from about 20% in 2025.

From an investment standpoint, AMD's earnings are high quality. In 2025, it brought in $6.5 billion in operating cash flow, well above its net income, mainly because the Xilinx amortization expense doesn't cost any cash. However, AMD faces two risks to its margins. Its inventory has grown to $7.9 billion, and U.S. export limits on MI308 sales to China have already caused a $440 million inventory charge. Whether AMD is a good long-term investment depends on management raising Data Center operating margins back toward 28%–30% and selling inventory faster as new products ramp up. Our DCF model values AMD at $291.03 per share, well below its October 5 closing price of $631.75, which suggests the stock is expensive relative to its cash flows. Based on this valuation gap, we would not recommend buying AMD at its current price, though it warrants continued monitoring as its AI business grows.

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