

Nicholas Leonardis

Professor Smirnova

ECON 3413

2/13/2025

### AMD (Advanced Micro Devices)

Advanced Micro Devices, better known as AMD, was founded in 1969 by Jerry Sanders and a group of engineers. Today, it's one of the biggest names in the semiconductor industry, competing directly with Intel. AMD mainly focuses on high-performance computing technologies, especially microprocessors and graphics processing units (GPUs), which are used in PCs, gaming consoles, and cloud computing environments.

In the fiscal year ending December 30, 2023, AMD reported a net income of \$854 million. This figure reflects a solid standing within the tech industry. The company's basic earnings per share (EPS) came in at \$0.53, based on 1.614 billion share outstanding.

Between 2021 and 2022, AMD experienced a 41% increase in net revenue. However, from 2022 to 2023, that revenue dropped by about 4.9%. Despite this decline, AMD maintained a strong market position. Sales figures remained stable at roughly \$11.3 billion, even though gross profit decreased by about 5.4%. Operating income also dropped from \$963 million in 2022 to \$854 million in 2023. This suggests that while sales remain steady, expenses have likely increased, or growth has slowed in comparison to rising costs. AMD's current ratio of 2.51 indicates a strong ability to meet short-term liabilities.

Although some financial metrics dipped slightly compared to past years, AMD still holds a significant place in the market. Moving forward, continued innovation and careful cost management will be essential, especially with stiff competition from companies like Intel and NVIDIA. While Intel leads in traditional processors and NVIDIA dominates in GPUs and AI-focused chips, AMD has carved out a competitive spot between them.



### **Liquidity (Current & Quick Ratios):**

AMD's liquidity ratios remain solid and close to Intel's levels, although they trail slightly behind NVIDIA. The consistent trend here suggests the company can reliably cover short-term obligations.

### **Efficiency (Inventory Turnover & DSO):**

AMD has made major improvements in inventory turnover, showing better inventory management. Additionally, the company's Days Sales Outstanding (DSO) dropped significantly, which means they're collecting receivables faster — a positive sign for cash flow.

### **Asset Utilization (Total Asset Turnover):**

In 2023, AMD's total asset turnover ratio declined, which might mean it's generating less revenue per dollar of assets than in prior years. This could be worth investigating further to see how effectively capital is being used.

### **Solvency (Debt-to-Equity Ratio):**

AMD reduced its debt-to-equity ratio noticeably in 2023, signaling a stronger balance sheet and lower financial risk — a positive move.

### **Profitability (Profit Margin):**

Although AMD remains profitable, its profit margin decreased compared to 2022, likely due to increased competition and rising operating costs. NVIDIA, by comparison, continues to post significantly higher margins.

### **Valuation (P/E Ratio):**

AMD's price-to-earnings ratio surged in 2023, showing that investors are optimistic about their future growth. That said, it could also point to the stock being overvalued at current levels.

**Benchmarking:**

Compared to Intel, AMD shows stronger liquidity and operational efficiency. Still, NVIDIA tends to outperform both companies in profitability and how well it uses its assets.

**Trend Analysis:**

The trends are mixed — improvements in inventory turnover and receivables are promising but drops in profit margin and asset turnover raise concerns.

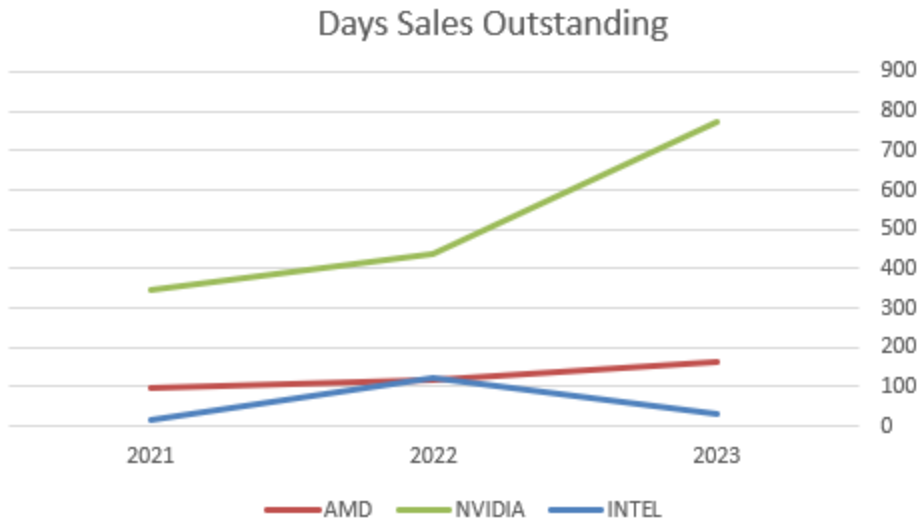
**Recommendations:**

- **Control Costs:** AMD should aim to better manage operating expenses to help lift profit margins.
- **Improve Capital Use:** Smarter allocation of capital could boost returns from current assets.
- **Double Down on Innovation:** Continued investment in R&D is key to staying ahead of competitors.
- **Review Valuation:** Given the high P/E ratio, it's worth regularly reassessing whether the stock is priced fairly.

For the stock valuation section, I chose to use **Relative Valuation (Multiples Approach)**. This method fits well with the semiconductor sector, where it's common to compare peers based on metrics like P/E or P/S. Long-term forecasting with a DCF model is tricky in a fast-moving industry like this, and since AMD doesn't pay dividends, the Discounted Dividend Model isn't a good fit. Relative valuation allows us to see how AMD stacks up against Intel and NVIDIA in real time.

In 2023, AMD had a P/E ratio of 23.85x — higher than Intel's 19.77x but lower than NVIDIA's 33.35x. This tells us that investors are more optimistic about AMD than Intel, but not as bullish as they are about NVIDIA.

- **P/B Ratio:** AMD sits at 11.31x, a little higher than Intel and about the same as NVIDIA.
- **P/CF Ratio:** AMD's price-to-cash-flow ratio is 55.74x, much higher than Intel's 33.50x, though still under NVIDIA's 96.31x.
- **P/S Ratio:** AMD's P/S ratio is 28.085x — the highest among the three. This suggests investors expect strong future revenue growth.



Using an average competitor P/E ratio of around 18.95x and adjusting it to a slightly more optimistic 25x due to AMD's growth potential, we can estimate AMD's stock value at about **\$537.83**. Multiplying this by AMD's 1.62 billion shares, we get a market cap estimate of roughly **\$873.30 billion**.

Over the past few years, AMD has shown strong growth, improved liquidity, and a healthier balance sheet. Its focus on innovation in CPUs and GPUs has helped it gain ground on Intel and compete more seriously in areas like gaming and data centers.

Still, the competition is tough. Intel and NVIDIA are also investing heavily in new tech. Slower revenue growth and thinner profit margins show that AMD needs to stay sharp with both innovation and cost control.

Looking ahead, the semiconductor industry will likely keep growing, thanks to demand from AI, cloud services, and advanced computing. AMD is in a good spot to take advantage of that, especially with its solid cash position to fuel acquisitions and R&D.

#### **Overall Recommendation:**

Despite the recent slowdown, I believe AMD has a strong financial future. Its focus on innovation and improving financials makes it a solid investment for the long run. I recommend a **BUY** for AMD stock, especially for investors building a diversified portfolio with a long-term growth focus in the tech sector. Keeping an eye on the competition and market trends will be key.

## Appendices

AMD	2023	2022	2021
Currency	USD	USD	USD
Current ratio = current assets / current liabilities			
current ratio	2.507	2.358	2.241
quick ratio = (current assets - inventories) / current liabilities			
quick ratio	1.856	1.766	1.708
Inventory turnover ratio = sales / inventories			
	2.809	3.447	4.472
Days Sales Outstanding (DSO) = Receivables / Average Sales Per Day = Receivables / (Annual Sales/365)			
	161	116	95
Total Assets Turnover = Sales / Total Assets			
	0.1800	0.1923	0.7626
Total Debt to Total Capital = Total Debt / (Total Debt + Equity)			
	0.9791	0.0000	0.9811
Profit Margin = Net Income / Sales			
	0.069885434	0.10155409	0.371781
Price/Earnings (P/E) Ratio = Price Per Share / Earnings Per Share			
	3,045.28	1,836.47	464.75

	2023	AMD	NVIDIA	INTEL
P/E		23.85	13.35	19.77
P/BV		11.31	10.63	13.56
P/CF		55.74	96.31	33.50
P/S		28.085	29.62	10.91
EPS Net income/shares		2151.32	7459.66	3804.00
Value of stock		147.41	170.92	49.59
Market Value		207360	9155520	134840
Estimation		BUY	BUY	HOLD

## Bibliography

Contributors to Wikimedia projects. (2025, February 13). *AMD*. Wikipedia.  
<https://en.wikipedia.org/wiki/AMD>

*SEC.gov*. (n.d.). Home. Retrieved February 13, 2025, from <https://www.sec.gov/>

21, April, et al. "Wait for a Dip to Buy Advanced Micro Devices Stock." *Nasdaq*,  
[www.nasdaq.com/articles/wait-dip-buy-advanced-micro-devices-stock](http://www.nasdaq.com/articles/wait-dip-buy-advanced-micro-devices-stock). Accessed 23 Apr. 2025.

"Advanced Micro Devices, Inc. (AMD) Stock Price, News, Quote & History." *Yahoo! Finance*,  
Yahoo!, 21 Apr. 2025, [finance.yahoo.com/quote/AMD/](http://finance.yahoo.com/quote/AMD/).

"AMD." *Wikipedia*, Wikimedia Foundation, 23 Apr. 2025, [en.wikipedia.org/wiki/AMD](https://en.wikipedia.org/wiki/AMD).

"April 15, 2025 - 144: Report of Proposed Sale of Securities: Advanced Micro Devices, Inc. (AMD)." *Advanced Micro Devices, Inc.*, [ir.amd.com/financial-information/sec-filings/content/0001950047-25-002461/primary\\_doc.html](http://ir.amd.com/financial-information/sec-filings/content/0001950047-25-002461/primary_doc.html). Accessed 23 Apr. 2025.

*Chatgpt*, [chatgpt.com/](https://chatgpt.com/). Accessed 24 Apr. 2025.