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NVDA: Growing pains - OpenAI is a canary in the Gen AI coal mine

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The earnings event today could be ***uneventful*** *even though the Company could beat/raise and even if the stock moves up in the immediate aftermath of the event. The beat/raise is likely related to the increase in supply - unsurprising. And the move up due to falling Treasury rates – also unsurprising. Once the initial flush of the beat/raise passes, we expect the stock to sell-off as recent events force investors to take a deeper look at future growth assumptions.*

The earnings event will not put to rest nascent investor worries and a new air of uncertainty in the gen AI industry following the ***collapse of leadership*** *at OpenAI, the most consequential of all Gen AI developers. Investors are brimming with questions regarding the direction of the industry, as once held assumptions of OpenAI come under a cloud.*

Since Gen AI took the tech world by storm, AI investors looked to NVDA CEO to set the narrative for the industry. Not this time though. Nascent investor worries cannot be answered convincingly at NVDA's earnings event today. The events over the weekend, we think has ***taken the narrative away from NVDA*** *and placed it with downstream AI developers, chief among them OpenAI and MSFT. In this sense, we think the NVDA event could be uneventful.*

Once the initial flush of the NVDA earnings event passes we think investors may need to ask whether the challenges at OpenAI are unique to it, or whether OpenAI offers a window into the challenges faced across the AI industry. The broader universe of the ***AI start-up community*** *in Silicon Valley appears to be at a loss for direction, based on feedback from hackathons over the weekend. The VC funding cycle for Gen AI start-ups, a key driver of demand at NVDA, could take a pause, which could impact future demand.*

We are ***raising our PT*** *to adjust for a more benign macro setup. Recall that three months ago we called out rising Treasury rates as a reason for downside to the stock (link). Our call worked out - the stock dropped from \$470 into FQ2 print and ended up at ~\$400 ahead of the Nov FOMC. Into this FQ3 print, to account for a supportive rates environment we are raising our PT by 18%, from \$360 to \$425, inline with the SOX movement after the November FOMC event.*

While the Street may view the ongoing OpenAI saga merely as a clash of personalities, we think it more instructive to view the saga as a ***window into growing pains*** *in the overall Gen AI world as AI developers, private and publicly traded, face the twin challenges of high input cost and uncertain timeline to profitability. Growing pains in the industry could challenge elevated expectations the Street has of NVDA, as of now the sole provider of 'picks and shovels' to the industry.*

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More than just clashing personalities. Rather than settle on the media's **philosophy-tinged narrative** of 'altruism' vs. 'pragmatism', we think it more useful to think of the clash as related to **traditional business disagreements**. The Board and the former CEO may have had disagreements over the future direction of the company and how best to allocate new capital, unrelated to OpenAI's atypical corporate structure. While MSFT CEO may focus on what he considers challenges with OpenAI's governance, we think the company could be facing mundane challenges, a window into the **broader Gen AI industry**.

- **Has user growth stalled?** At its 'developer day' two weeks ago OpenAI slashed its GPT-4 app **pricing by two-thirds**. Why would a company cut pricing so dramatically in a nascent high-growth industry, especially when there is no drop in input cost? Could it be because price had become a barrier to entry thus causing customer growth to stall?
- **High cost of data center infrastructure**: If operations (which includes Azure payments to MSFT) at OpenAI were profitable why would MSFT take on the enormous expense of creating an internal line of silicon chips? Doesn't it mean MSFT is less than satisfied with the pricing strategy and maintenance cost associated with NVDA gear? The power consumption alone of a GPU rack, as we noted earlier (link) is 4x-5x vs a traditional CPU rack.
- **Productizing GPT-4 vs. training GPT-5**: A key driver of NVDA demand we believe is the demand pull from GPT-5 training by OpenAI, where 'training expenses are just huge' in the words of Sam Altman reported last week. A more immediate objective is the optimization of the vector database of GPT-4 in order to make applications running on the model come on par with enterprise-grade requirements, which at the moment we do not think it is. How are the competing objectives of training future models vs. monetizing exiting models balanced against each other?

Net/Net: After a year of explosive growth in user base, we think OpenAI, along with its peers in the Gen AI industry, is facing growing pains. The publicly reported efforts by Sam Altman to raise new capital we think is indicative of cash burn traditionally experienced by pre-profitable private companies. If OpenAI is unable to raise fresh capital from investors, what happens to the GPT-5 training effort? And with it, what happens to demand for NVDA gear?

Challenges not unique to OpenAI. Both in terms of upfront capex (think NVDA pricing) and maintenance cost (power consumption, liquid cooling), data center cost is prohibitive for developers and end users, especially as LLMs get ever more complex. Outside of low-end services such as text summarization and image generation, we are yet to learn of the proverbial 'killer app'. High input cost and no line of sight to profitability leave the entire field at risk.

The clash the world witnessed at OpenAI may not be unique to it. We think the clash within OpenAI points to disagreement regarding resource allocation, a debate we think could be happening behind the scenes at all companies working on Gen AI, including MSFT.

We think it safe to say the only major company making a profitable business out of Gen AI is NVDA, while its customers are, to use a euphemism, in the 'investment phase'. How long can that last? If downstream AI companies cannot turn a profit in the medium term, how long can the meteoric growth upstream at NVDA last?

Our financial model and PT: We are modeling FQ3 and FQ4 inline with consensus. However, for Fy25 (Cy24) we are modeling **Data Center growth up 30%** vs. consensus **up 60%.** We are modeling the rest of the segment inline. This takes our FY25 estimates to $69bn/$13.24 significantly lower than consensus estimate of \$82.5bn/\$17.35. To account for a more permissive macro setup vs. three months ago, **we are raising our PT from \$360 to \$425**, roughly inline with the ~18% rise in the SOX index since Nov 1st when a more dovish Powell triggered a decline in Treasury rates. Our \$425 PT implies a 32x multiple over our FY25 EPS estimate.

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