

# Advanced Micro Devices

A Data-Science Valuation Brief

On 3/7/24, investors could buy 100% of AMD, or buy 100% of ***both*** of Analog Devices and Intel:

	AMD	Analog and Intel	
<b>Market Value</b>	\$342 billion	\$293 billion	14% less than AMD
<b>Revenue</b>	\$22.7 billion	\$65.8 billion	190% more than AMD
<b>Net Income</b>	\$854 million	\$4.5 billion	427% more than AMD
<b>P/E</b>	400	65	
<b>P/S</b>	15	4.5	

***Alternatively***, investors could buy 100% of the twenty-six (26) companies listed below.

The 26 companies below have:

<b>Combined Market Value</b>	\$347 billion	1.7% more than AMD
<b>Revenue</b>	\$190 billion	739% more than AMD
<b>Net Income</b>	\$17.9 billion	1,999% more than AMD

AAON, Biomarin Pharmaceutical, Boston Beer Co, BWX Technologies, Cognex, Delta Air Lines, Devon Energy, Equitable Holdings, Gibson Energy, Globant SA, Hanover Insurance Group, Icon PLC, Insulet, Lamb Weston Holdings, Rush Enterprises, Teradata, The Brink's, Tractor Supply, Tradeweb Markets, Trex Co, Tyler Technologies, United Bankshares, Valmont Industries, W.P. Carey, WSP Global and Zimmer Biomet Holdings.

Currently, AMD's price to sales ratio is 15.1. In the last 9,786 trading days (40 years), AMD had a P/S of 4.5 or less on 8,538 days (87.2%). In the future, AMD will again have a P/S ratio substantially less than 1. ***What does imply for AMD's price?***

Currently, AMD's price to earnings ratio is 400. In the last 9,786 trading days (40 years), AMD had a P/E of 65 or less on 3,624 days (37.0%), and a P/E of 20 or less on 2,381 days (24.3%). In the future, AMD will again have a P/E ratio substantially less than 20. ***What does imply for AMD's price?***

**Answers: The Profit Map™ informs us:**

1. To produce a **15% price gain per year** for 5 years, AMD's price must rise to **\$425.16**.
2. If the price rises to \$425.16, then in 5 years AMD's market cap will rise to **\$1.04 trillion**.
3. If investors assume AMD's revenues will grow at **25%** per year, in 5 years they'll grow to **\$69.2 billion**. What is the statistical probability that if AMD's revenues grow from \$22.7 billion to \$69.2 billion in 5 years, that AMD will have a market value of \$1.04 trillion? What is the probability that a company with \$69.2 billion will have a market value of \$1.04 trillion? What do the historical precedents tell us about P/S ratios for companies with \$69.2 billion in revenues?

4. How many companies in the past 30 years have had revenues of \$22.7 billion and grew at 25% per year for 5 years? What is the probability that this rate of growth will occur?
5. If AMD's revenues grow at **25%** per year for 5 years, to produce a **15% price gain per year** for 5 years, AMD's P/S ratio would then have to be **15.1** in 5 years. In the past 30 years, how many companies with revenues of \$69.2 billion had a P/S ratio of 15.1? *Currently, there are 50 US companies with revenues over \$69 billion. 90% of them have a P/S ratio under 5. Only Microsoft has a P/S of 13.7.* What is the statistical probability that AMD will have a P/S ratio of 15.1 if their revenues reach \$69.1 billion?
6. If AMD's revenues grow at **25%** per year for 5 years, their profit margin is **25%** 5 years from now, and their market cap is \$1.04 trillion, AMD's P/E ratio would then have to be **60.2** 5 years from now. In the past 30 years, how many companies with revenues of \$69.2 billion and a profit margin of **25%** had a **P/E ratio of 60.2**? What percentage of those companies' stock prices rose? What percentage fell? By how much, and over what time periods? *Currently there are 3 companies in the technology sector with revenues over \$69.2 billion. 2 of them, Apple and Microsoft, have profit margins over 25%. Currently there are 50 companies with revenues over \$69.2 billion. **Their average P/E ratio is 22.***

The **Profit Map™** allows investors to calculate *the actual future price* of any stock based on **their assumptions** of the growth of its revenues, its profit margins, its future price to earnings and its future price to sales ratios. [www.ProfitMap.ai](http://www.ProfitMap.ai)

No investor can **know** what these four variable factors will be in the future. However, the **Profit Map™** provides users with data to assist them in making realistic assumptions and provides immediate calculations for the potential profits or losses based on their assumptions.

**Conclusion:** All growth stocks eventually experience both P/E compression and P/S compression. Therefore, we caution investors of the potential impact of valuation ratio compression on AMD's stock.

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*"Investment losses are not accidents of nature.*

*To avoid and prevent losses, first, we must identify their causes."*

– Raymond M. Mullaney, CEO, Equity Risk Sciences, Inc.

*"You must never delude yourself into thinking you're investing when you're speculating."*

– Benjamin Graham, "The Intelligent Investor," 1949