

NVIDIA Data Brief

By Raymond M. Mullaney, CEO – April 19, 2024

On 3/25/2024, ERS's technology identified the following quantitative considerations for investors:

Price Risk Indicator™ (PRI™)	Financial Risk Indicator™ (FRI™)	Equity Risk Indicator™ (ERI™)	Fiduciary Risk Rating™ (FRR™)
99	2	31	94

On 3/25/2024, investors could buy 100% of NVDA, or buy 100% of the thirty-three (33) companies listed below.

	NVIDIA	33 Alternatives	
Market Value	\$2.38 trillion	\$2.39 trillion	1% more than NVIDIA
Revenue	\$60.9 billion	\$1.21 trillion	1,880% more than NVIDIA
Net Income	\$29.8 billion	\$111 billion	274% more than NVIDIA
Price to Sales	39	2.0	
Price to Earnings	80	21.5	

American Express, Amgen, Archer-Daniels Midland, AT&T, Baker Hughes, BlackRock, Coupang, Dell Technologies, Discover Financial, Dollar Tree, Dover, Edwards Lifesciences, EOG Resources, Estee Lauder Companies, Fortinet, GE HealthCare Technologies, GLOBALFOUNDRIES, Intuit, Kinder Morgan, Kroger, L3Harris Technologies, Moody's Corporation, PG&E, Progressive, Ross Stores, Stryker, Sysco, T. Rowe Price Group, Union Pacific, Veeva Systems, Verizon, W.W. Grainger and Waste Management.

Currently, NVDA's price to sales ratio is 39. In the last 6,103 trading days (24 years), NVDA had a P/S of 2.0 or less on 1,028 days (16.8%). In the future, NVDA may again have a P/S ratio less than 2. ***What does that imply for NVDA's price?***

Currently, NVDA's price to earnings ratio is 80. In the last 6,103 trading days (24 years), NVDA had a P/E of 21.5 or less on 1,355 days (22.2%). In the future, NVDA may again have a P/E ratio less than 20. ***What does that imply for NVDA's price?***

Answers: The Profit Map™ informs us:

1. To produce a **15% price gain per year** for 5 years, NVDA's price must rise to **\$1,910.83**.
2. If the price rises to \$1,910.83, then in 5 years NVDA's market cap must rise to **\$4.8 trillion**.
3. If NVDA's revenues grow at **32%** per year, in 5 years they'll grow to **\$244 billion**. What is the statistical probability that if NVDA's revenues grow from \$60.9 billion to \$244 billion in 5 years, NVDA will have a market value of \$4.8 trillion? What is the probability that a company with \$244 billion will have a market value of \$4.8 trillion? What do the historical precedents tell us about the typical range of P/S ratios for companies with \$244 billion in revenues?
4. How many companies in the past 30 years have had revenues of \$60.9 billion and grew at 32% per year for 5 years? What is the probability that NVDA will achieve this rate of growth for 5 years?

5. If NVDA's revenues grow at **32%** per year for 5 years, to produce a **15% price gain per year** for 5 years, NVDA's P/S ratio would then have to be **19.6** in 5 years. In the past 30 years, how many companies with revenues of \$244 billion had a P/S ratio of 19.6? *Currently, there are 11 US companies with revenues over \$244 billion. All of them have a P/S ratio under 7.* What is the statistical probability that NVDA will have a P/S ratio of 19.6 if their revenues reach \$244 billion?
6. If NVDA's revenues grow at **32%** per year for 5 years, their profit margin is **49%** 5 years from now, and their market cap is \$4.8 trillion, NVDA's P/E ratio would then have to be **39.9** 5 years from now. In the past 30 years, how many companies with revenues of \$244 billion and a profit margin of **49%** had a **P/E ratio of 39.9**? What percentage of those companies' stock prices rose? What percentage fell? By how much, and over what time periods? *Currently there is 1 company in the technology sector with revenues over \$244 billion, Apple. Apple's current profit margin is 26%. Currently there are 11 companies with revenues over \$244 billion. Their average P/E ratio is 27.*

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

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 probable impact of valuation ratio compression on NVDA's stock.

Equity Risk Sciences, Inc. (www.ERS.ai) is an investment data science company, providing research tools, ratings, and custom portfolios for retail and institutional investors.

Neither ERS nor its subsidiaries hold any position, long or short, in any mentioned security.

"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

Work papers from March 25, 2024:

Metric	6/7/01	10/9/02	10/17/07	5/10/16	11/15/21	10/24/23	3/25/24
Price	\$8.28	\$0.61	\$9.89	\$8.99	\$300.25	\$436.63	\$950.02
Market Cap	\$13,938	\$1,128	\$21,700	\$19,582	\$750,625	\$1,078,476	\$2,375,050
TTM Revenue	\$828	\$1,879	\$3,479	\$5,164	\$24,274	\$32,681	\$60,922
TTM Net Income	\$107	\$206	\$575	\$688	\$8,207	\$10,325	\$29,759
Total Liabilities	\$618	\$732	\$776	\$2,912	\$16,834	\$22,054	\$22,750
Long Term Liabilities	\$500	\$308	\$95	\$456	\$13,222	\$11,720	\$12,119
Current Assets	\$881	\$1,324	\$2,397	\$5,790	\$25,806	\$28,797	\$44,345
Current Liabilities	\$118	\$424	\$681	\$2,456	\$3,612	\$10,334	\$10,631
Quick Ratio	6.04	2.26	3.06	2.15	6.44	2.23	3.38
Tangible Equity	\$377	\$803	\$1,912	\$3,423	\$17,042	\$21,676	\$37,436
Total Paid In Capital	\$309	\$486	\$1,494	\$4,219	\$10,468	\$12,631	\$13,134
Cash & S-T Investments	\$627	\$826	\$1,572	\$4,754	\$19,298	\$16,023	\$25,984
Total Debt to Revenues	0.75	0.39	0.22	0.56	0.69	0.67	0.37
Cash & ST Inv's to Liabs.	1.01	1.13	2.03	1.63	1.15	0.73	1.14

Ratio	6/7/01	10/9/02	10/17/07	5/10/16	11/15/21	10/24/23	3/25/24
Price to Sales	16.84	0.60	6.24	3.79	30.92	33.00	38.99
5-Year Median P/S	15.46	8.39	1.98	2.43	13.94	17.86	21.87
Price to Earnings	130.47	5.48	37.74	28.46	91.46	104.45	79.81
5-Year Median P/E	129.48	63.96	29.10	18.99	47.11	62.92	70.40
Price to Tangible Equity	36.97	1.40	11.35	5.72	44.05	49.75	63.44
5-Year Median P/TE	29.29	14.39	4.00	3.10	19.26	30.01	34.29

Historic Growth Rates	6/7/01	10/9/02	10/17/07	5/10/16	11/15/21	10/24/23	3/25/24
1-Year Annual Revenue Growth Rate	83.1%	104.8%	34.5%	9.2%	64.3%	9.9%	125.9%
3-Year Annual Revenue Growth Rate			22.6%	6.2%	25.0%	35.7%	54.0%
5-Year Annual Revenue Growth Rate			13.1%	8.1%	31.7%	22.4%	39.1%
1-Year Annual Net Income Growth Rate	101.4%	75.6%	69.5%	9.4%	114.5%	33.4%	581.3%
3-Year Annual Net Income Growth Rate			116.1%	5.9%	20.5%	45.0%	90.1%
5-Year Annual Net Income Growth Rate			22.8%	22.4%	46.4%	19.1%	48.4%
Revenue TTM	\$828	\$1,879	\$3,479	\$5,164	\$24,274	\$32,681	\$60,922
Revenue TTM 1 Year Ago	\$452	\$917	\$2,586	\$4,730	\$14,777	\$29,738	\$26,974
Revenue TTM 3 Years Ago			\$1,886	\$4,310	\$12,422	\$13,065	\$16,675
Revenue TTM 5 Years Ago			\$1,879	\$3,504	\$6,138	\$11,877	\$11,716
Net Income TTM	\$107	\$206	\$575	\$688	\$8,207	\$10,325	\$29,759
Net Income TTM 1 Year Ago	\$53	\$117	\$339	\$629	\$3,826	\$7,741	\$4,368
Net Income TTM 3 Years Ago			\$57	\$580	\$4,694	\$3,389	\$4,332
Net Income TTM 5 Years Ago			\$206	\$251	\$1,219	\$4,302	\$4,141

Per Share Metrics	6/7/01	10/9/02	10/17/07	5/10/16	11/15/21	10/24/23	3/25/24
Price	\$8.28	\$0.61	\$9.89	\$8.99	\$300.25	\$436.63	\$950.02
Shares Outstanding	1,683.9	1,836.3	2,195.2	2,178.2	2,500.0	2,470.0	2,500.0
TTM Revenues	\$0.49	\$1.02	\$1.58	\$2.37	\$9.71	\$13.23	\$24.37
Total Liabilities	\$0.37	\$0.40	\$0.35	\$1.34	\$6.73	\$8.93	\$9.10
Long Term Liabilities	\$0.30	\$0.17	\$0.04	\$0.21	\$5.29	\$4.74	\$4.85
Tangible Equity	\$0.22	\$0.44	\$0.87	\$1.57	\$6.82	\$8.78	\$14.97
Cash & S-T Investments	\$0.37	\$0.45	\$0.72	\$2.18	\$7.72	\$6.49	\$10.39

Apple (AAPL)	6/30/2010	3/31/2021
Market Cap	\$222 billion	\$2.04 trillion
Revenues	\$57 billion	\$325 billion
Price to Sales	3.9	6.7

Microsoft (MSFT)	6/30/2010	4/19/2024
Market Cap	\$199 billion	\$2.96 trillion
Revenues	\$62 billion	\$227 billion
Price to Sales	3.6	13.1

Amazon (AMZN)	12/31/2012	6/30/2020
Market Cap	\$114 billion	\$1.38 trillion
Revenues	\$61 billion	\$322 billion
Price to Sales	2.0	4.3

Amazon (AMZN)	12/31/2012	6/30/2020
Market Cap	\$114 billion	\$1.38 trillion
Revenues	\$61 billion	\$322 billion
Price to Sales	2.0	4.3

Wal-Mart (WMT)	7/31/1993	4/30/2006
Market Cap	\$58 billion	\$188 billion
Revenues	\$61 billion	\$321 billion
Price to Sales	0.9	0.6

Exxon-Mobil (XOM)	3/31/1987	6/30/2005
Market Cap	\$61 billion	\$362 billion
Revenue	\$67 billion	\$331 billion
Price to Sales	0.9	1.1

What Must Happen **Future Return by P/S Ratio** Future Return by P/E Ratio

Assumptions

The fields below have been pre-filled with the current rates of growth, **but you can change them** to see what would happen under different circumstances.

Desired Annual Return (%):

Years Later:

Annual Revenue Growth (%):

Future Profit Margin (%):

Calculate

Results

	Current	Future	Explanation
Price	\$950.02	\$1,910.83	To produce a 15% gain per year for 5 years, NVDA's price must rise to \$1,910.83 . What is the statistical probability that it will rise that much?
Market Cap	\$2,375,050	\$4,777,074	To produce a 15% gain per year for 5 years, NVDA's market cap must rise to \$4.8 trillion . What is the statistical probability that NVDA will reach a market cap of \$4.8 trillion ? Is there a historical precedent for companies with revenues of \$316.8 billion having a market cap of \$4.8 trillion? If NVDA's revenues grow at 39.06% per year, in 5 years they will have \$316.8 billion in revenues.
Revenue	\$60,922	\$316,800	What is the statistical probability that NVDA will have revenues of \$316.8 billion in 5 years? How many companies in the past 30 years have had revenues starting at \$60.9 billion grow at 39.06% per year for 5 years?
P/S Ratio	38.99	15.08	If NVDA's revenues grow at 39.06% per year for 5 years, to produce a 15% gain per year for 5 years, NVDA's P/S ratio must be 15.08 . In the past 30 years, how many companies with revenues of \$316.8 billion had a P/S ratio of 15.08? What percentage of those companies' stock prices rose? What percentage fell? By how much, and over what time periods?
P/E Ratio	79.81	30.87	If NVDA's revenues grow at 39.06% per year for 5 years and their profit margin is 48.85% 5 years from now, to produce a 15% gain per year for 5 years, NVDA's P/E ratio must be 30.87 . In the past 30 years, how many companies with revenues of \$316.8 billion and a profit margin of 48.85% had a P/E ratio of 30.87? What percentage of those companies' stock prices rose? What percentage fell? By how much, and over what time periods?

What Must Happen **Future Return by P/S Ratio** Future Return by P/E Ratio

Assumptions

The fields below have been pre-filled with the current rates of growth, **but you can change them** to see what would happen under different circumstances.

Years Later:

Annual Revenue Growth (%):

Expected Future P/S Ratio:

Calculate

Results

	Current	Future	Explanation
Revenue	\$60,922	\$316,800	Based on your assumption of a 39.06% annual rate of revenue growth, NVDA's revenue would increase from \$60,922 million to \$316,800 million .
P/S Ratio	38.99	15	You assumed that NVDA's future P/S ratio in 5 years would be 15 .
Market Cap	\$2,375,050	\$4,752,001	With a P/S ratio of 15, NVDA's market cap would change from \$2,375,050 million to \$4,752,001 million .
Shares O/S	2,470	2,470	
Price	\$950.02	\$1,923.89	Based on the current number of shares outstanding, NVDA's price would increase from \$950.02 to \$1,923.89 .
Gain (Loss)		102.5%	Based on your assumptions, an investment in NVDA would result in a 102.5% gain after 5 years.

What Must Happen **Future Return by P/S Ratio** Future Return by P/E Ratio

Assumptions

The fields below have been pre-filled with the current rates of growth, **but you can change them** to see what would happen under different circumstances.

Years Later:

Annual Revenue Growth (%):

Expected Future P/S Ratio:

Calculate

Results

	Current	Future	Explanation
Revenue	\$60,922	\$316,800	Based on your assumption of a 39.06% annual rate of revenue growth, NVDA's revenue would increase from \$60,922 million to \$316,800 million .
P/S Ratio	38.99	10	You assumed that NVDA's future P/S ratio in 5 years would be 10 .
Market Cap	\$2,375,050	\$3,168,001	With a P/S ratio of 10, NVDA's market cap would change from \$2,375,050 million to \$3,168,001 million .
Shares O/S	2,470	2,470	
Price	\$950.02	\$1,282.59	Based on the current number of shares outstanding, NVDA's price would increase from \$950.02 to \$1,282.59 .
Gain (Loss)		35.0%	Based on your assumptions, an investment in NVDA would result in a 35.0% gain after 5 years.

What Must Happen | **Future Return by P/S Ratio** | Future Return by P/E Ratio

Assumptions

The fields below have been pre-filled with the current rates of growth, **but you can change them** to see what would happen under different circumstances.

Years Later:

Annual Revenue Growth (%):

Expected Future P/S Ratio:

Results

	Current	Future	Explanation
Revenue	\$60,922	\$316,800	Based on your assumption of a 39.06% annual rate of revenue growth, NVDA's revenue would increase from \$60,922 million to \$316,800 million.
P/S Ratio	38.99	5	You assumed that NVDA's future P/S ratio in 5 years would be 5.
Market Cap	\$2,375,050	\$1,584,000	With a P/S ratio of 5, NVDA's market cap would change from \$2,375,050 million to \$1,584,000 million.
Shares O/S	2,470	2,470	
Price	\$950.02	\$641.30	Based on the current number of shares outstanding, NVDA's price would decrease from \$950.02 to \$641.30.
Gain (Loss)		-32.5%	Based on your assumptions, an investment in NVDA would result in a -32.5% loss after 5 years.

What Must Happen | **Future Return by P/S Ratio** | Future Return by P/E Ratio

Assumptions

The fields below have been pre-filled with the current rates of growth, **but you can change them** to see what would happen under different circumstances.

Expected Future P/E Ratio:

Years Later:

Annual Revenue Growth (%):

Future Profit Margin (%):

Results

	Current	Future	Explanation
Revenue	\$60,922	\$316,800	Based on your assumption of a 39.06% annual rate of revenue growth, NVDA's revenue would increase from \$60,922 million to \$316,800 million.
Profit Margin	48.85%	48.85%	You assumed that NVDA's future profit margin in 5 years would be 48.85%.
Net Income	\$29,759	\$154,757	Based on your assumption of a 48.85% profit margin, NVDA's net income would change from \$29,759 million to \$154,757 million.
P/E Ratio	79.81	36	You assumed that NVDA's future P/E ratio in 5 years would be 36.
Market Cap	\$2,375,050	\$5,571,246	With a P/E ratio of 36, NVDA's market cap would change from \$2,375,050 million to \$5,571,246 million.
Shares O/S	2,470	2,470	
Price	\$950.02	\$2,255.57	Based on the current number of shares outstanding, NVDA's price would increase from \$950.02 to \$2,255.57.
Gain (Loss)		137.4%	Based on your assumptions, an investment in NVDA would result in a 137.4% gain after 5 years.

What Must Happen | **Future Return by P/S Ratio** | Future Return by P/E Ratio

Assumptions

The fields below have been pre-filled with the current rates of growth, **but you can change them** to see what would happen under different circumstances.

Expected Future P/E Ratio:

Years Later:

Annual Revenue Growth (%):

Future Profit Margin (%):

Results

	Current	Future	Explanation
Revenue	\$60,922	\$316,800	Based on your assumption of a 39.06% annual rate of revenue growth, NVDA's revenue would increase from \$60,922 million to \$316,800 million.
Profit Margin	48.85%	48.85%	You assumed that NVDA's future profit margin in 5 years would be 48.85%.
Net Income	\$29,759	\$154,757	Based on your assumption of a 48.85% profit margin, NVDA's net income would change from \$29,759 million to \$154,757 million.
P/E Ratio	79.81	25	You assumed that NVDA's future P/E ratio in 5 years would be 25.
Market Cap	\$2,375,050	\$3,868,921	With a P/E ratio of 25, NVDA's market cap would change from \$2,375,050 million to \$3,868,921 million.
Shares O/S	2,470	2,470	
Price	\$950.02	\$1,566.36	Based on the current number of shares outstanding, NVDA's price would increase from \$950.02 to \$1,566.36.
Gain (Loss)		64.9%	Based on your assumptions, an investment in NVDA would result in a 64.9% gain after 5 years.

What Must Happen

Future Return by P/S Ratio

Future Return by P/E Ratio

Assumptions

The fields below have been pre-filled with the current rates of growth, **but you can change them** to see what would happen under different circumstances.

Expected Future P/E Ratio:

Years Later:

Annual Revenue Growth (%):

Future Profit Margin (%):

Calculate

Results

	Current	Future	Explanation
Revenue	\$60,922	\$316,800	Based on your assumption of a 39.06% annual rate of revenue growth, NVDA's revenue would increase from \$60,922 million to \$316,800 million.
Profit Margin	48.85%	48.85%	You assumed that NVDA's future profit margin in 5 years would be 48.85% .
Net Income	\$29,759	\$154,757	Based on your assumption of a 48.85% profit margin, NVDA's net income would change from \$29,759 million to \$154,757 million.
P/E Ratio	79.81	20	You assumed that NVDA's future P/E ratio in 5 years would be 20.
Market Cap	\$2,375,050	\$3,095,137	With a P/E ratio of 20, NVDA's market cap would change from \$2,375,050 million to \$3,095,137 million.
Shares O/S	2,470	2,470	
Price	\$950.02	\$1,253.09	Based on the current number of shares outstanding, NVDA's price would increase from \$950.02 to \$1,253.09.
Gain (Loss)		31.9%	Based on your assumptions, an investment in NVDA would result in a 31.9% gain after 5 years.

What Must Happen

Future Return by P/S Ratio

Future Return by P/E Ratio

Assumptions

The fields below have been pre-filled with the current rates of growth, **but you can change them** to see what would happen under different circumstances.

Expected Future P/E Ratio:

Years Later:

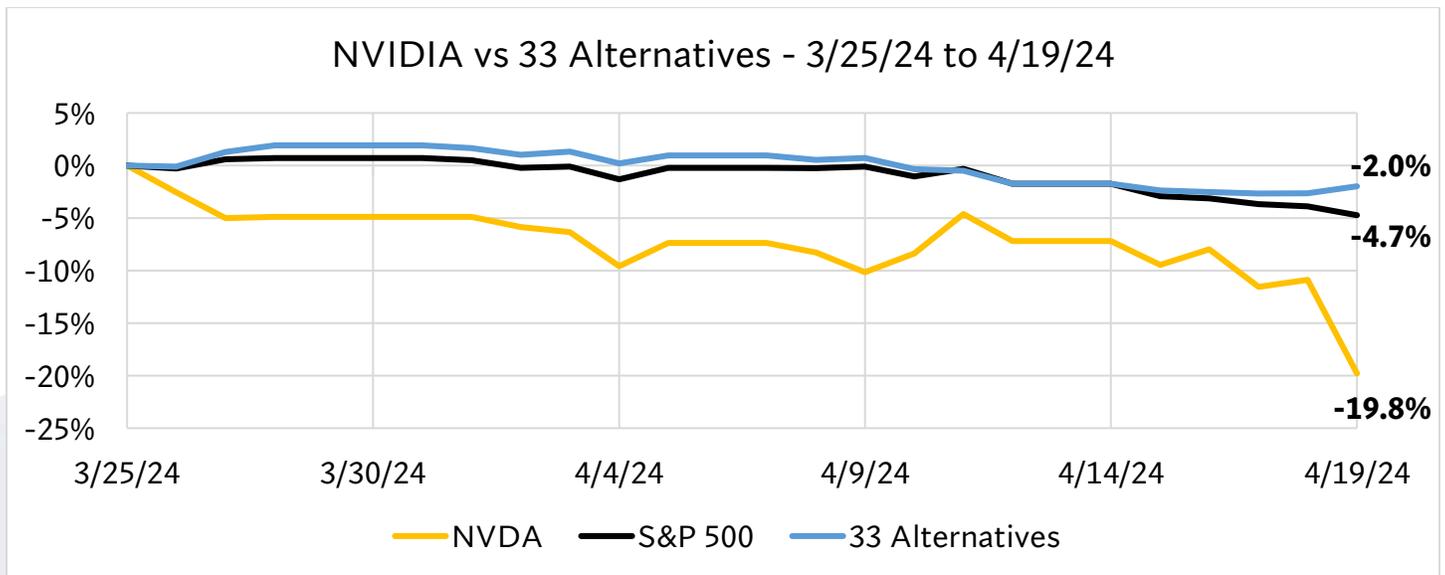
Annual Revenue Growth (%):

Future Profit Margin (%):

Calculate

Results

	Current	Future	Explanation
Revenue	\$60,922	\$316,800	Based on your assumption of a 39.06% annual rate of revenue growth, NVDA's revenue would increase from \$60,922 million to \$316,800 million.
Profit Margin	48.85%	48.85%	You assumed that NVDA's future profit margin in 5 years would be 48.85% .
Net Income	\$29,759	\$154,757	Based on your assumption of a 48.85% profit margin, NVDA's net income would change from \$29,759 million to \$154,757 million.
P/E Ratio	79.81	15	You assumed that NVDA's future P/E ratio in 5 years would be 15.
Market Cap	\$2,375,050	\$2,321,353	With a P/E ratio of 15, NVDA's market cap would change from \$2,375,050 million to \$2,321,353 million.
Shares O/S	2,470	2,470	
Price	\$950.02	\$939.82	Based on the current number of shares outstanding, NVDA's price would decrease from \$950.02 to \$939.82.
Gain (Loss)		-1.1%	Based on your assumptions, an investment in NVDA would result in a -1.1% loss after 5 years.



ERS's Profit Map™ generated a list of 33 alternative companies chosen randomly from among those companies with positive net income and a market cap between 1% and 10% of NVIDIA's:

	Market Cap	Revenue	Net Income	P/S	P/E	PRI™	FRR™
NVIDIA	\$2.38 trillion	\$61 billion	\$30 billion	39.0	79.8	99	94
33 Alternatives	\$2.39 trillion	\$1.21 trillion	\$111 billion	2.0	21.5	66	51