MARKET CAP THRESHOLDS AND BREAKEVEN REVENUES

$5 trillions? Impossible or just Special?

Market Capitalization Thresholds!

- Stock markets have always rewarded winners with large capitalizations, and with each new threshold, the questions begin anew of whether animal spirits or fundamentals are driving the numbers.
- A few weeks ago, Nvidia seemed unstoppable as its market capitalization crested $5 trillion, and while markets have turned skeptical since, the core questions have not gone away, and the answers come from two extremes.
  - At one end are the "realists", who view themselves as rational, above the fray and entirely data-driven, who argue that there is no business model that can support a value this high, and that Nvidia is overvalued.
  - At the other end are the "AI true believers", who believe that if the market the company is going after is big enough, and they see AI as such a market, the upper bounds on value are released, the sky is the limit.
- Rather than try to convince you that the company is under or overvalued, which is really your judgment to make, I will offer a simple model to reverse engineer from any given market capitalization, the revenues and profitability thresholds you have to meet, and allow you to come to your own conclusions.

A History on Market Cap Thresholds

	1901	1955	1995	1999	2018	2020	2022	2024	2025
Market Cap Threshold	$1 billion	$10 billion	$100 billion	$500 billion	$ 1 trillion	$2 trillion	$3 trilion	$4 trillion	$5 trillion
Company reaching threshold	**US Steel**	**GM**	**GE**	**Microsoft**	**Apple**	**Apple**	**Apple**	**Nvidia**	**Nvidia**
Corporate Age at the time	1	47	103	13	42	44	46	31	32
Revenues (in billions) in prior year	$0.56	$9.83	$60.10	$14.48	$229.20	$260.17	$394.30	$60.92	$86.60
Revenue growth rate in prior year	6.50%	-20%	7.90%	28.00%	6%	-2.35%	7.80%	108.90%	59.18%
Net Income (in billions) in prior year	$0.13	$0.81	$4.70	$4.49	$50.52	$55.26	$99.80	$19.30	$26.42

And lessons from that history…

1. **Substance**: Shift from companies that had already met the test and delivered in the twentieth century to more growth in the twenty first century.
2. **Life cycle**: Every company that climbed to the top of the market cap tables and hit a market cap threshold historically has had single-digit revenue growth in the year leading up, with two exceptions: Microsoft in 1999, which was coming off a 28% revenue growth rate in 1998, and Nvidia in both 2024 and 2025 coming off even higher growth rates.
3. **Investment returns**: Looking at the returns in the years after these companies hit their market cap thresholds, the results are mixed. While buying Apple in 2018, 2020, or 2022 would have yielded winning returns, at least over the next year or two, buying Microsoft in 1999 would not. In some of these cases, extending the time horizon would have made a difference, for the positive with Microsoft and for the negative with GE.

Cheap or Expensive?

- Debates about whether a company is worth what it is trading for, whether it be a billion, ten billion, a hundred billion, or a trillion, devolve into shouting matches of "he said, she said", with each side staking out divergent perspectives on value and name-calling the other.
- Having been on the receiving end of some of that abuse, I decided to take a different pathway to examining this question.
- Rather than wonder whether Nvidia is worth five trillion or Eli Lilly is worth a trillion, I framed the question in terms **of how much Nvidia or Eli Lilly would have to generate in revenues to justify their market capitalizations**.
- The reason for my focus on revenues is simple since it is relatively unaffected by accounting games and can be compared to the total market size to gain perspective.

Intrinsic Equity Value

The free cash flow to equity is the cash flow left over for equity investors, after taxes are paid and the company reinvests in both long term and short term investments to support future growth. This cash flow can (but does not have to) be paid out as a dividend.

$$\text{Value of Equity} = \sum_{t=1}^{t=N} \frac{\text{Expected free cash flow to equity}}{(1 + \text{Cost of Equity})^t}$$

The cost of equity is the rate of return that equity investors require on their equity investment, high enough to cover what you can make if you invest in something riskfree and a risk premium to cover the risk in the investment.

Intrinsic Equity Value in Steady State

Net income is the income left over for equity investors, and net income = Revenue × Net Margin

The (1+g) gets you to next income next year, which is the 1st year of cashflows.

g/ROE captures the percent of the equity income that will have to be reinvested to deliver expected growth.

$$\text{Value of equity} = \frac{\text{Revenues} \times \text{Net Margin} \times (1+g) \times \left(1-\frac{g}{ROE}\right)}{(\text{Cost of equity} - g)}$$

If the cash flows grow at g% a year for ever and the cost of e quity does not change, the term in the denominator (Cost of equity -g) is the mathematical value for the sum of an infinite series.

Breakeven Revenues, given Market Cap

$$\text{Breakeven Revenue} = \frac{\text{Market Cap} \times (\text{Cost of equity} - g)}{\text{Net Margin} \times (1+g) \times (1-\frac{g}{\text{ROE}})}$$

1. Cost of equity: Every month, I estimate the implied cost of equity for the S&P 500, and that number is model-agnostic and driven by what investors are willing to pay for stocks, given their fears and hopes.
2. Inflation rate: While inflation has come down from its 2022 highs, it has stayed stubbornly above 2%, which the Fed claims as its target, and it seems more realistic to assume that it will stay at 2.5%, which is consistent with the riskfree rate being about 4%.
3. Stable growth rate (nominal growth rate in the economy): This is a number that is in flux, as economists worry about recessions and economic growth, but since this is a long-term number that incorporates expected inflation, it seems reasonable to assume an expected nominal growth of 4% for the economy (about 1.5% real growth).

Nvidia at $5 trillion: Breakeven Revenues

- The cost of equity for the average US company, in November 2025, was about 8%. Allowing for the higher risk that Nvidia faces, I will use a cost of equity of 9% for the firm.
- The net profit margin for Nvidia in the most recent twelve months has been 53.01%, an exceptionally high number, and the return on equity it has earned, on average over the last five years, is about 64.44%.
- I know that these numbers will come under pressure over time, as competition for AI chips picks up, and Nvidia's biggest customers (and chip maker) push for their share of the spoils.
- **Even if you assume that Nvidia can maintain these margins, the revenue that Nvidia would have to deliver to justify its value is $483.38 billion.**

The Waiting Effect

- If you are not in steady state and need to grow (which will require investment) to get to these revenues, the breakeven revenues will get larger, r, the longer you have to wait and the lower the cash yield that equity investors receive during the growth period.
- With Nvidia, if you assume that it will take five years for them to grow to steady state, and that equity investors will receive a cash yield (cash flow as a percent of market cap) of 2% a year, **the estimated breakeven revenue increases to $677.97 billion.**

Breakeven Revenues and Waiting Period (and Cash Yield)(

		Average annual cash yield during waiting period						
		-5.00%	-2.50%	0.00%	1.00%	2.00%	3.00%	4.00%
Number of years before maturity	0	$483,383	$483,383	$483,383	$483,383	$483,383	$483,383	$483,383
	2	$628,204	$600,953	$574,307	$563,817	$553,425	$543,129	$532,929
	4	$816,414	$747,120	$682,334	$657,637	$633,616	$610,259	$587,555
	6	$1,061,012	$928,839	$810,681	$767,067	$725,427	$685,687	$647,779
	8	$1,378,891	$1,154,755	$963,170	$894,707	$830,541	$770,438	$714,176
	10	$1,792,006	$1,435,621	$1,144,342	$1,043,587	$950,887	$865,665	$787,379
	15	$3,450,355	$2,474,082	$1,760,713	$1,533,371	$1,333,668	$1,158,455	$1,004,918
	20	$6,643,364	$4,263,717	$2,709,075	$2,253,026	$1,870,538	$1,550,274	$1,282,558

Breakeven Revenues, Net Margins and Returns on Equity

	Return on equity (steady state)							
Net Margin (steady state)	10%	15%	20%	25%	30%	35%	40%	50%
5%	$ 8,012,821	$6,555,944	$6,009,615	$5,723,443	$5,547,337	$5,428,040	$5,341,880	$5,225,753
10%	$ 4,006,410	$3,277,972	$3,004,808	$2,861,722	$2,773,669	$2,714,020	$2,670,940	$2,612,876
15%	$ 2,670,940	$2,185,315	$2,003,205	$1,907,814	$1,849,112	$1,809,347	$1,780,627	$1,741,918
20%	$ 2,003,205	$1,638,986	$1,502,404	$1,430,861	$1,386,834	$1,357,010	$1,335,470	$1,306,438
25%	$ 1,602,564	$1,311,189	$1,201,923	$1,144,689	$1,109,467	$1,085,608	$1,068,376	$1,045,151
30%	$ 1,335,470	$1,092,657	$1,001,603	$ 953,907	$ 924,556	$ 904,673	$ 890,313	$ 870,959
35%	$ 1,144,689	$ 936,563	$ 858,516	$ 817,635	$ 792,477	$ 775,434	$ 763,126	$ 746,536
40%	$ 1,001,603	$ 819,493	$ 751,202	$ 715,430	$ 693,417	$ 678,505	$ 667,735	$ 653,219
45%	$ 890,313	$ 728,438	$ 667,735	$ 635,938	$ 616,371	$ 603,116	$ 593,542	$ 580,639
50%	$ 801,282	$ 655,594	$ 600,962	$ 572,344	$ 554,734	$ 542,804	$ 534,188	$ 522,575

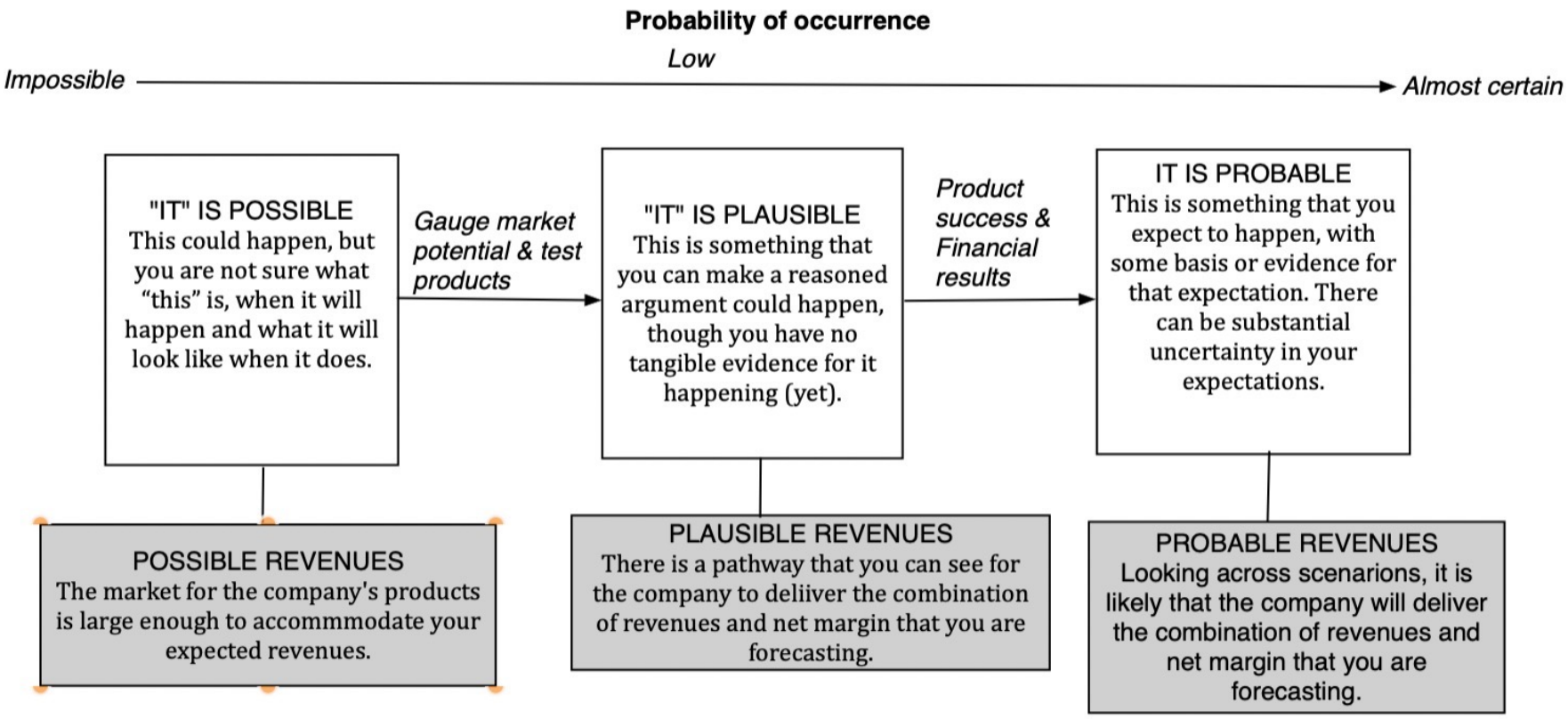
Largest Market Cap Companies: Breakeven Revenues

Company Name	Mkt Cap (11/20/25)	Net Margin (LTM)	Revenues (LTM)	Revenue Growth (Last 5 years)	Revenue Growth (Last year)	ROE	Cost of equity	Average ROE 2020-24	Breakeven Revenue	Breakeven Revenue (with 5-year wait)	Revenue Growth needed (next 5 yrs)
NVIDIA	$4,346,605	53.01%	$187,142.00	62.39%	31.05%	125.05%	9.00%	64.44%	$420,325.53	$589,528.30	**25.80%**
Apple	$4,011,632	26.92%	$416,161.00	2.41%	3.84%	167.79%	9.00%	136.03%	$738,285.12	$1,035,483.07	**20.00%**
Alphabet	$3,615,943	32.23%	$385,476.00	10.60%	7.51%	38.22%	9.00%	26.16%	$636,696.59	$892,999.90	**18.30%**
Microsoft	$3,508,974	35.71%	$293,812.00	12.27%	9.04%	34.66%	9.00%	36.01%	$531,499.90	$745,456.11	**20.47%**
Amazon.com	$2,359,224	11.06%	$691,330.00	10.14%	6.21%	26.74%	9.00%	16.37%	$1,356,916.11	$1,903,145.04	**22.45%**
Aramco	$1,662,448	21.70%	$448,910.70	2.93%	-4.88%	22.15%	8.00%	27.21%	$345,420.68	$462,250.78	**0.59%**
Broadcom Inc.	$1,606,549	31.59%	$59,926.00	20.42%	7.33%	27.13%	8.00%	22.00%	$239,046.64	$319,898.33	**39.79%**
Meta Platforms	$1,497,824	30.89%	$189,458.00	12.58%	11.18%	32.05%	9.00%	27.03%	$273,590.48	$383,724.80	**15.16%**
Tesla	$1,300,695	5.31%	$95,633.00	15.45%	-1.58%	6.90%	9.00%	17.15%	$1,534,814.23	$2,152,656.36	**86.41%**
TSMC	$1,142,936	43.29%	$119,125.60	20.09%	25.18%	39.50%	9.00%	28.06%	$148,049.23	$207,646.71	**11.75%**
Berkshire Hathaway	$1,086,996	18.13%	$372,128.00	7.74%	0.14%	10.35%	8.00%	11.04%	$361,565.92	$483,856.77	**5.39%**
Eli Lilly	$948,838	30.99%	$59,419.80	20.36%	23.09%	129.01%	8.00%	66.52%	$125,308.78	$167,691.41	**23.06%**

The Drivers of Breakeven Revenues

- **Market Capitalization**: Since we work back from market capitalization to estimate breakeven revenues, the larger the market capitalization, holding all else constant, the greater the breakeven revenues will be.
- **Operating Profitability**: There are two profitability metrics in the drivers, with net margins determining how much of the revenues a company can convert to profits and the return on equity driving the reinvestment needed to sustain growth. Higher profitability will allow a company to deliver a higher market capitalization, at any given level of revenues.
- **Interest rates and equity risk premiums**: The level of interest rates and equity risk premiums determine the cost of equity for all company, with higher values for the latter pushing up the costs of equity for riskier companies higher, relative to safer companies.
- **Operating and leverage risk**: The riskiness in a business will push its cost of equity higher, and a higher debt load (relative to market cap) will have the same effect. A higher cost of equity will raise the breakeven revenues needed to deliver the same market capitalization.

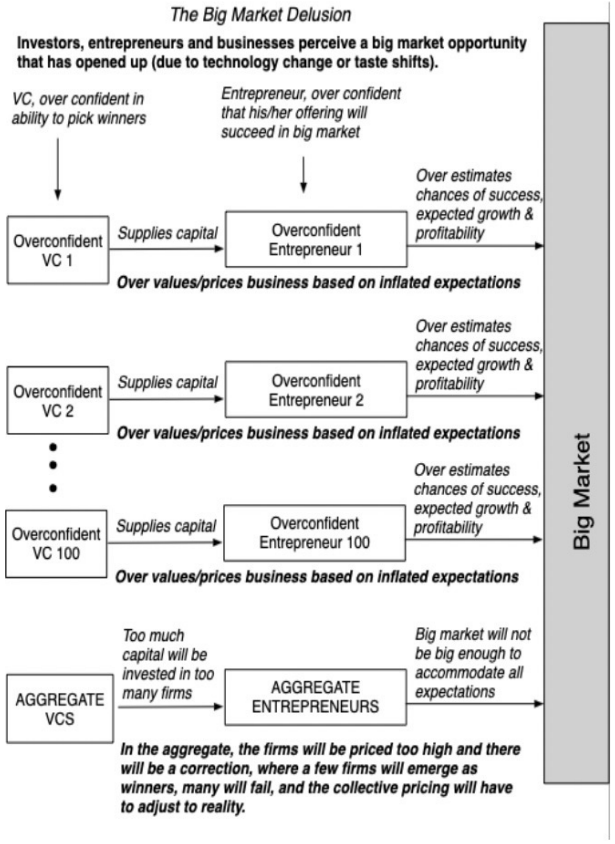
The 3P Test on Breakeven Revenues



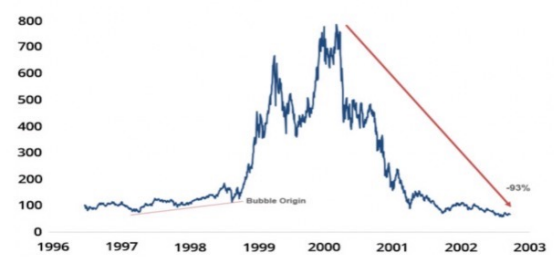
Applied to Nvidia and Tesla…

- To apply these tests, consider Nvidia and Tesla. Nvidia needs about $590 billion in revenues by 2030 to break even at its current market capitalization of $4.3 trillion, requiring a growth rate in revenues of about 26% for the next five years.
  - While that is a reach, it is both possible and plausible, with continued growth in the AI chip market and a dominant market share for Nvidia providing the pathway.
  - It is on the probable test that you run into headwinds, since competition is heating up, and that will put pressure on both growth and margins.
- The problem for Tesla is that if the net margin stays low (at 5.31%), the revenues needed to breakeven exceed $2.2 trillion, and even with robotics and automated driving thrown into the business mix, you are pushing the limits of possibility. A Tesla optimist, though, would argue that these new businesses, when they arrive, will bring much higher net margins, which, in turn, will push down breakeven revenues and bring it into plausible territory.

The Aggregated 3P Test: The Big Market Delusion



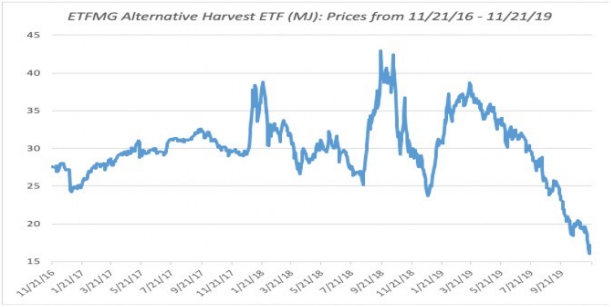
The Dot Com Boom & Bust: 1996-2003



The Online Ad Market in 2015

Company	Market Cap	Enterprise Value	Current Revenues	Breakeven Revenues (2025)	% from Online Advertising	Imputed Online Ad Revenue (2025)
Google	$441,572.00	$386,954.00	$69,611.00	$224,923.20	89.50%	$201,306.26
Facebook	$245,662.00	$234,696.00	$14,640.00	$129,375.54	92.20%	$119,284.25
Yahoo!	$30,614.00	$23,836.10	$4,871.00	$25,413.13	100.00%	$25,413.13
LinkedIn	$23,265.00	$20,904.00	$2,561.00	$22,371.44	80.30%	$17,964.26
Twitter	$16,927.90	$14,912.90	$1,779.00	$23,128.68	89.50%	$20,700.17
Pandora	$3,643.00	$3,271.00	$1,024.00	$2,915.67	79.50%	$2,317.96
Yelp	$1,765.00	$0.00	$465.00	$1,144.26	93.60%	$1,071.02
Zillow	$4,496.00	$4,101.00	$480.00	$4,156.21	18.00%	$748.12
Zynga	$2,241.00	$1,142.00	$752.00	$757.86	22.10%	$167.49
Total US	**$770,185.90**	**$689,817.00**	**$96,183.00**	**$434,185.98**		**$388,972.66**
Alibaba	$184,362.00	$173,871.00	$12,598.00	$111,414.06	60.00%	$66,848.43
Tencent	$154,366.00	$151,554.00	$13,969.00	$63,730.36	10.50%	$6,691.69
Baidu	$49,991.00	$44,864.00	$9,172.00	$30,999.49	98.90%	$30,658.50
Sohu.com	$18,240.00	$17,411.00	$1,857.00	$16,973.01	53.70%	$9,114.51
Naver	$13,699.00	$12,686.00	$2,755.00	$12,139.34	76.60%	$9,298.74
Yandex	$3,454.00	$3,449.00	$972.00	$2,082.52	98.80%	$2,057.52
Yahoo! Japan	$23,188.00	$18,988.00	$3,591.00	$5,707.61	69.40%	$3,961.08
Sina	$2,113.00	$746.00	$808.00	$505.09	48.90%	$246.99
Netease	$14,566.00	$11,257.00	$2,388.00	$840.00	11.90%	$3,013.71
Mail.ru	$3,492.00	$3,768.00	$636.00	$1,676.47	35.00%	$586.76
Mixi	$3,095.00	$2,661.00	$1,229.00	$777.02	96.00%	$745.94
Kakaku	$3,565.00	$3,358.00	$404.00	$1,650.49	11.60%	$191.46
Total non-US	**$474,131.00**	**$444,613.00**	**$50,379.00**	**$248,495.46**		**$133,415.32**
Global Total	**$1,244,316.90**	**$1,134,430.00**	**$146,562.00**	**$682,681.44**		**$522,387.98**

The Rise & Fall of Cannabis Stocks: 2017-19



Applied to AI…

- The AI storyline clearly fits the big market delusion. There is talk of a "huge" market for AI products and services, with little to show as tangible evidence of that market's existence right now, and that potential has drawn massive investments in AI architecture from tech companies.
- Along the way, investors have also fallen under the spell of the big market and have pushed up the market capitalizations of almost every company in the space.
- Using the language of breakeven revenues, investors in each of these companies is attributing large breakeven revenues to their chosen companies, but **the delusion comes from the reality that if you aggregated these breakeven revenues across companies, the market is not big enough to sustain all of them**. In short, each company passed the possible and plausible test, but in the aggregate, you are chasing an impossible target.

LLMs: A Big Market Delusion?

- **OpenAI,** while still unlisted, has been priced at $500 billion, an astonishing number, given that the company reported revenues of only $13 billion in the most recent twelve months.
- **Anthropic**, the creator of Claude, has seen its pricing jump in the most recent funding round (from Microsoft and Nvidia in November 2025) to $350 billion, fifty times its revenues of $7 billion in the last twelve months.
- Elon Musk's owners stake in xAI, Grok's originator, was estimated to be worth $230 billion in November 2025, again an immense multiple of its revenues of $3.2 billion (if you include combined revenues with X).
- Expanding the list to the large tech companies, it is undeniable that some of Alphabet's massive rise in market capitalization in 2025 is because of its ownership of Gemini, and that Meta (with Llama) and Amazon (with Nova) have also seen bumps in market capitalization. Finally, while Deepseek is no longer making headlines, it is also in the space, competing for business.
- **In the aggregate, LLM ownership is being priced at $1.5 trillion or more, and the collective revenues, even generously defined are less than $100 billion. It is entirely plausible that a big market exists for LLMs, and that one or even two of the players in this space will be winners, but in the aggregate, the market is overreaching.**

The Management Effect

- The mechanics of the breakeven revenue process may make it seem like managers are bystanders in the process and that investing can be on autopilot, but they are not. In fact, when market capitalizations rise, and breakeven revenues run well ahead of current revenues, I would argue that management matters more than ever.
- In this context, I will reemphasize a concern that I raised at the height of Meta's metaverse investing fiasco, which is that investors at many tech companies, including most on the large cap list, have given up their corporate governance rights, often voluntarily (through the acceptance of shares with different voting rights), to founders and top management in these companies.
- When traditional corporate governance mechanisms break down, and top managers have unchecked power, there is an increased risk of overreach. That concern is multiplied in the LLM space, where Sam Altman (at OpenAI) and Elon Mush (at xAI) are more emperors than CEOs.

The Investing Bottomline

1. Highly priced ≠ Overpriced: If you are an investor who considers any highly priced company to be overvalued, I hope that this post leads you to reconsider. By reframing a pricing in terms of breakeven revenues, profitability and reinvestment, it allows you to consider whether a stock, even if priced at $4 trillion, may still be a good buy.
2. The 3P test: Once you compute the operating metrics you need to breakeven on an investment in a highly priced company, passing those metrics through the 3P test (Is it possible? Is it plausible? Is it probable?) allows you to examine each company on its merits and potential, rather than use a broad brush or a rule of thumb (based on PE ratios or revenue multiples).
3. Room to disagree: I have never understood why, if you believe strongly that a stock is over or under priced, you need to evangelize that belief or contest people with alternate views. I think that the pathway that you would need (in terms of revenue growth and profitability) to justify Nvidia's and OpenAI's current pricing is improbable, but that is just my view, and it is entirely possible that you have an alternate perspective, leading to the conclusion that they are undervalued.
4. Reality checks: No matter what your view, optimistic or pessimistic, you have to be open to changing your mind, as you are faced with data. Thus, if you have priced a company to deliver 20% growth in revenues over the next five years (to break even) and actual revenues growth comes in at 10%, you have to be willing to revisit your story, admit that you were wrong, and adapt.