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Bubble Watch

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The history of financial markets contains some spectacular boom and bust stories. Financial market bubbles feed on the powerful human emotions of fear and greed, and the creation of great wealth followed by momentous destruction provides the basis for many books and even Hollywood films. This helps to explain why market commentators may find the opportunity to try and call the next bubble too tempting to resist.

Recently, the number of trending news articles referring to a potential bubble have spiked. While some of the stories refer to broad credit or equity markets, the focus tends to be on Technology. More specifically, on Artificial Intelligence linked stocks.

Semiconductor firm Nvidia is at the centre of the AI revolution. The company provides the market leading chips, with the required computing power, architecture and precision, for the deep learning tasks involved in AI. Since the start of 2023, Nvidia's share price is up around 500%. A remarkable rise for a stock which was already the 10th largest stock in the S&P 500. Nvidia's share price suggests a bubble, but dig a little deeper and there is more to it.

In the quarter ending 30 April 2023, Nvidia generated revenue of $7.2 billion and earnings-per-share (EPS) of $0.87. For the current quarter ending 30 April 2024, it is estimated that these numbers will be $24.0 billion and $5.40. The share price is up around 500%, but profits are up a similar amount%. NVDA's P/E ratio is roughly unchanged since the start of 2023, with nearly all of its return attributable higher earnings.

If a stock price bubble is one where the price of shares becomes disconnected from the fundamentals (earnings), then that is not what is happening with Nvidia. However, there are three other important considerations when assessing whether this might be a bubble. Firstly, whether revenue is temporarily too high, secondly, whether their profit margins are unsustainably high and, lastly, whether the market is extrapolating the growth rate of profits too optimistically.

When thinking about the sustainably of sales, important factors to consider include who is buying Nvidia's chips, does the spending make sense and is there leverage involved. Nvidia's four largest customers are the hyperscale cloud providers: Microsoft, Meta, Amazon and Alphabet. These are some of the world's most successful and profitable companies, all of which generate substantial cash flow and have low levels of debt. Furthermore, while there have been misallocations of capital, such as the Metaverse and moon-shot investments, these companies have a strong record of capital allocation.

Traditional economic theory suggests that in a free-market, where a business generates a gross profit margin of over 70% as Nvidia currently does, this will be competed away. The base case should be that margins will fall, but in the short-term, the demand for their leading H100 chips is so strong that they have considerable pricing power. Competitors such as AMD are of course trying to catch up, but this takes time as lead times and supply chains in the industry are long. According to research by Goldman Sachs, since 1985 just four companies in the S&P 500 have managed to maintain EBIT (Earnings before interest and taxes) margins greater than 50% for 5 consecutive years.

The demand of AI-related semiconductors has been compared to a gold rush, with Nvidia selling the proverbial shovels. This is a valid analogy but there is an important distinction. Owning gold is a means to an end, but computing power and AI is a means to productivity growth. This is what advances standards of living in the world and corporate profits.

Analysis by Capital Economics suggests countries that successfully adopt AI could see their productivity growth lifted by as much as 1.5% a year in the decade following widespread adoption. AI is not entirely new and the phrase was coined back in 1956 at Dartmouth College. However, the release of ChatGPT thrust AI into the spotlight and it has shown how technology can be used to drive efficiencies.

In a recent interview, JP Morgan CEO Jamie Dimon said: "the way to think about it for us is every single process, so errors, trading, hedging, research, every app, every database, you can be applying AI." The Energy sector is using AI to help with evaluating seismic surveys and drilling more efficiently, while Health Care is using AI to read medical imaging and help with drug innovation.

Given the potential, it is clear why the hyperscale cloud providers are pouring money into AI. Analysts at Bloomberg estimate that spending on Generative AI could rise to $1.3 trillion in 2032, which would be a rise of 43% on an annualised basis. This would take Generative AI spending from the current level of 1% of technology spending to 10-12%.

The most dangerous bubbles are in unproductive assets and funded by leverage in the banking sector. The AI revolution is the opposite of this; computing power is a productive asset and it is being funded by wealthy corporates. The Technology sector is prone to boom and bust as exponential change is difficult to price and particularly susceptible to the power of forward-looking narratives. The dot-com bubble in 2000 and the collapse of non-profitable Technology valuations in 2021-2022 are recent examples.

However, Goldman Sachs notes that the ten largest Technology, Media and Telecom stocks trade at a P/E of 28x, which pales in comparison to the peak of the Tech Bubble (52x) and late 2021 (43x). Expensive is not the same as a bubble, but that makes for a less exciting Hollywood story.